

PMC Weekly Progress

PMC SERVICES for BGPP

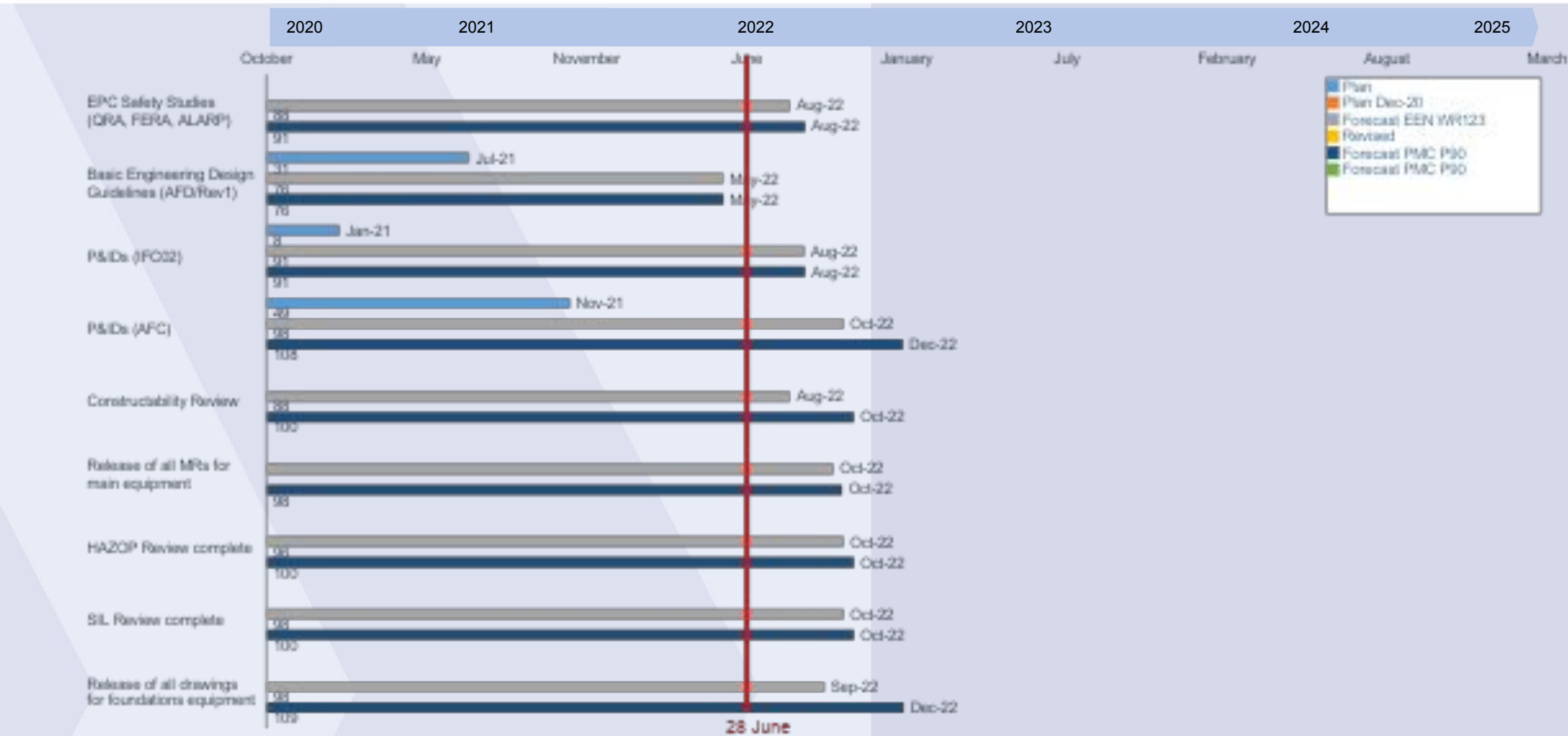
(Week 85(ILF) / 130(EEN)) - 15.08 to 21.08.2022

A photograph of an industrial facility, likely a refinery or chemical plant, at dusk. The scene is dominated by two large, white, cylindrical storage tanks in the foreground. Behind them, a complex network of pipes, scaffolding, and distillation columns is visible, illuminated by artificial lights. The sky is a mix of orange and blue, suggesting the time is either sunset or sunrise. The overall atmosphere is industrial and active.

CONTENTS

- Key Milestones Dates
- Progress Analysis
- General PMC Management
- HSE Management
- Engineering
- QC Inspections
- Construction
- Status of P1 Equipment vs Foundation Readiness
- Areas of concern
- Site photos

KEY MILESTONE DATES



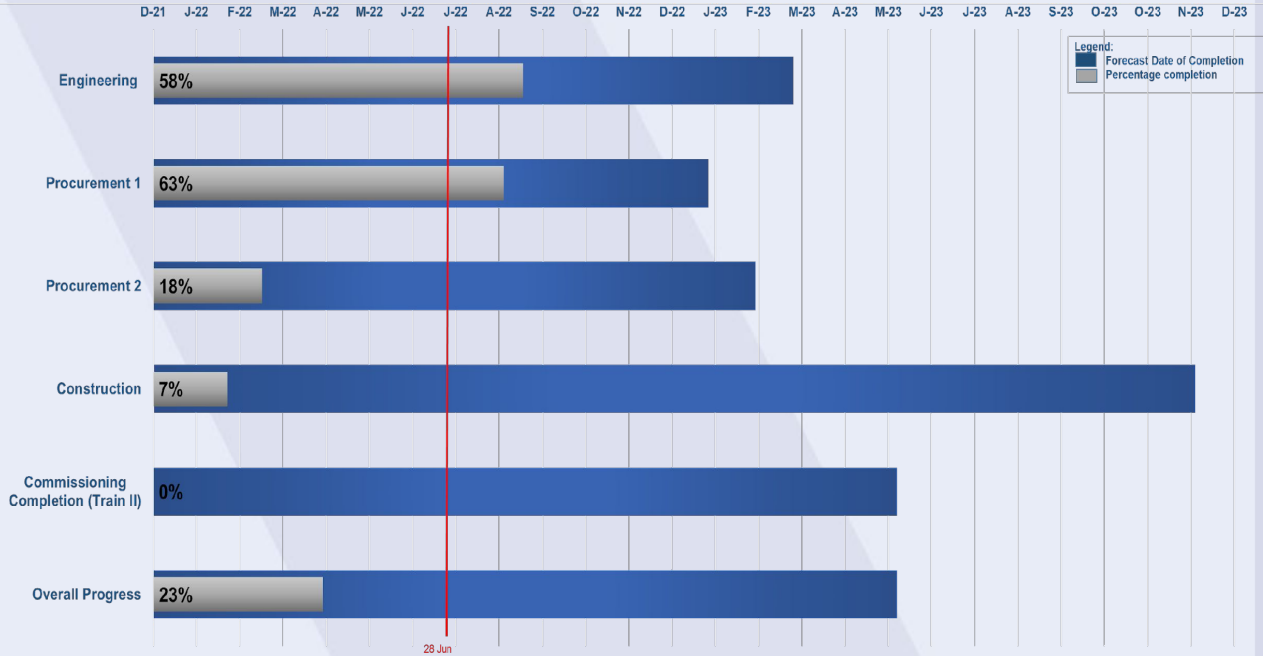
▪ EPC Contractor set dates as shown are based on Report of 28/06/22. Published deterministic Schedule is expected by 15/08

KEY MILESTONE DATES



▪ EPC Contractor set dates as shown are based on Report of 28/06/22. Published deterministic Schedule is expected by 15/08

PROGRESS ANALYSIS



Phases	Plan	Actual	Delta 02.08.22	Delta 09.08.22	Delta 16.08.22
Engineering (exl. FEED)	97,59%	58,58%	-39,07%	-39,01%	
Procurement P1	81,97%	63,93%	-18,06%	-18,05%	
Procurement P2	62,07%	20,31%	-39,32%	-41,76%	
Construction	26,87%	7,80%	-16,45%	-19,07%	
Commissioning	0,00%	0,00%	0.00%	0.00%	
Overall	Not provided	Not provided	No provided	Not provided	

P2 TBE Status	Electrical	Mechanical	I&C	Total	Total %
Approved	1	33	3	37	47%
In process	21	3	18	42	53%

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GENERAL PMC MANAGEMENT

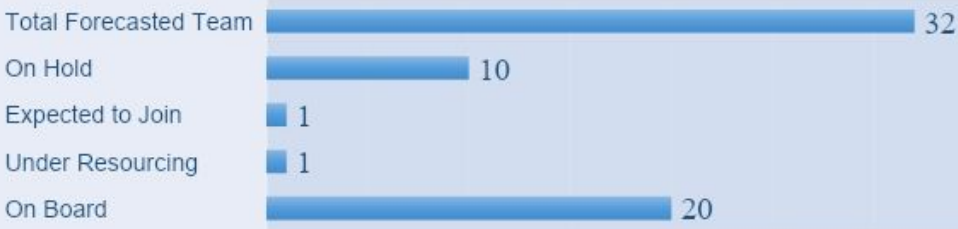
ENGINEERING TEAM MOBILISATION STATUS

N	Discipline	Status	Candidate Name	AUGUST				SEPTEMBER				OCTOBER			
				W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4
1	Engineering Manager	On Board	Umid Ashurov												
2	Interface Project Engineer	On Board	Aleksander Kornilov												
3	Technical Project Engineer	Hold	Hold												
4	Senior Process Engineer - Utilities	On Board	Achmad Mulyana												
5	Process Engineer	Hold	Hold												
6	Senior Process Engineer - Licensed Units	On Board	Lindsay Smith												
7	Senior Process Engineer - Open Arts	Will Join	Timur Dubinin					X							
8	Senior Piping Engineer	On Board	Sathiya N. Mani												
9	Piping Engineer	Hold	Hold												
10	Senior Mechanical Engineer - Static	On Board	Deepak Garg												
11	Mech Engineer - Static	Hold	Hold												
12	Senior Mechanical Engineer - Rotating	On Board	Hader Elhelali												
13	Mech Engineer - Rotating	Hold	Hold												
14	Senior Technical Safety Engineer	On Board	Khairusy Zulhlimi												
15	Senior Control System Engineer	On Board	Digvijay Dhama												
16	Control System Engineer	Hold	Hold												
17	Senior I&C Engineer	On Board	Alejandro Albornoz												
18	I&C Engineer	Hold	Hold												
19	Senior Electrical Engineer	On Board	Gennadiy Tsoy												
20	Electrical Engineer	Hold	Hold												
21	Senior Structural Engineer	On Board	Sofia Karavaeva												
22	Senior Civil Engineer	On Board	Nuno Marques												
23	Civil/Structure Engineer	On Board	Izzatulla Numanov												
24	GGs - Senior Mechanical Engineer - Pipeline	Hold	Hold												
25	GGs - Senior Process Engineer - Utilities	TBD	TBD												
26	GGs - Senior I&C Engineer	Hold	Hold												

PROJECT MANAGEMENT TEAM STATUS

N	Discipline	Status	Candidate Name	AUGUST				SEPTEMBER				OCTOBER			
				W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4
1	PMC Leader	On Board	Ghaleb Hussein												
2	Project Controls Manager	On Board	Yelena Chernavtseva												
3	Document Controller	On Board	Rusyaeva Anna												
4	Planning Engineer	On Board	Nurbek Jumanov												
5	Project Engineer - Interface	On Board	Alexander Kornilov												
6	Senior QC Engineer	On Board	Sandeep Kumar												

Positions Status



Recruitment Status:

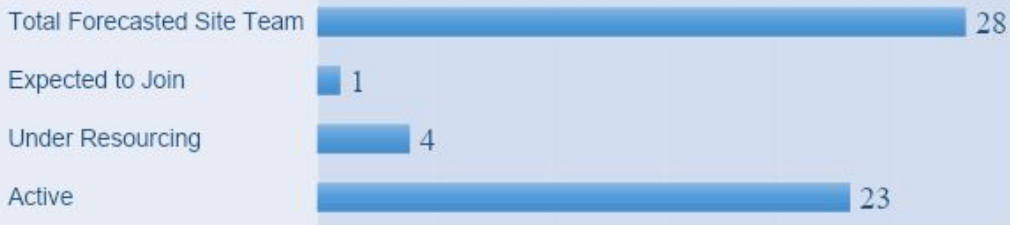
- Senior Process Engineer - Open Arts will join on 05/09
- 1 position GGS Senior Process Engineer was removed from HOLD by the Client on 18/08 and is searching by HR

GENERAL PMC MANAGEMENT

PMC CONSTRUCTION TEAM MOBILISATION STATUS

N	Discipline	Status	Candidate Name	AUGUST				SEPTEMBER				OCTOBER			
				W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4
1	Head of technical supervision group	On board	Anatoliy Pinchuk Daulet Rakhimov												
2	Head of the technical supervision group on logistics and goods acceptance and receipt inspection	On board Will Join	Alexander Goncharov Tursyn Akhmetov					X							
3	Inspector for inventory count of materials and equipment	On board	Alisher Aliev												
4	Inspector of General Construction works	On board	Radmir Sharkaev Sherzod Sattarov												
5	Inspector of General Construction works	On board	Ruslan Sharkaev Takhir Achilov	X											
6	Inspector of General Construction works	On board	Doszhan Suleiman												
7	Inspector geodetic works	On board	Sergey Donets												
8	Inspector geodetic works	On board	Timur Altenov Alisher Muradov	X											
9	Inspector - Mechanic of technological equipment	On board	Igor Yakimov Ilya Iskvorin												
10	Inspector of welding works	On board	Sergey Pugachev												
11	Inspector for inventory count of materials and equipment	On board	Nodirbek Ashurov												
12	Site Planner	On board TBD	Firuz Shermatov TBD												
13	DCC Controller	On board	Gayaz Samikov Zarina Adiyarova												
14	HSE supervisor	On board	Shomurot Suvonov Shukhrat Tashmetov												
15	HSE Manager	On board	Marat Makhambetov Murat Serikbaev												
16	Inspector - Mechanic of technological equipment	TBD	TBD					X							
17	Inspector of welding works	TBD	TBD					X							
18	Inspector of electrical assembly works	TBD	TBD					X							

Positions Status



Recruitment Status

- 3 positions on site were requested to be fulfilled by Client on 26/07 with effect by 1st week of September. HR is searching for:
- Inspector - Mechanic of technological equipment
 - Inspector of welding works
 - Inspector of electrical assembly works
- B2B for Head of the technical supervision group on logistics and goods acceptance and receipt inspection - Tursyn Akhmetov will join on 11/09

HSE MANAGEMENT

REPORTED WEEK 85/130

- No new COVID-19 cases registered in PMC team last week.
- PMC HSE Recommendation for a period:
 - To keep maintain of the first stage of control logbook, as there are no records on correction of previously issued observations. Conduct an unscheduled briefing with the person in charge.
 - To arrange temporary storage of the metal structure with pallets and pads
 - To install a medical station wagon with all the necessary medical equipment (stretchers, splints, refrigerator, medical room, etc.) and medicines on the territory of the GPP, with the organization of round-the-clock duty by medical personnel
 - Unsafe scaffolding is observed on area Area 460-00-TM-71, 72A. To install the boards flat, widen the planking, install the boarding elements on the working deck of the scaffolding.
 - To ensure staff is smoking in specialized smoking area of the pipe shop

MONITORING COVID-19 SITUATION IN UZBEKISTAN

	15 авг	14 авг	За всё время
• Cases	28	—	243,537
• Deaths	—	—	1,637
• Recovered	42	—	241,128
• Active cases	-14	—	772

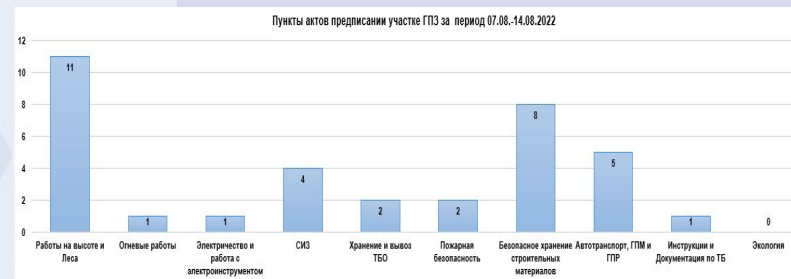


EPC Contractor HSE Status

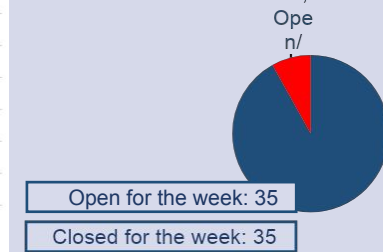
Description	Week-85/130	Total, Year to Date
Fatality Case/Смертельный случай	0	0
Lost Time Incident (LTI)/Потеря рабочего времени	0	0
Recordable OSHA event /Регистрируемый OSHA случай	0	0
First Aid/Первая помощь/Covid-19	0	17
Near Miss/Около несчастный случай	0	0
HSE findings/Пункты предписаний:	35	889

ILF PMC HSE Status

Driven KM/Километраж	1300	42600
Safe man Hours Worked//Отработано безопасных человеко-часов	2034	58783
Total Man hours//Итого человеко-часов	2034	119135
Total PMC manpower//Итого PMC ресурсов	41	41



GPP NCR OPEN ITEMS Overall STATUS



GENERAL PMC MANAGEMENT

CLOSED CORRESPONDENCE / ACTIONS / DECISIONS / APPROVALS

Correspondence Number	Date received	Subject	Response Letter / Email
No closed correspondence			

OPEN CORRESPONDENCE / ACTIONS / DECISIONS / APPROVALS

Correspondence Number	Date received	Subject	Response Letter/ Email
No open correspondence			

SIGNIFICANT CORRESPONDENCE

Correspondence Number	Subject	Date
BGPP-SGCC-ILFC-00428	List of DD and Vendor documents (11.08.2022-17.08.2022)	17/08/22

GENERAL PMC MANAGEMENT

REPORTED WEEK 85/130

Meetings	PMC Attendees	Location	Date
Weekly discipline engineering meetings	Eng. Mng, Discipline Engineers	Humo Arena	Regular, ongoing
60% 3D Model Review Sessions for Unit Nos. 261, 215, 265 and 266.	Discipline Engineers	Humo Arena	08/08-12/08
Periodic Project Management Meetings	Engineering Manager	Humo Arena	Regular, ongoing
Kick Off Meeting with Honeywell for ICSS	PM/EM/I&C Engineer	Humo Arena	08/08-10/08

UPCOMING WEEK 86/131

Meetings	PMC Attendees	Location	Date
Weekly discipline engineering meetings	Eng. Mng, Discipline Engineers	Humo Arena	Regular, ongoing
60% 3D Model Review Sessions for Unit Nos. 215, 214, 217, 241, 243 and 460	Discipline Engineers	Humo Arena	till 19/08
Periodic Project Management Meetings	Engineering Manager	Humo Arena	Regular, ongoing
Flare Radiation and Dispersion Simulations	PM/EM/Technical Safety Engineer	Humo Arena	16/08
HAZOP and SIL Review sessions for Unit Nos. 217 and Unit 463	Discipline Engineers	Humo Arena	TBD

ENGINEERING – HIGHLIGHTS

SIGNIFICANT TRANSMITTALS	
Received from Client	Comments Issued to Client
	MR: Level Transmitters R2, Level Gauges/Sight Glasses R2, Vent Silencer R1, Needle Valves R2, Steam Trap R3, Expansion Bellows A1, CS and LTCS Fittings without NACE for Units R3: 210, 211, 212-01, 216-01, 218, 219, 242, 251, 253, 261, 263, 265, 290, 291, 292, 460, 710, 715; SS and ALLOY fittings without NACE requirements for Units 210, 211, 212-01, 216-01, 218, 219, 251, 253, 261, 263, 265, 290, 291, 292, 710, 715 A1; CS and LTCS Fittings with NACE requirements for Units: 210, 211, 212-01, 216-01, 218, 219, 243, 251, 253, 261, 263, 265, 290, 291, 292, 460, 710, 715 R3;
	TBE: Sulphuric Acid Dilution package;
	ALARM Management philosophy Y; R2
	HAZOP Closeout report 01 for Cluster Pads and Pipeline System between Cluster pad and GPP
	Flare System design Report: General A1
	Flow Assurance Report Transient Analysis Report 02
	Pipe Stress Report: 213-03;215-047;215-015;215-023;215-031;242-007;214-001;241-012;213-014;215-001
	Process Control Narrative: Unit 218 Chemical Oxidation System R1
	Cause and Effect Matrix: Unit 218 Chemical Oxidation System R4
	Laboratory 516-01:Roof plan R3, Plan at elevation 0.000 R8, Finishing schedule R3, Canopy KP-1, KP-2 R2, Perspective views R2, Facade finish schedule R3 etc.
	Canteen Unit: 502-04 Scheme B 1, T 3, T 4 A1; General Data A1; List of volumes of work A1; Roof plan with pipelines K 1. S 1:100 A1; List of volumes of work A1; Specification of equipment, products and materials A1 etc.
	Anti-radiation shelter pos: 502-05 General Data A1; Specification of process equipment at 0.000 A1; Process equipment layout plan at 0.000 A1
	DESIGN BASIS Unit: 241 Steam and BFW generation and distribution system A1

ENGINEERING – CRITICAL ISSUES

No	Topic	Status as per PMC				Recommended Action		
1	P&IDs Status	<u>Issued before HAZOP (up to R4):</u>		241, 242, 243, 251, 253, 261 (R3), 263, 264, 265, 266, 280, 290, 291, 292, 460 (R2), 470, 710, 715 210, 211 (R2), 212, 213, 214, 215, 216, 217, 218, 219		Ensure incorporation of HAZOP recommendations/parking items and maximum integration of Vendor information into the R5 revision of P&IDs.		
		<u>Issued after HAZOP (R5):</u>		242, 243, 251, 253, 261 (R4), 263, 264, 265, 266, 280, 290, 470, 715 211 (R3), 212, 218, 219				
		<u>Pending Vendor input and 60% 3D Model Review for AFC:</u>		NONE				
		<u>Pending Vendor input for AFC:</u>		291, 292, 216 (the AFC rev. cannot be issued due to unavailability of vendor information)		It is agreed that P&IDs can be issued without control valve sizing finalized.		
		<u>Issued in A1 (AFC):</u>		210				
2	HAZOP and SIL Recommendation Close out status		HAZOP Recommendations		HAZOP Parking Items	SIL Recommendations	First revision of HAZOP and SIL reports to be issued for the HAZOP/SIL completed units; consecutive revisions of the reports shall not be issued until HAZOP/SIL review session completed for Unit 217. Need to track Vendor HAZOPs closely in order to enable completion of HAZOP study and avoid further delays. HAZOP for Units 217 and 463 pending as the P&IDs are not mature enough for HAZOP.	
		Total/ Closed:	241 (24/0), 242 (18/10), 243 (18/16), 251 (5/3), 253 (4/2), 261 (12/7), 263 (16/9), 264 (13/8), 265 (2/2), 266 (1/1), 280 (2/0), 290 (2/1), 291 (6/0), 292 (8/0), 460 (EPC:29/0, VENDOR:46/0), 470 (9/6), 710 (EPC:10/0, VENDOR:9/0), 715 (0), 210 (3/2), 211 (2/1), 212 (4/0), 213 (55/0), 214 (43/0), 215 (85/0), 216 (25/0), 218 (14/0), 219 (43/0)		241 (127/0), 242 (31/20), 243 (28/20), 251 (9/6), 253 (12/12), 261 (53/48), 263 (16/13), 264 (20/15), 265 (11/11), 266 (6/6), 280 (3/0), 290 (10/7), 291 (16/0), 292 (13/0), 460 (EPC:137/0, VENDOR:191/0), 470 (20/10), 710 (VENDOR:46/0), 715 (9/3), 210 (2/2), 211 (11/10), 212 (7/7), 213 (39/0), 214 (21/0), 215 (159/0), 216 (16/0), 218 (24/0), 219 (31/0)	242 (1/0), 460 (2/0), 470 (1/0) 210 (11/0), 211 (2/0), 212 (12/0), 213 (46/0), 214 (41/0), 216 (14/0), 218 (5/0), 219 (9/0)		
3	Flow Assurance Reports	Transient Flow Assurance Report Rev 02 has been received and is being reviewed. The report now includes maximum volume of “normal operation” slugs exit the flowlines (which will enter the Slug Catchers). In many cases these maximum slug volumes exceed the calculated slug capacity of the Inlet Separators.					EPC Contractor to expedite the issuance of the revised document with the comments incorporated.	
4	3D Model Review	60% 3D model review for the following units has been completed: 251 – 12/04-14/04; 253 – 15/04-19/04; 470 –11/05-16/05; 715 – 24/05; 264 – 25/05 - 26/05; 280 - 30/05 - 31/05; 210 – 01/06 - 03/06; 211 –06/06 - 07/06; 212 , Train -1 10/06-15/06; 218 – 15/06 – 18/06; 219 - 21/06 – 27/06; 514-01 - 27/06; 290 - 28/06 – 29/06; 512-06 – 29/06; 291 – 30/06 – 01/07, 216 - 28/06 – 05/07; 292 - 05/07 – 06/07; 512-02 –08/07, 263 – 13/07 – 15/07; 502-03 – 18/07; 512-03 – 19/07; 512-01 – 26/07; 213 – 04/08. 60% 3D model review this week: <ul style="list-style-type: none">261 – 01/08 – 08/08215 – 02/08 - Ongoing265 – 08/08 - 09/08266 – 11/08 - 12/08.					Align properly with HAZOP sessions to ensure presence of the engineers who were part of P&ID and HAZOP reviews sessions for continuity for the same units. Need to report % completion of 60% 3D Model in order to evaluate final completion date	
5	Pipe Stress Analysis	The results of Flow Induced Vibration and Acoustic Induced Vibration (FIV / AIV) analysis as part of piping stress analysis has yet to be reported. FIV / AIV analysis are required for Critical Process lines.					EPC contractor shall perform FIV / AIV analysis for the critical lines as applicable and report the results.	

ENGINEERING – CRITICAL ISSUES

№	Topic	Status as per PMC	Recommended Action
6	ICSS (DCS/ESD/FGS)	Contract for ICSS (DCS/ESD/FGS) or System Integration scope has been awarded to Honeywell (South Korea). KOM held from 8/08 to 10/08.	Vendor to re-submit the updated schedule. Develop tracking list for Input Data in order to avoid delaying the Vendor
7	Plant F&G System Design	Achieved progress is limited to the Fire and Gas Mapping Study and subsequent Plant FGS layouts only, which are not finalized, preventing progress in remaining deliverables.	Engineering Deliverables related to FGS are in critical path to furnish input data for ICSS design completion, Separate progress tracking tool shall be established.
8	Underground Facilities Designs	<p>The status of Detailed Engineering for the Underground Systems is being reported by UZLE, to monitor separately the progress of activities, which are required to complete construction of underground systems. Meetings to discuss the progress are being held on Fridays. Layout Plans for the following systems/Units have been reviewed:</p> <ul style="list-style-type: none"> • 215-02-01; 214-01; 216-01; 241-00-04; 242-00-01 Clean storm water drainage system; • 214-01, 216-01 Contaminated storm water drainage system; • 214-01, 216-01 Concrete paving; • 241; 242; 243; 253 Concrete paving;. <p>Accumulation of clean and the first flush rainwater 460-0 has been issued for WE.</p>	<p>The status tracking format has been agreed and the progress reporting has been established for underground facilities design. It should be ensured that the reported information is complete and accurate. Contractor shall look up into more systems such as gravity drainage, grounding and cathodic protection.</p>
9	Substation buildings General Arrangement/ Civil Designs	<p>SS 0 - Not yet designed. Vendor data is required. TBE is finalized. Commercial bid evaluation is ongoing.</p> <p>SS 1 - Main Substation. 60% model review revealed some modifications required in Electrical rooms. Drawings for Foundation Plan are returned with comments.</p> <p>SS 2 - Remote Instrument Building. Drawings for Foundation has been issued in A1.</p> <p>SS 3 - RIB for Water Treatment Area. Drawings for Foundation Plan in rev. R2 . Architectural drawings in rev. R3 are returned with comments.</p> <p>SS 4 – the same is cancelled as a separate building due to small load, the electrical room will be inside the Admin. and Domestic Building.</p> <p>SS 5 - Gas Engine. Drawing for Foundation Plan for WE (work execution). Architectural drawings in R2 are issued for review.</p> <p>SS 6 - Steam Turbine Substation. Drawings for Foundation Plan and Architectural drawings in R2 are returned with comments.</p>	Electrical/Equipment Vendor input is not yet available hence delaying to finalize the Civil Design. Contractor shall expedite Vendor interface data.
10	Civil Designs/Main and Auxiliary buildings and Shelters/ Pipe Racks and Equipment Structures	<p>Civil, Structural and Architectural documentation is being issued for review of ILF team in the reporting week, the review and return of the documentation with or without comments are business as usual.</p> <p>The facilities the engineering documentation are being developed include;</p> <ul style="list-style-type: none"> - shelters for such units as 513-09, 261, 265, 266 and 460 (Waste Water Treatments Package). - buildings such as 520-08 Training complex for Gas smoke safety, 521-03 Checkpoint for GSS, Main control room 511-00, Laboratory 516-01, 512-01 _ 511-01 RIB utilities area Main substation, Training complex with a gas-smoke chamber unit:521-02, Service and instrument air system 251-01, Construction of Chemical warehouse for utilities 470-01 - Foundations and steel structures for pipe racks (Foundation for the platform 291-00-SS-01; 215-00 Pipe rack foundation F-215-00-PR-03H, 241-00-PR-06H; 241-00-PR-01V Pipe rack foundations; 710-00-PR-01V Pipe rack foundations). <p>Documentation for such units as Fire station checkpoint, Canteen (502-04), 520-01 Fire station, 502-05 Anti-Radiation Shelter, Main control room 511-00, Mechanical & repair shop unit: 514-01, Administration building & first aid station 502-01 are Issued for WE in the reporting week. Album for typical details of steel structures (additional types of steel connection) had been added. Album replenishment is in progress.</p>	Alignment meetings are being held to discuss the progress associated with buildings design and resolution of the comments.

ENGINEERING – CRITICAL ISSUES

№	Topic	Status as per PMC	Recommended Action
11	Fire Water System	<p>The Fire Water Demand Calculation should be the first document to be issued before issuance of other fire water related calculations and documents such as fire water pump datasheets, fire hydrant datasheets, etc.</p> <p>On the contrary, the Fire Water Hydraulic Calculation that has been issued without input from Fire Water Demand calculations. In addition to that, Fire water pumps TBE and Vendor have been approved, and Underground fire water pipe is ready to be laid down on site. Fire Water demand calculations were finally issued for review and the same has been returned with PMC comments on 21/07/22.</p> <p>An alignment meeting held with Contractor on 05/08/22 to discuss the comments of Fire Water Demand, Fire Water Hydraulic Calculation, Hydrant Data Sheet.</p> <p>As per Detailed Design Contractor information Fire Water Demand, Fire Water Hydraulic Calculation, Hydrant Data Sheet have been issued in A1 with the comments implemented on 12/08/22 (to be confirmed by DCC).</p>	<p>Revise the Fire Water Demand Calculations and advise the requirement of Management of Change due to delivery of fire water pipes to Site by Contractor.</p> <p>Contractor to implement agreements achieved during the alignment meeting dated 05/08/22.</p>
12	Flare Design	<p>Flare Dispersion Study has been performed by three (3) different parties, namely Specs, Bell Energy and John Zink. Results from Specs and John Zink state that 72 m of height, proposed previously, meets minimum criteria for H2S cloud concentration during Flare Flame out scenarios. However, as per the results of the study performed by Bell Energy, 135 meters of minimum height is required for the flare to prevent H2S with concentration of 100 ppm touch the receptor point (2 m above grade level or working platform).</p> <p>PMC submitted Technical Notes on 29/07 with Russian translation (03/08/22) based on the analysis of these studies from three independent parties. A brainstorming session is planned next week with involvement of all parties, i.e. SGC, PMC, Detailed Design Contractor, EPC Contractor, Consultant and Vendor.</p>	<p>PMC recommends to comply with Bell Energy simulation with 135m flare stack height in order to ensure safety for surrounding area flare flame out and toxic gas dispersion.</p>
13	Reliability, Availability and Maintainability (RAM) Study	<p>Alignment meeting with Bell Energy, who is handling the scope was held on 14/06/22. Bell Energy is conducting the study from the scratch using DNV Maros software. Planned date of the report submission of 13/08/22 will not be met due to the delay in issuance of the Reliability Block Diagrams (RBD).</p> <p>The meeting to discuss the RBD was held on 20/07/22, followed by issuance of the RBDs on 29/07/22, the same has been returned with comments in the reporting week (03/08/22).</p>	<p>The updated Reliability Block Diagrams have been issued to minimize review cycles. The formal issuance of first the updated Reliability Block Diagrams (RBD) after completion of their unofficial review and then a draft of the RAM study report for review to be expedited.</p> <p>RAM study report shall analyze the guaranteed availability for 8000hrs per year throughout the plant life time as per Contract requirements.</p> <p>RAM study requirements for Production Gathering Network is not addressed, EPC Contractor shall advise how and when the same will be performed.</p>
14	Material Handling Study Report	<p>A meeting held on 22/06/22 to review the Material Handling Study prepared by SPEC (previous consultant) and comments from all parties, to seek understanding, issues and revised report development approach and plan. The current study has several gaps as against the expectations.</p>	<p>The activity required for updating this study is not only limited to incorporating the comments, but also requires development of a Philosophy, study and subsequent manual and the current revision requires significant changes.</p>

TECHNICAL SAFETY ENGINEERING: PHILOSOPHIES AND STUDIES STATUS

AFU status Revision Not issued

N	Document Title	Rev	PMC Received	PMC Comment/Due date	N	Document Title	Rev	PMC Received	PMC Commented/ Due date	Forecast to issue AFU MDR 09.08.22	N	Document Title	Completion Plan	Forecast to issue AFU MDR 09.08.22
1	TAG Numbering philosophy	A4	3-Dec-21	13-Dec-21	1	GEG Black Start Philosophy	R1	13-Oct-21	28-Oct-21	25-Oct-22	1	CMMS Philosophy	TBA	TBA
2	Emergency Isolation and Depressurization Philosophy	A1	18-Aug-21	26-Aug-21	2	SIMOPS Philosophy	R3	24-Jan-22	14-Feb-22	23-Aug-22	2	HAZOP Study	31-Aug-22	31-Aug-22
3	Systems and equipment Isolation philosophy	A2	13-Jul-22	19-Jul-22	3	Escape, Evacuation and Rescue Philosophy	R4	18-Jan-22	27-Jan-22	20-Sep-22	<div><p>Reported forecast dates to issue AFU of some of Open philosophies/Studies are slipped</p></div>			
4	Overpressure protection philosophy	A1	24-Sep-21	4-Oct-21	4	Process Safety Design Philosophy	R5	4-Mar-22	16-Mar-22	25-Aug-22				
5	Steam condensate recovery philosophy	A1	29-Oct-21	8-Nov-21	5	Fire and Gas Detection Philosophy	R6	14-Mar-22	30-Mar-22	25-Aug-22				
6	Safeguarding &ESD Philosophy	A2	24-Feb-22	7-Mar-22	6	Alarm Management Philosophy	R2	10-Aug-22	17-Aug-22	10-Aug-22				
7	Noise Control Philosophy	A1	29-Dec-21	4-Feb-22	7	BGPP Emission dispersion Study	R2	28-Jan-22	9-Feb-22	26-Jul-22				
8	Passive Fire Protection Philosophy	A1	9-Mar-22	15-Mar-22	8	Building Risk Assessment Study (BRA)	C	20-Apr-22	26-Apr-22	04-Oct-22				
9	Drainage philosophy	A1	11-Mar-22	30-Mar-22	8.1	Assumption Register for Building Risk Assessment (BRA)	G	29-Jul-21	3-Aug-22	04-Oct-22				
10	Instrument Automation Philosophy	A1	25-Mar-22	5-Apr-22	9	Escape Evacuation and Rescue Analysis Report (EERA)	B	10-Sep-21	20-Sep-21	11-Aug-22				
11	Active Fire Protection Philosophy	A1	18-Mar-22	28-Mar-22	10	Vapor Cloud Explosion Study	D	17-Feb-22	28-Feb-22	20-Sep-22				
12	Draft Environmental Impact Statement	A2	10-Nov-21	not commented	10.1	Assumption Register for Vapor Cloud Explosion Study	G	26-May-22	2-Jun-22	20-Sep-22				
13	HAZOP and SIL Study Procedure	A1	17-Mar-22	28-Mar-22	11	Noise Mapping Study Report	E	30-May-22	6-Jun-22	19-Sep-22				
14	Assumption Register for Reliability, Availability and Maintainability (RAM) Study	01	5-Jan-22	8-Jan-22	11.1	Noise Mapping Study assumption Register	E	26-May-22	31-May-22	19-Sep-22				
15	Escape Evacuation and Rescue Analysis Assumption Register	01	1-Aug-22	3-Aug-22	12	Quantitative Risk Assessment General (QRA) Report	E	5-Aug-22	15-Aug-22	27-Sep-22				
Not issued					13	Fire and Explosion Risk Assessment General (FERA) Report	E	5-Aug-22	15-Aug-22	25-Aug-22				
					14	ALARP Demonstration Study Report	C	26-Nov-21	13-Dec-21	04-Oct-22				
					15	Terms of Reference for Constructability HAZID Study	B	16-Sep-21	13-Oct-21	23-Dec-22				
					16	Flare Radiation & Dispersion Analysis Study	D	9-Feb-22	9-Feb-22	25-Aug-22				
					16.1	Assumption Register for Flare Radiation & Dispersion Analysis	E	23-Jun-22	30-Jun-22	22-Sep-22				
					17	Fire and gas Mapping Study (3D) assumption Register	C	21-Jul-22	28-Jul-22	13-Sep-22				
					18	Hazardous Area Classification Schedule Report	D	16-Feb-22	18-Apr-22	23-Dec-22				
					19	Electrical Load Flow Study, Power System Fault Level Study, Large Motor Starting Study, Harmonic Analysis Study and other Electrical Studies (refer to page 18-19)	B	30-Aug-21	9-Sep-21	08-Feb-23				
					20	Material Handling Study Report (refer to page 14, item 14)	C	25-May-22	2-Jun-22	02-Nov-22				
					21	Reliability, Availability and Maintainability (RAM) Study (refer to page 14, item 13)	C	17-Feb-22	22-Feb-22	20-Sep-22				

No	Topic	Status as per PMC	Recommended Action
1	CMMS Philosophy	PMC Issued a letter related to the requirement of CMMS for GPP on 20/05. The issue is under consideration of SGC for further actions.	It is imperative to track the provision of CMMS. It is suggested to learn EPC Contractor plan for such system considering that all equipment documentation and data are obtained by EPC Contractor as furnished from respective vendors.
2	HAZOP Study	The HAZOP study sessions have been completed by 21/07 apart from Unit Nos. 217 and 463. The study report with recommendations will be issued in due course. Separate HAZOP study will be performed for Unit Nos. 217&463 and the results will be reported in subsequent revisions of the HAZOP Report. Unit wise HAZOP/SIL recommendation and parking items tracking sheets have been circulated to monitor the closure progress.	As per PMC team proposal HAZOP Recommendations are being issued in parallel before issuance of HAZOP Study report to expedite implementation of the actions. To ensure the traceability the tracking of HAZOP/SIL recommendations close out needs to be continued.

TECHNICAL SAFETY ENGINEERING: PHILOSOPHIES AND STUDIES STATUS

No	Topic	Status as per PMC	Recommended Action
1	GEG Black Start Philosophy	The first revision (R1) was issued in 13/10/21. The document was returned with comments. No new revision has been issued yet.	EPC Contractor to expedite issuance of the revised document for approval.
2	SIMOPS Philosophy	Latest Revision is R3. Document is under Custody of Contractor since 14/02/22.	EPC Contractor to expedite issuance of the revised document for approval.
3	Escape, Evacuation and Rescue Philosophy	Latest Revision is R4. Document is under Custody of Contractor since 27/01/22. An Alignment meeting with Bell Energy held on 17/06/22. Plan for submission date was on 30/06/22 but consultant failed to issue on Planned date.	EPC Contractor to expedite issuance of the document after revision for approval.
4	Process Safety Design Philosophy	Latest Revision is R5. Document is under Contractor responsibility for revision since 16/03/22.	The issuance of the philosophy for approval to be expedited.
5	Fire and Gas Detection Philosophy	Latest Revision is R6. Document is under Contractor's responsibility to issue next revision since 30/03/22. A meeting held on 23/06/22 to review the comments from all parties, to seek understanding, issues and revised philosophy development approach and plan.	Contractor to speed up the issuance for approval.
6	Alarm Management Philosophy	The second revision (R2) Alarm Management Philosophy (formerly known as Alarm Rationalization Philosophy) has been issued in reporting week (11/08/22) for review four weeks after the document was returned with comments 14/07	Depending on observations based on the review further recommendations might be provided.
7	BGPP Emission dispersion Study	Latest Revision is R2. Document is still under Custody of Contractor since 09/02/22. The study will be handed over to new Consultant (from SPEC to Bell Energy).	Need to update the simulation of emission as per the resolution of the meeting dated 10/02/22. There should be an alignment meeting with the new consultant to inform the latest status of the study in order to catch up the progress.
8/ 8.1	Building Risk Assessment Study (BRA)	The study is handed over to the new Consultant (from SPEC to Bell Energy). Alignment meeting with Bell Energy has been held on 21/06/22. Consultant submitted BRA Assumptions Register on 01/08/22 instead of Planned date of 15/07/22. The register is returned with comments on 03/08/22.	Consultant to re-work the study based on latest FERA and Assumptions Register. Consultant to incorporate comments to Assumptions Register prior to issuance for IFA revision.
9	Escape Evacuation and Rescue Analysis Report (EERA)	The study is handed over to new Consultant (from SPEC to Bell Energy). An alignment meeting with Bell Energy has been held on 17/06/2022. All comments have been reviewed and resolutions/way forward for every comment have been agreed with the new Consultant. Assumption Register was issued for review on 05/07/22 instead of planned date of 30/06/22 and was returned without comments on 13/07/22. The latest revision of Assumption Register dated 01/08/22 is returned without comments on 03/08/22.	Contractor should update after approval of FERA report. Consultant to proceed with the Escape Evacuation and Rescue Analysis based on approved Assumptions Register.
10/ 10.1	Vapor Cloud Explosion Study	The consultant (Bell Energy) proposed to exclude this study from the scope as they believe that the study is excessive. The consultant is providing the below justifications as the rationale behind the proposal to exclude: • FERA & BRA are being performed which addresses the same objectives. • CFD models will not provide accurate information for onshore facilities. • The current study by SPEC is based on consequence methodology, probabilistic nature of events are not taken into account, therefore the results led to a very conservative and unrealistic explosion overpressure values, which, upon implementation, will convert all the buildings into bunkers, which is not logical. SGC agreed to exclude the study from the scope.	There are certain aspects which is covered by VCE study but are not currently covered as part of FERA & BRA study (e.g. BLEVE), which, as per UZLE assurance, will be performed as part of FERA & BRA study by Petrocon and Bell Energy. Petrocon shall take full ownership of the change of QRA and FERA scope resulting from the VCE study alignment meeting should exclusion of VCE study is approved.
11/ 11.1	Noise Mapping Study	The study is handed over to new Consultant (from SPEC to Bell Energy). An Alignment meeting with Bell Energy has been held on 05/07/22. The scope and the project requirements are aligned. The study is in progress. The consultant is proceeding with the Assumption Register update.	The study will be updated based on the approved Assumption Register.

TECHNICAL SAFETY ENGINEERING: PHILOSOPHIES AND STUDIES STATUS

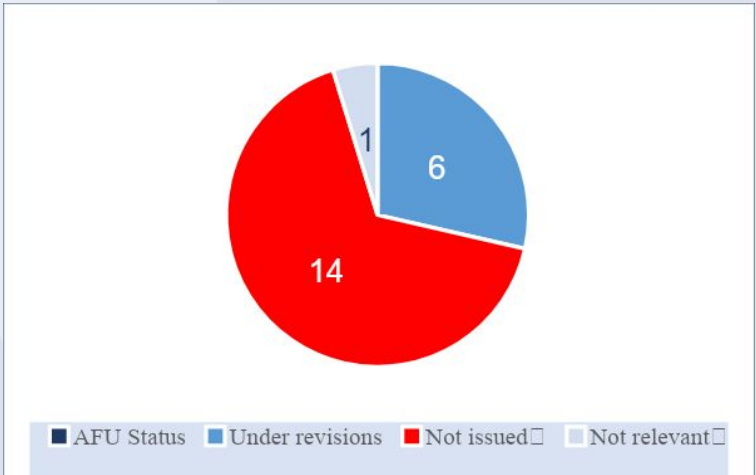
No	Topic	Status as per PMC	Recommended Action
12	Quantitative Risk Assessment (QRA)	Meeting with Consultant via Zoom has been held on 01/07/22 to clarify the latest comments. The new revision (Rev. E) of QRA Report based on the latest PIDs is issued (08/08/22) for review after implementation of the comments resolutions agreed during the meeting dated 01/07/22.	Depending on observations based on the review further recommendations might be provided. QRA for whole field shall be developed (Well Pads + GPP)
13	Fire and Explosion Risk Assessment General (FERA)	Meeting with Consultant via Zoom has been held on 01/07/22 to clarify the latest comments. The new revision (Rev. E) of FERA Report based on the latest PIDs is issued (08/08/22) for review after implementation of the comments resolutions agreed during the meeting dated 01/07/22.	Depending on observations based on the review further recommendations might be provided.
14	ALARP Demonstration Study Report	Latest Revision is C. The document has not been issued in new revision since 31/12/21.	Consultant should update after QRA report has been approved.
15	Terms of Reference for Constructability HAZID Study	First issuance only. The new revision has not been issued since 13/10/21. No HAZID is envisaged for the project during EPC phase.	This document should be recalled since there is no HAZID in this phase.
16/ 16.1	Flare Radiation & Dispersion Analysis Study	An informal update to the report by Bell Energy and the formal report by John Zink (Vendor) performing similar study have been reviewed with comments. As per the recommendations by Bell Energy the flare height shall be risen to 130meters, or arrangements shall be installed to ensure velocity of release at flare tip not less than 90-100 m/s. However, John Zink reported that dispersion criteria can be met with the current height of 72 meters based on the simulation runs on nonprofessional and non-proven software. A brainstorming session is planned next week (16/08/22) with involvement of all parties, i.e. SGC, PMC, Detailed Design Contractor, EPC Contractor, Consultant and Vendor.	PMC issued TN for analysis of dispersion and radiation studies. PMC recommended to comply with Bell Energy simulation with 135m flare stack height in order to ensure safety for surrounding area flare flame out and toxic gas dispersion.
17	Fire and Gas Mapping Study (3D)	The scope has been handed over to new Consultant (Bell Energy). A meeting held on 23/06/22 to review the register prepared by SPEC (previous consultant) and comments from all parties, to seek understanding, issues and revised report development approach and plan. The Assumption Register has been reviewed and returned with comments on 29/07/22. The planned date of the first issue of the report is 05/09/22.	Implementation of the comments provided on 29/07/22 and Approval of the Assumptions Register shall be expedited so as F&G Mapping study can be commenced.
18	Hazardous Area Classification Schedule Report	The scope has been handed over to new Consultant (Bell Energy). An alignment meeting with Bell Energy was held on 15/06/22. All comments have been reviewed and resolutions/way forward for every comment have been agreed. Planned date of submission is 23/07/22, however, the Consultant failed to meet the target date of submission. Consultant proposed revised date of submission (10/08/22), however they again failed to meet the planned date. As per the Detailed Design Contractor information, the submission of updated HAC schedule is postponed to reflect newly added pumps at Unit No. 460 that need to be considered in updated HAC schedule.	Consultant to incorporate the comments before issuance of the next revision.

ELECTRICAL ENGINEERING: STUDIES STATUS

No	Topic	Status as per PMC	Recommended Action
19.1	Electrical Load Computation	All electrical loads are summarized in the documents LOAD COMPUTATION for each substation. The first revision was issued in April 2022. Revision R2 is being prepared based on loads redistribution revealed by 60% 3D model review and new vendor data.	Update the lists of electrical loads with Vendor input as new information becomes available.
19.2	Load flow studies	Part of document: ELECTRICAL LOAD FLOW STUDY, POWER SYSTEM FAULT LEVEL STUDY, LARGE MOTOR STARTING STUDY, HARMONIC ANALYSIS STUDY Draft R2 was issued and returned for rework in March 2022.	Load flow studies shall be performed for practical scenarios of operation. ETAP model shall be updated according to the latest key SLD. All scenarios shall include abnormal condition with one transformer OFF to estimate voltage drop in worst case. This study shall include the capacitor bank sizing based on actual PF by load flow. The next revision shall be issued after ETAP model had been updated.
19.3	Short circuit calculations	Part of document: ELECTRICAL LOAD FLOW STUDY, POWER SYSTEM FAULT LEVEL STUDY, LARGE MOTOR STARTING STUDY, HARMONIC ANALYSIS STUDY Draft R2 was issued and returned for rework in March 2022.	Short circuit calculations shall be executed for all switchboards and feeder cables, covering possible combinations of generators connected to the power system including external grid connection. The next revision shall be issued after ETAP model had been updated.
19.4	Motor starting studies (Static analysis)	Part of document: ELECTRICAL LOAD FLOW STUDY, POWER SYSTEM FAULT LEVEL STUDY, LARGE MOTOR STARTING STUDY, HARMONIC ANALYSIS STUDY Draft R2 was issued and returned for rework in March 2022.	Motor starting studies shall include large motors for each bus bar. The motor simulation shall be performed in static mode to define voltage drop. The next revision shall be issued after ETAP model has been updated.
19.5	Harmonic studies	Separate document to be created in MDR: HARMONIC STUDY No works have been accomplished.	Harmonic studies will be performed after all soft starters are defined based on Transient stability study and all UPS are sized. To avoid the delay of document issue, the study shall be detached from BGPP-UZLE-D-200-000-0-EL-STU-10002 study and registered as separate document in MDR.
19.6	Protective relay coordination study	No works have been accomplished.	Perform protective relay co-ordination study with required settings. This study can be started after all protection relays are known.
19.7	Black Start Requirements	No works have been accomplished.	This document will be a part of Power Generation and Distribution philosophy document as attachment.
19.8	Transient Stability Study	No works have been accomplished.	This document shall include dynamic motor starting – load surge, switching transient study – load rejection and power system split, over/under frequency/voltage conditions caused by short circuit, genset loss and load variations.
19.9	Power frequency over-voltages	No works have been accomplished.	Part of transient stability study.
19.10	Insulation coordination	No works have been accomplished.	Shall be part of document: MV EARTHING SYSTEM SELECTION STUDY. This document shall be developed from draft technical notes on earthing system selection at early stage and shall be registered in MDR as document.
19.11	Ferro resonance from VFTT failure	No works have been accomplished.	Shall be part of document: MV EARTHING SYSTEM SELECTION STUDY. This document shall be developed from draft technical notes on earthing system selection at early stage and shall be registered in MDR as a deliverable document.
19.12	Large motor starting analysis	No works have been accomplished	Shall be a part of Transient stability study.
19.13	Shunt reactor sizing/location	No works have been accomplished.	Shall be part of document: MV EARTHING SYSTEM SELECTION STUDY. This document shall be developed from draft technical notes on earthing system selection at early stage and shall be registered in MDR as a deliverable document.
19.14	Switching transient study	No works have been accomplished.	Shall be a part of Transient stability study.
19.15	Circulating current analysis	No works have been accomplished.	Part of cable sizing criteria; to be performed for long run single core cables and include screen sizing.
19.16	Equipment sizing analysis/calculations	EDG sizing R1 was issued and returned for rework in July 2022. Other equipment sizing has not been accomplished.	Split by equipment, as different documents cover different equipment: Transformer sizing, EDG sizing. Current Limiting reactor sizing. UPS and battery sizing will be provided by vendor.

ELECTRICAL ENGINEERING: STUDIES STATUS

No	Topic	Status as per PMC	Recommended Action
19.17	Analysis of Ferranti effects	Identified as not relevant to BGPP project.	Should be removed from contract requirements as the topic is not relevant to BGPP project.
19.18	Protection coordination with arc flash analysis	No works have been accomplished.	Shall be a separate document registered in MDR – ARC FLASH ANALYSIS
19.19	Saturation for transformers and reactors	No works have been accomplished.	The document shall cover current transformer selection for various types of protection.
19.20	Power requirements and interconnecting supplies	No works have been accomplished.	Design of power requirements and interconnecting supplies to complete the construction and mechanic completion phase using a temporary generator (not the facility emergency generator). The document shall be developed by EPC
19.21	110kV grid connection studies	No works have been accomplished.	Studies required for connection to 110kV grid, shall be performed by EEN through third party to define the Scheme of power generation and distribution of the Boysun GPP. After approval of he document



ENGINEERING - GPP MDR ANALYSIS

MDR Analysis as of 09.08.22/ Анализ ГРД на 09.08.22	Cumulative Progress % / Наполнительный прогресс выполнения															Delta 05.07 vs. 12.07 / дельта 05.07 против 12.07	Delta 12.07 vs. 19.07 / дельта 12.07 против 19.07	Delta 19.07 vs. 26.07 / дельта 19.07 против 26.07	Delta 26.07 vs. 02.08 / дельта 26.07 против 02.08	Delta 02.08 vs. 09.08 / дельта 02.08 против 09.08	Monthly delta / дельта за месяц	Total quantity / Общее кол-во документов												Cumulative Quantity IFC2/ Кол-во документов выпущено для строительства IFC2 (наполнительно)			Cumulative Quantity AFC / Кол-во документов утверждено для строительства (наполнительно)			Remainder / Остаток документов AFC
	Week / Неделя 80, 12-07-22			Week / Неделя 81, 19-07-22			Week / Неделя 82, 26-07-22			Week / Неделя 83, 02-08-22			Week / Неделя 84, 09-08-22									Week / Неделя 80, 12-07-22	Week / Неделя 81, 19-07-22	Week / Неделя 82, 26-07-22	Week / Неделя 83, 02-08-22	Week / Неделя 84, 09-08-22	MDR changes W78 vs. W79 / Измени я MDR между неделя 78 и 79	MDR changes W79 vs. W80 / Измени я MDR между неделя 79 и 80	MDR changes W80 vs. W81 / Измени я MDR между неделя 80 и 81	MDR changes W81 vs. W82 / Измени я MDR между неделя 81 и 82	MDR changes W82 vs. W83 / Измени я MDR между неделя 82 и 83	MDR changes W83 vs. W84 / Измени я MDR между неделя 83 и 84	Monthly delta / дельта за месяц	Plan / План	Act. / Факт	Δ	Plan / План	Act. / Факт	Δ	
	Plan / План	Act. / Факт	Δ	Plan / План	Act. / Факт	Δ	Plan / План	Act. / Факт	Δ	Plan / План	Act. / Факт	Δ	Plan / План	Act. / Факт	Δ																									
Detailed Design	94.02%	57.57%	-36.45%	59.59%	57.90%	-1.69%	62.16%	58.20%	-3.96%	62.56%	57.99%	-4.57%	60.99%	58.56%	-2.43%	-0.22%	34.77%	-2.28%	-0.61%	2.14%	34.02%	9485	9501	9572	9648	9687	32	1	16	71	76	39	202	4710	4279	-431	2726	2687	-39	7000
GPP / ГПЗ	94.02%	57.57%	-36.45%	59.59%	57.90%	-1.69%	62.16%	58.20%	-3.96%	62.56%	57.99%	-4.57%	60.99%	58.56%	-2.43%	-0.22%	34.77%	-2.28%	-0.61%	2.14%	34.02%	9485	9501	9572	9648	9687	32	1	16	71	76	39	202	4710	4279	-431	2726	2687	-39	7000
General / Общее	89.70%	60.36%	-29.34%	61.62%	60.74%	-0.88%	63.77%	59.94%	-3.83%	78.49%	73.74%	-4.76%	74.57%	73.75%	-0.82%	-0.89%	28.46%	-2.95%	-0.98%	3.94%	28.53%	1,317	1,313	1,364	1,368	1,384	21	-2	-4	51	4	16	67	753	740	-13	473	482	19	892
Process Units - general / Технологическая часть - общее	97.98%	75.14%	-22.84%	77.91%	75.33%	-2.58%	79.53%	76.08%	-3.45%	79.27%	74.85%	-4.42%	77.35%	75.26%	-2.10%	0.54%	20.26%	-0.87%	-0.97%	2.32%	20.74%	783	776	781	793	788	-5	-4	-7	5	12	-5	5	399	363	-36	220	203	-17	585
Process Units - train 1 / Технологическая часть - нитка 1	93.08%	50.83%	-42.26%	52.68%	51.36%	-1.32%	54.85%	51.63%	-3.22%	50.62%	46.54%	-4.07%	47.98%	47.50%	-0.48%	2.95%	40.94%	-1.69%	-0.86%	3.59%	41.78%	1,328	1,375	1,379	1,401	1,394	4	1	47	4	22	-7	66	756	682	-74	471	469	-2	925
Process Units - train 2 / Технологическая часть - нитка 2	93.15%	32.48%	-60.66%	33.82%	32.98%	-0.84%	36.13%	33.09%	-3.04%	31.93%	27.92%	-4.00%	33.22%	28.71%	-4.51%	2.92%	59.83%	-2.20%	-0.97%	-0.51%	56.15%	936	940	940	950	929	0	0	4	0	10	-21	-7	338	301	-37	262	257	-5	672
Utilities&Offsite / Общезаводское и вспомогательное хозяйство (ОЗХ)	94.34%	67.73%	-26.61%	69.75%	67.91%	-1.84%	72.70%	68.15%	-4.54%	69.60%	65.39%	-4.21%	69.08%	66.21%	-2.87%	1.95%	24.77%	-2.70%	0.33%	1.34%	23.74%	2,891	2,825	2,835	2,892	2,865	5	-1	-66	10	57	-27	-26	1,308	1,209	-99	700	694	-6	2,171
Building and facilities / Здания и сооружения	96.38%	55.02%	-41.36%	57.17%	55.28%	-1.89%	60.65%	56.72%	-3.93%	64.47%	58.36%	-6.11%	59.23%	58.84%	-0.39%	-0.43%	39.46%	-2.04%	-2.18%	5.72%	40.97%	1,995	2,042	2,043	2,008	2,037	3	14	47	1	-35	29	42	1,030	925	-105	542	548	6	1,489
Sulfur pipeline and sulfur storage/ Серопровод и склад хранения серы	93.16%	28.61%	-64.55%	35.62%	28.98%	-6.64%	46.50%	30.72%	-15.78%	39.92%	30.00%	-9.92%	48.38%	29.04%	-20.34%	2.15%	57.91%	-9.14%	5.86%	-10.42%	44.21%	235	230	230	236	290	4	-7	-5	0	6	54	55	126	59	-67	58	24	-34	266

- Compare with the previous week the progress increased by 2.14% as Planned progress has been changed from 62,56% to 60,99%
- The overall quantity of deliverables in MDR for a week period is increased by 36.
- Total foreseen deliverables till now are 9 687 deliverables

QC INSPECTIONS

REPORTED WEEK 84/129

Vendor	Package Details	NFI Number	Location	Inspection Date	Inspection Status
SOFINTER MACCHI	Steam Boilers	NFI-BOGPZ-20-186-MCCH-110-R2	Egypt	13 -16/08	completed
SAMWON ENGINEERING CO. LTD	Ejectors	NFI-BOGPZ-21294-SE-004-R0-	Korea	16 – 17/08	completed

- Reports forwarded with official transmittals
- Review and commenting of Inspection Status Report
- Contract arrangement with RINA EMEA B.V. and ACE Plantech CO., Ltd is in process by PMC

PMC receives Inspection Procedures in some cases with errors, not approved or drawings are missing. For instance:

- Hydrotest Procedure indicated a test pressure different from that indicated in the drawing. Ref: NFI-BOGPZ-21294-SE-004-R0
- Vendor was unable to provide drawing during testing. Ref: NFI-BOGPZ-20.188-FTMS-025-R0

EPC Contractor should send all the latest revision of approved documents relevant to the inspection along with the NFI in order to negate any inspection being done with a wrong parameter and thus avoid the need to re-test or re-inspect.

UPCOMING WEEK 85/130

Vendor	Package Details	NFI Number	Location	Inspection Date	Inspection Status
Airpack Nederland B.V	Steam Turbine Generator	NFI-BOGPZ-20/1972-AIRP-001-R0	China	26/08	Scheduled

CONSTRUCTION- HIGHLIGHTS

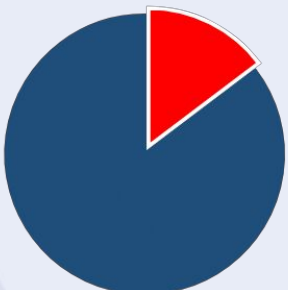
REPORTED WEEK 85/130

Issuing executive acts documentation



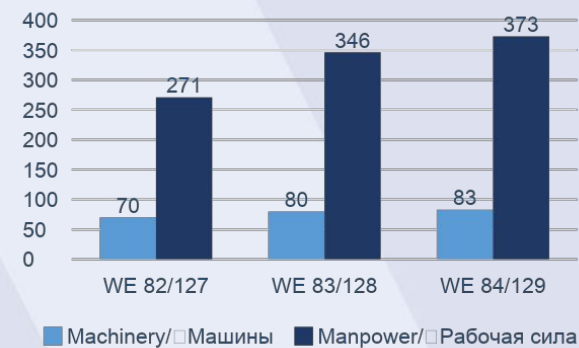
Issued for the week: 42

NCRs
4 -Open



Closed for the week: 0

Within GPP fence area resources



Incoming control inspection of delivered materials



Issued for the week: 20

Rejected for the week: 5

Status RFI	Cumulative	Reporting Week
Accepted	5 058	25
Rejected*	609	48
Postponed	0	0
Total	567	73

- 25 missed AFC Detailed Design
- 18 not complying with the Detailed Design, exceeding the standards tolerances
- 5 uncompleted incoming control of materials

REPORTED WEEK 85/130

	EPC Contractor			PMC			Accumulated Delta
	Previous week	This week	Accumulated	Previous week	This week	Accumulated	
GPP	7.74%	0.06%	7.80%	7.13%	0.61%	7.74%	-0.05%
General	21.17%	0.14%	21.31%	20.86%	0.11%	20.97%	-0.34%
Process Units - general	10.31%	0.00%	10.31%	10.31%	0.00%	10.31%	0.00%
Process Units - train 1	15.49%	0.05%	15.53%	15.29%	0.91%	16.20%	0.66%
Process Units - train 2	14.47%	0.00%	14.47%	14.70%	0.04%	14.74%	0.27%
Utilities&Offsite	2.74%	0.05%	2.79%	2.69%	0.01%	2.70%	-0.09%
Buildings & Structures	5.95%	0.10%	6.06%	3.15%	3.00%	6.15%	0.09%
Sulfur pipeline and sulfur storage	4.69%	0.03%	4.72%	3.86%	0.00%	3.86%	-0.85%

UPCOMING WEEK 86/131

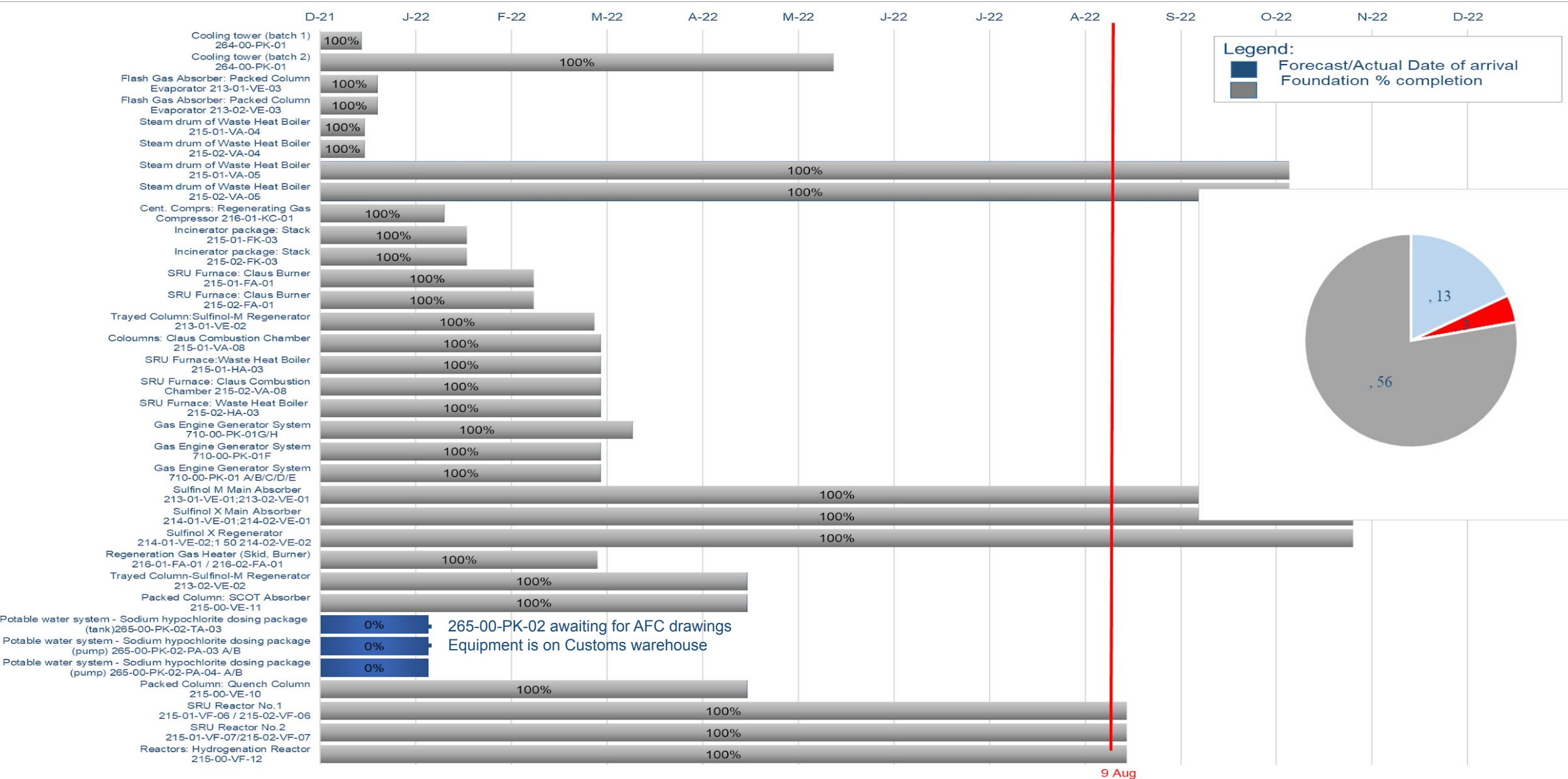
- Supervision / Inspection of ongoing works;
- Monitor HSE aspects during the execution of construction work;
- Issue of daily progress reporting;
- Incoming control inspection of construction materials arriving at the site;
- Checking of the quality of executive act documentation for the compliance with EPC Contract and the local regulatory requirements;
- Participation in the technical supervision, construction progress and quality control coordination meetings with the contractor.

CONSTRUCTION- NCR STATUS

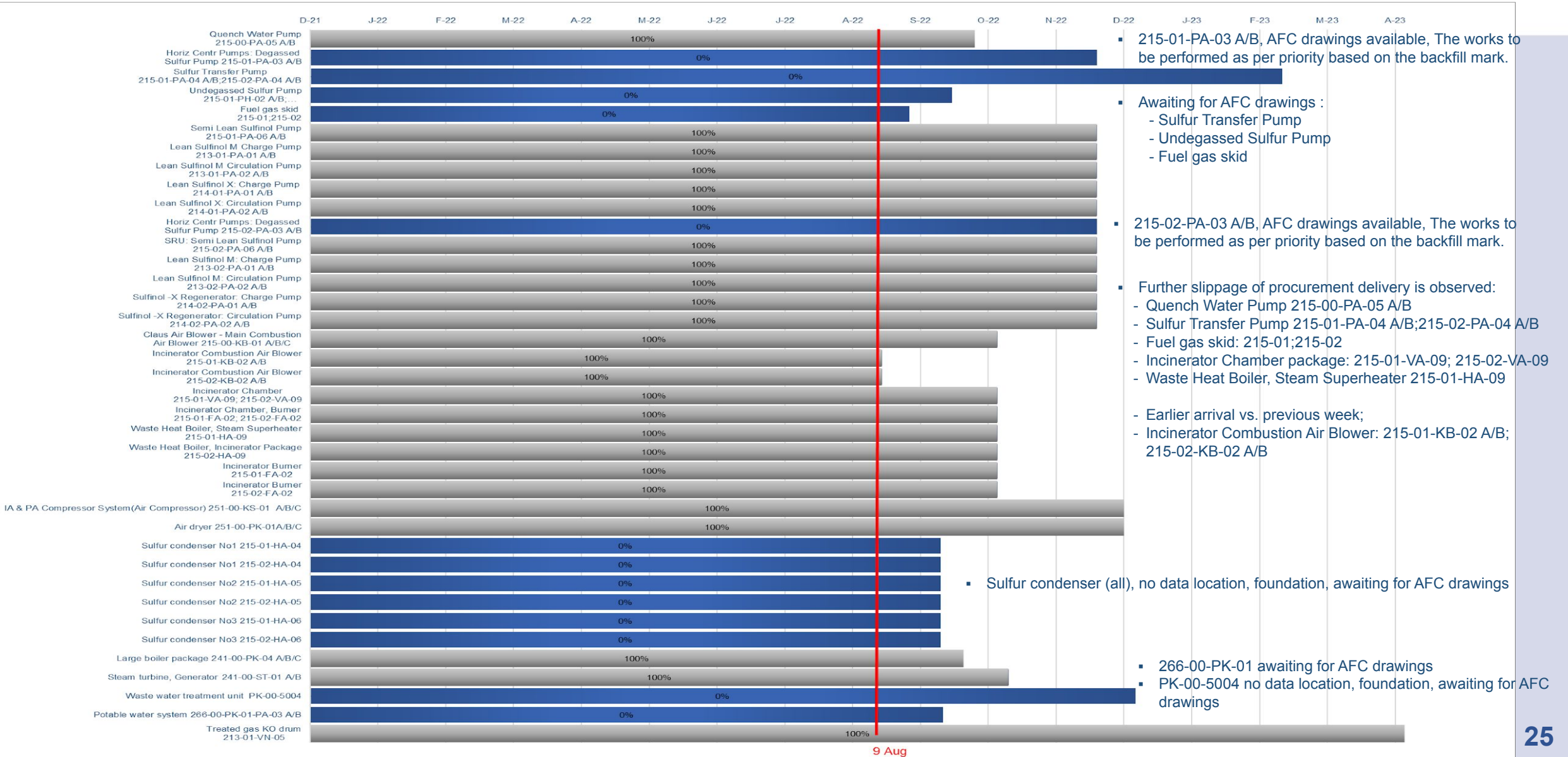
NCR Number /	Description of Non-conformance	Date Issued	Status	Status
NCR-PMC-TS-CI-WP 04-013	1. Installation of structural frame for the Cooling tower 264-00-RK-01 is carried out without AFC drawings, 2.execution of the interim acceptance certificate of the critical structures (with the laboratory confirmation of the developed strength of the supporting structures), 3. with using the materials that haven't passed the incoming control (the structures did not pass the incoming control due to missing accompanying documents and due to the presence of mechanical damages). 4. Anchor bolts of the Cooling tower structure are installed without submission, 5. execution of RFI schedule, inspections and as-built documentation for preparation works before installation: lay-out and fixing of pocket axes, inspection of geometric dimensions of the pockets - depth, diameter. The controlled bolt connections of the Cooling tower structure are assembled and tightened without using a torque wrench (the controlled tightening torque shall be 15-19 Nm). The works are performed without submission, execution of RFI schedules, inspections and as-built documentation (bolt tightening log) Violation: drawing BGPP-UZLE-D-200-264-0-CI-LAY-00102-D-A1, the procedure of incoming control for materials BGPP-EENG-G-000-000-0-QC-PRO-00001-R-01, order No.019-20-K dated 16.01.2021, BGPP-SGL-200-OP-R01-0103-264-001 item. 4.3.1	19.02.2022	✓	1. AFC drawings are available
			✗	2. Awaiting for Certificates on Russian language
			✓	3. Certificates of interim acceptance of critical structures is available
			✗	4. Inspections accepted was not provided
				5. На инспекции затяжка болтов применяется динамометрический ключ с сертификатом. What is the status?
NCR-PMC-TS-MW-W P04-028	1.At visual inspection of the equipment - Sulfinol-M Regenerator (213-01-VE-02), it was found that protective preservation gas (nitrogen) is missing. 2.Installation of Sulfinol-M Regenerator is performed without passing of equipment incoming control. Violation of material incoming control procedure BGPP-EENG-G-000-000-0-QC-PRO-00001-R-03 /	12.03.2022	✓	1.Protective preservation gas (nitrogen) is performed
			✗	2. Awaiting for Act of acceptance for Incoming material control
NCR-PMC-TS-MW-W P04-033	1. The Contractor used gas cutting to enlarge the factory holes (Ø55 mm) of the radiant section support plates to Ø72 mm, the repair of defective areas of the coating after increasing the holes was made with off-design material, the procedure of repair of the paintwork by the manufacturer (the Client) is not provided. 2. The radiant section has not passed the incoming control procedure. Act of equipment handing over for installation was not issued. Violation: KMK3.05.05-98 Appendix 2, equipment passport BGPP-AFW-200-CN-P08-0195-216-0001-E-2, material incoming control procedure BGPP-EENG-G-000-000-0-QC-PRO-00001-R-03. /	29.03.2022	✓	1. Technical Note to increase the holes is available. The repair of defective areas performed. RFI-BGPP-EE-PI-23/24.
			✗	2. Awaiting for Act of acceptance for Incoming material control
NCR-PMC-TS-MW-W P04-034	1. Regeneration gas heater hasn't passed incoming control, violation of incoming control BGPP-EENG-G-000-000-0-QC-PRO-00001-R-03, item 7.1.1 2. Horizontal position of anchor bolts have deviations exceeding the tolerance values. Maximum deviation is up to 12 mm from design (the tolerance is 5 mm). Violation: KMK 3.03.01-98 item 2.121 (table 11). Attachment: As-built drawing of anchor bolts for foundation 216-01-FA-01 after concreting.	29.03.2022	✗	1. Awaiting for Act of acceptance for Incoming material control
			✓	2. As built documentation for Horizontal position of anchor bolts is provided

▪ PMC highlights,

STATUS OF P1 EQUIPMENT VS FOUNDATION READINESS



STATUS OF P1 EQUIPMENT VS FOUNDATION READINESS



CONSTRUCTION- HIGHLIGHTS

OPEN Observations related to Lack of AFC Drawings				
	Observation	Discipline	Date of Initiation	Status
1.	At the construction of the gas processing plant there is no approved General Plan with the stamp "For the production of work"	CIVIL / CI	30-Mar-21	Open
2.	Low pressure air receiver / high pressure air receiver 251-00-VC-01/02 - approved detailed design for earthworks is missing. Violation of ShNK 3.01.01-03 item.3.1	CIVIL / CI	26-Mar-22	Open
3.	RIB water treatment area (511-03). Substation water treatment area (512-03) - approved detailed design for earthworks is missing	CIVIL / CI	18-Apr-22	Open
4.	Unit 000 – Firewater pipeline system 000-WFR-00018-1C3U-16” CP AFC detailed design is missing	GEODETIC WORKS	26-Apr-22	Open
5.	RIB process area 511-02 GPP process substation 512-02 – AFC DD for earthworks are missing - violation of ShNK 3.01.01-03 para.3.1	CIVIL / CI	1-Jun-22	Closed
6.	Unit-000. Protective casings for the cooling water pipeline passing across the road are being installed without AFC DD. Violation of the requirements: ShNK 3.01.01-03 para.3.1.	Welding / W	6-Jun-22	Open
7.	Laboratory 516-01 - Approved drawings for the brick walls elements (lintels, cores, columns) are missing– violation of ShNK 3.01.01-03 item 3.1	GEODETIC WORKS	15-Jun-22	Open
8.	STG electrical room -512-06 – AFC drawings for earthworks are missing. Violation of ShNK 3.01.01-03 item 3.1	CIVIL / CI	25-Jun-22	Open
9.	Foundations for platform 241-00-SS-01- AFC drawings for earthworks. Violation of ShNK 3.01.01-03 item 3.1	CIVIL / CI	27-Jun-22	Open
10.	Unit 000 - firewater pipeline. AFC drawings are missing. Violation of the requirements of ShNK 3.01.01-03 item 3.1; KMK 3.05.05-98 item 1.6.	Welding / W	28-Jun-22	Open
11.	Pipe rack 241-00-PR-03V – AFC drawings for earthworks and concrete works are missing. Violation of ShNK 3.01.01-03 item 3.1.	GEODETIC WORKS	30-Jun-22	Open
12.	511-01 RIB utilities area / 512-01 Main substation - AFC drawings for earthworks are missing. Violation of ShNK 3.01.01-03 item 3.1	CIVIL / CI	2-Jul-22	Closed
13.	Pipe rack 253-00-PR-01H - approved detailed design for earthworks is missing – violation of ShNK 3.01.01-03 item 3.1	CIVIL / CI	18 Jul-22	Open
14.	Pipe rack 242-00-PR-02H - approved detailed design for earthworks and concrete works is missing – violation of ShNK 3.01.01-03 item 3.1	CIVIL / CI	25-Jul-22	Open
15.	Main control building 511-00. Scope of earthworks is missing in the design – violation of ShNK 3.01.01-03 item 3.1	CIVIL / CI	12-Apr-22	Closed

- Items 5,12,15 were closed for reporting period.
- PMC underlines that document provision should be improved between Engineering, DCC and Site Construction team.
- Focus for AFC drawings issuance is to be prioritized for above items in order to close the Observations as reported by PMC team on daily basis

CONSTRUCTION- HIGHLIGHTS

REPORTED WEEK 84/129

No	Object	Tag Number	Work	UoM	Project Volume	Work Done	Extra Volume	Field Change Notice	Comments
1	Service Building	502 - 02	Foundation for partitions and backfill soil	m3	553.8	736.95	183.15	BGPP-EENG-200-CI-FCN -00014	Errors made in the performance of engineering survey work (actual installed quantities are not aligned with drawings)
2	Canteen	502 - 04	Number of floor slabs	pc	112	113	1	BGPP-EENG-200-CI-FCN -00007	Errors made in the performance of engineering survey work(actual installed quantities are not aligned with drawings)
3	Main Operator room	511 - 00	Polyethylene laying	m2	568	820.5	252.5	BGPP-EENG-200-CI-FCN -00018 SIGN	Errors made in the performance of engineering survey work(actual installed quantities are not aligned with drawings)
4	Main Operator room	511 - 00	Arrangement of soft soil bedding	m3	228.8	288.9	60.1	BGPP-EENG-200-CI-FCN -00018 SIGN	Errors made in the performance of engineering survey work(actual installed quantities are not aligned with drawings)
5	Canteen	502 - 04	Reinforcement cage installation for the building monolithic elements	tons	34.94	35.48	0.54	NA	Excess of volumes is caused by the need for additional reinforcement of the cage installation which was not provided in the project documentation.

- There are works ongoing without latest AFC drawings, however it is measured for reporting by EPC Contractor
- PMC reflects the progress based on latest AFC drawing only.
- AFC drawings issuance is to be prioritized for above items in order to accept the installed quantities.
- **PMC will report extra quantities in daily report for information purpose, however it will not be counted in actual progress as agreed on 19/08 on the meeting with Client**

CONSTRUCTION- WELDING WORKS

REPORTED WEEK 84/129

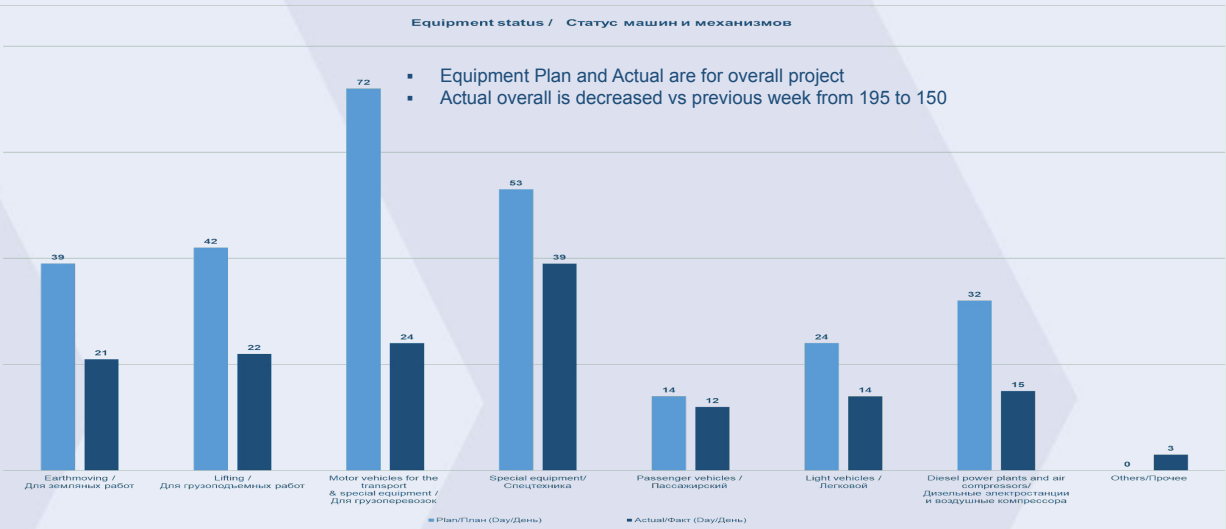
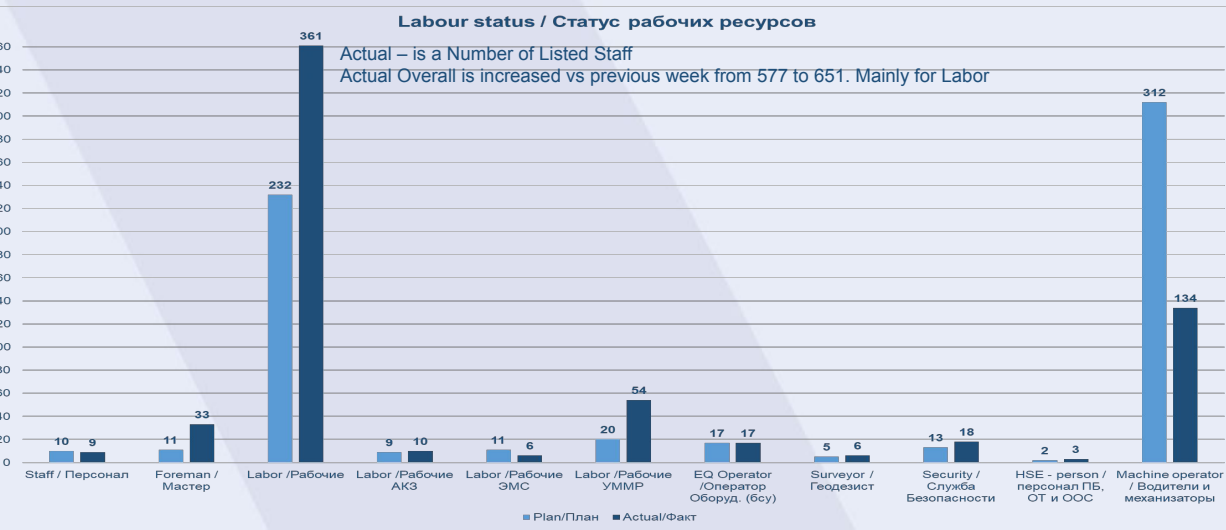
System	Cumulative		Reporting Period				No. of Welders
	Performed Welds	Performed NDT	Performed Welds	Performed NDT	Approved Welds	Rejected Welds	
Cooling Water System	316.00	38	0.00	0	0	0	23
Fire Water System	694.00	42	39.00	0	39	0	

- No welding on cooling water system is recorded during reported week

CONSTRUCTION- HIGHLIGHTS



REPORTED WEEK 82/127



511-01 RIB utilities area /512-01
Main substation Reinforcement of foundation



511-00 Main control room
Reinforcement of wall columns



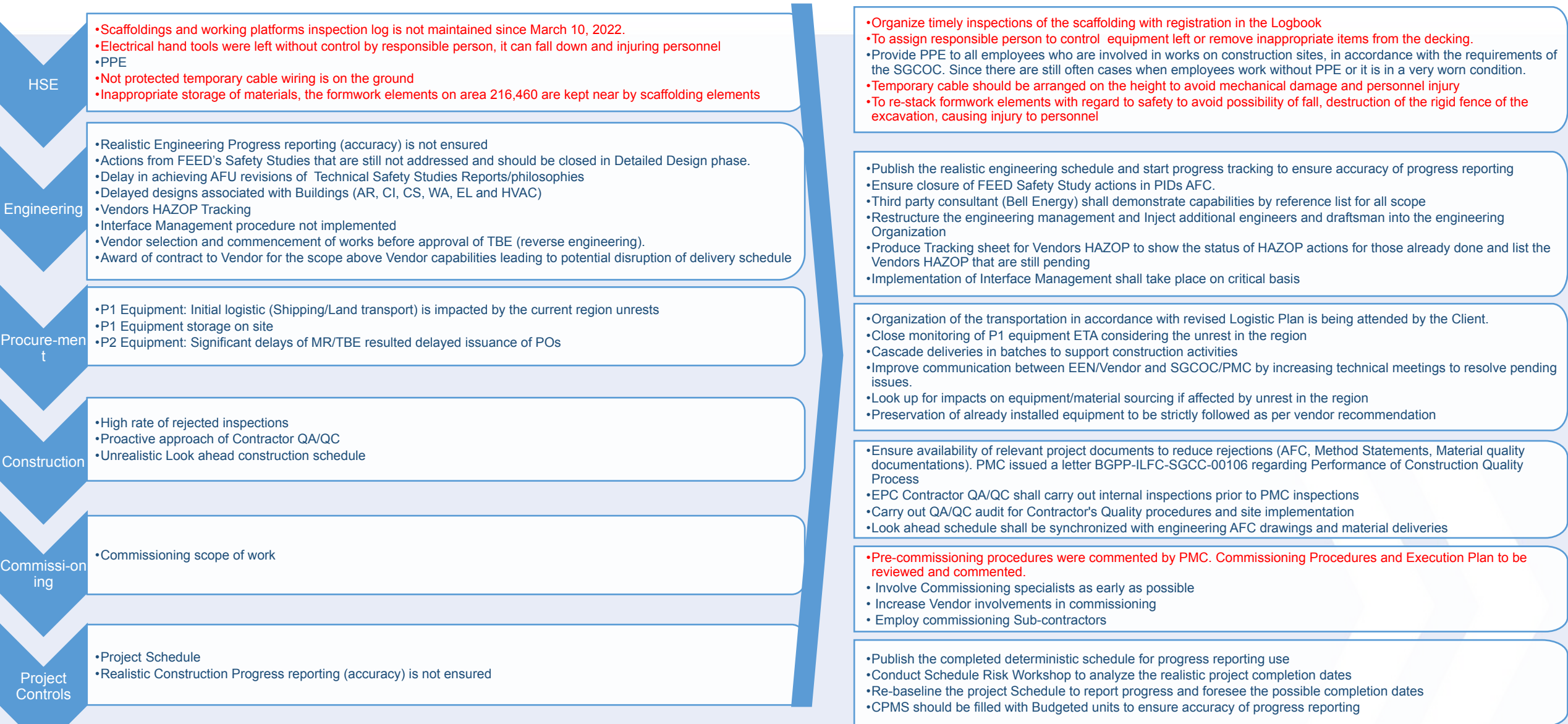
514-01 Mechanical and repair shop
Installation of formwork on flooring monolithic areas



513-01 Gas engine generators building
Concrete curing of foundation



AREAS OF CONCERN



SITE PHOTOS

513-09 Shelter for packaged equipment
Inspection of the horizontal position of lean concrete formwork



Shooting angle 3 as of 16.08.22



241-00-PR-01V Pipe rack. Arrangement of gravel-sand mixture base with layer-by-layer compaction



Shooting angle 1 as of 16.08.22



Unit 000. Cooling water interconnecting:
000-WRC-00009-1C3U-4"-HH, 000-WCC-00012-1C3U-4"-HH



216-01-FA-01 Regeneration Gas Heater
Bolts tightening



ATTACHMENTS

- **ATTACHMENT 1 – Weekly HSE Report.**
- **ATTACHMENT 2 – Engineering Areas of Concern**
- **ATTACHMENT 3 – PMC Technical Supervision Group Weekly Report**
- **ATTACHMENT 4 – PMC MDR Analysis – GPP**
- **ATTACHMENT 5 – PMC CPMS Analysis**
- **ATTACHMENT 6 – Philosophy and Study issuance Status**