ARMONIA	**Pre-FEED deliverable List**				Document Nº:	201224-RFQ-ES-0001_Annex II		
					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	GA/MPM	GA/MPM	
			ED_Rev	Date	Description	By	Checked	Approved	Client

Item	Description	Remarks
	Management	
1	Project Execution plan	
2	Codes and Standards	
3	Document management procedure and codification	
4	Documentation list	
	Preliminary surveys	
5	Geotechnical survey	
6	Hydrology survey	
7	Topography	
	Technical and economical studies	
8	Hydrogen production technical & economical tabulation	
9	Hydrogen production vendor recommendation/selection	
10	Plant Design Intermittence Optimization Study	
	Process Engineering	
11	Basis of design	
12	Process design and operation philosophy	
13	Equipment and BackUp philosophy	
14	Mass and Energy balance	
15	Block diagrams	
16	Process description	
17	Process flow diagrams	
18	Utility Flow Diagrams	
19	Equipment list (including design and operating conditions and material)	
20	Utilities list	
21	P&IDs for main equipment (including main control loops)	
22	Data sheets of main equipment (hydrogen production and purifying unit, compression and storage, cooling, main pumps)	
23	Calculations (in excel or Thermoflex/Aspen Hysys)	
24	Battery limit list	
25	Emissions and effluent list	
	HSE	
26	Firefighting and fire/gas detection and extinguishing system philosophy	
27	Safety distance compliance Plot Plan	
28	Quantitative risk analysis	
29	Hazardous Area Classification Report	
30	Preliminary ATEX Area Classification (report and drawing)	
31	HAZID	
32	Major Risk List	
	Mechanical Engineering	
33	Mechanical design basis	
34	Plant overall layout	
35	Plant areas layout	
36	Rotating equipment design philosophy	
37	Hydraulic calculations (main pumps and piping)	
38	Tanks calculations	
	Piping	
39	Piping design philosophy	
40	Material selection diagrams	
41	Line list of main equipment (hydrogen production and purifying unit, compression and storage, raw and demin water, cooling, main pumps)	
42	Corrosion control and Material selection philosophy	
	Civil and Structural Engineering	
43	Civil and structural design philosophy	
44	General description of buildings	
45	Drainage system description	
46	General layout drawing	
47	General arrangement drawing of 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, Fire protection,...)	
48	Foundation guide drawings for main equipment, buildings and pipe rack	
49	Underground guide drawing	
50	Interconnecting pipe rack guide drawing	
	Electrical Engineering	
51	Electrical Design Basis	
52	Electrical consumer list and load balance	
53	Electrical drawings (Single line diagram, general arrangement)	
54	Electrical room layout with implementation and distribution of equipment	
	Instrumentation and control Engineering	
54	Control system and safeguarding philosophy	
55	Telecommunication system philosophy	
56	Field instrumentation philosophy	
57	Control architecture	
	Planning	
58	Pre-Feed Detailed Schedule	Level 3
59	Project Overall Schedule	Level 2
	Cost	
60	CAPEX estimate Class 3 AACEI (-20% +30%)	
61	Operating and Maintenance estimate cost	