

ARMONIA	FEED deliverable List						Document Nº:	20224-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 Hysys)										
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 accessories)										
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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	CLIENT	IGNIS HIDRÓGENO ALFA, S.L.									
	REFERENCE										
		1	20/12/2024			RFF	MPM				
		ED_Rev	Date	Description	By	Checked	Approved	Client			
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 specification										
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										
93	Building drawings: Architectural finished										
94	Structures and foundations of auxiliary equipment drawings							Tanks, Pipe racks, Effluent treatment, Cooling system, Walls...			
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										
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, Rectifiers, 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 AAICEI (-10% +10%)										
137	Operating and Maintenance estimate cost										