
	FEED deliverable List				Document Nº:	201224-RFQ-ES-0001_Annex III			
					H2 Plant in La Zaida, Zaragoza (Spain)				
	PROJECT	H2 PLANT IN LA ZAIDA, ZARAGOZA (SPAIN)							
	CLIENT	IGNIS HIDRÓGENO ALFA, S.L.							
	REFERENCE								
		1	20/12/2024		RFF	MPM			
		ED_Rev	Date	Description	By	Checked	Approved	Client	

Item	Description	Remarks
Management		
1	Project Execution plan	
2	Codes and Standards	
3	Quality Assurance plan	
4	Codes and Standards	
5	Document management procedure and codification	
6	Documentation list	
Process Engineering		
7	Basis of design	
8	Process design philosophy	
9	Equipment and BackUp philosophy	
10	Mass and Energy balance	
11	Process description	
12	Process flow diagram	
13	Utility flow diagrams	
14	Piping and instrumentation diagrams (P&ID), including control loops.	
15	Sized equipment list	
16	Calculations (in excel list or Thermoflex/Aspen Hysis)	
17	Utilities list	
18	Battery limit list	
19	Emissions and effluent list	
20	Materials/Fluids list	
21	Process Datasheet for equipment	
22	Duty specification for packages	
23	Venting philosophy	
24	Relief load summary	
25	Vents and flare network sizing report	
26	Operations and maintenance philosophy	
HSE		
27	HSE Philosophy	
28	Hazardous area classification drawing	
29	Hazardous equipment schedule	
30	Hazardous substances list	
31	Firefighting and fire/gas detection and extinguishing system philosophy	
32	Safety distance compliance Plot Plan	
33	Vent/flare dispersion/radiation study	
34	ATEX areas definition (report and drawing)	
35	SIL/LOPA analysis	Workshop + closeout report
36	HAZOP study and report	Workshop + closeout report
37	Noise study report	
38	Equipment noise specification	
39	Fire fighting equipment and escape route drawing	
40	Fire and gas detection layout drawings	
41	Fire and gas extinguishing layout drawings	
42	Fire water demand calculation report	
43	MTO safety equipment and fire and gas detectors	
Mechanical Engineering		
44	Mechanical design basis	
45	Plant overall layout	
46	Plant areas layout	Equipment layout
47	Tie-ins List (process & utilities)	
48	Static equipment design basis	
49	Rotating equipment design basis	
50	Hydraulic calculations	
51	Tanks calculations	
52	Painting specification	
53	Insulation specification	
54	Cathodic protection specification	
55	HVAC design basis	
56	HVAC specification	
57	Cooling system design and specification	
58	Water polishing system design and specification	
59	Effluent treatment plant design and specification	
60	Compressed air design and specification	
61	Chemical dosification design and specification	
62	Welding and heat treatment specification	
63	3D model design specification	
Piping		
64	Piping layout	Equipment layout
65	Piping design specification (including accesories)	
66	Piping class dossier	
67	Line List	
68	Corrosion control and Material selection specification	
69	Material selection diagrams	
70	Cathodic protection MTO	
71	Painting and insulation MTO	
72	Piping MTO	Including supports

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Item	Description	Remarks
Civil and Structural Engineering		
73	Civil works descriptive specification	
74	Design and specifications of civil works	
75	Earthworks specification	
76	Reinforced concrete structures and foundations specification	
77	Steel structure specification	
78	Buildings specification	
79	Grading , paving and urbanization specification	
80	Drainage network and underground system especification	
81	Building structural calculations	
82	Auxiliary structures calculations	
83	Other foundations calculation (auxiliary equipments, tanks, walls...)	
84	Effluent drainage system calculation	
85	Calculation of rainwater collection system	
86	General layout drawing	
87	Earthworks drawing	
88	Building drawings: Plan, elevations and sections	All buildings (Electrolyzers, Compression and purification, Access control, Control room/electrical room/offices (including locker rooms, restrooms and common services), Workshop/warehouse/Hazardous waste warehouse, Water treatment plant, Fire protection,)
89	Building drawings: Foundations	
90	Building drawings: Structure (Steel/Reinforced concrete)	
91	Building drawings: Roof	
92	Building drawings: Construction details	Tanks, Pipe racks, Effluent treatment, Cooling system, Walls...
93	Building drawings: Architectural finished	
94	Structures and foundations of auxiliary equipment drawings	
95	Interconnecting pipe rack steel drawings	
96	Rainwater collection system drawing	
97	Effluent drainage network drawing	
98	Earthing system drawing	
99	Roads, fencing and grading works (urbanization) drawings	
100	Site preparation MTO	
101	Buildings MTO	For each building (Electrolyzers, Compression and purification, Access control, Control room/electrical room/offices (including locker rooms, restrooms and common services), Workshop/warehouse/Hazardous waste warehouse, Water treatment plant, Fire protection,)
102	Auxiliary equipment foundations MTO	Tanks, Pipe racks, Effluent treatment, Cooling system, Walls...
103	Auxiliary equipment structures MTO	
104	Drainage Network & Underground System MTO	
105	Roads, fencing and grading MTO	
106	Earthing system MTO	
Electrical Engineering		
107	Electrical lists (equipments, cables, consumer list and load balance)	
108	MTO (main equipments)	
109	Electrical Data Sheets (main equipments)	
110	Electrical Design (MV&LV systems)	
111	Philosophy of redundant feeder criteria (BOP redundant feeder, essential busbar)	
112	Design & specification basics MV-LV main equipments (Switchgears, motor control centers, panels, VFDs, capacitor banks, relay protections, communications, ATEX electrical equipment, Automatic transfer systems, RIC Generators, UPSs, Rectificators, Batteries)	
113	Electrical layout drawings (General arrangement, equipment zone arrangement, earthing layout, cable routing)	
114	Electrical flowsheet drawings (Process systems)	
115	Electrical diagram drawings (HV-MV-LV Overall, MV-LV One-line, main equipments)	
116	Electrical typical drawings (Trench, tray, illumination, earthing)	
117	Basic Electrical studies (load flow study, short-circuit study, MV&LV cable calculations, Q compensation study, harmonic study, lightning study, lighting study)	Load flow, ICC
Instrumentation and control Engineering		
118	Control system specification	
119	Telecommunication system specification	
120	Field instrumentation specification	
121	Control and safety architecture	
122	Instrumentation index	
123	Instruments Data Sheet	
124	I/O List	
125	Cause and effect matrix	
126	Instrumentation main cable routing layouts	
127	Control room GA drawing	
Procurement		
128	Mechanical Equipment (BOP) technical specifications	
129	Electrical Equipment (BOP) technical specifications	
130	Mechanical Equipment (BOP) technical & economical tabulations	
131	Electrical Equipment (BOP) technical & economical tabulations	
132	I&C Equipment (BOP) technical specifications	
133	I&C Equipment (BOP) technical & economical tabulations	
Planning		
134	Feed Detailed Schedule	Level 3
135	Project Overall Schedule	Level 2
Cost		
136	CAPEX estimate Class 2 AACEI (-10% +10%)	
137	Operating and Maintenance estimate cost	