Base Load Power Hub (BLPH)

TECHNICAL DOSSIER PED

Piping Systems subject to PED 2014/68/EU

Category II (Module A2) and Category III (Module G)

Document Number: 123A90-PML-QC-DB-00012

Document Class: 3

00	11/05/2026	Issue for Information	R. Degli Esposti	C. Giunchi	M. Brunelli
Rev.	Date	Description	Prepared	Reviewed	Approved

This document undergoes an issuance cycle within EDMS Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

Revision / Change Log

Rev.	Description
00	Issue for Information (IFI)

HOLDS LIST

No.	Description
1	
2	
3	
4	

Table of contents

1 GENERAL DESCRIPTION OF THE PIPING SYSTEM 4

1.1 LINES DETAILED INFORMATION 4

1.2 PED CLASSIFICATION AND CONFORMITY ASSESSMENT 4

2 DESIGN INPUTS 6

3 FABRICATION AND INSTALLATION 7

3.1 QUALITY CONTROL AND DOCUMENTATION 7

This document undergoes an issuance cycle within EDMS Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

1 GENERAL DESCRIPTION OF THE PIPING SYSTEM

This Technical File covers the design, fabrication, inspection, and certification of in-house piping systems within the scope of Directive 2014/68/EU (Pressure Equipment Directive – PED).

The complete piping system consists of **156 individual lines**, out of which:

- **6 lines** fall under **PED Category III**, certified via **Module G**.
- **50 lines** fall under **PED Category II**, subject to conformity assessment via **Module A2**.

These lines are associated with various process and utility services and are designed for installation on the BLPH topside.

1.1 LINES DETAILED INFORMATION

Detailed information for each line—including design and operating parameters, wall thickness, materials, insulation, corrosion allowance, and PED categorisation—is available in the Process Line List Document.

#	Document Number	Document Title
1	123A90-DDL-PR-LIS-80035	Process Line List

1.2 PED CLASSIFICATION AND CONFORMITY ASSESSMENT

Lines were classified in accordance with PED Annex II and Article 13, based on:

- Fluid Group (Group 1 or 2)
- Nominal Diameter (DN)
- Pressure × Volume or Pressure × DN criteria

Module G (Category III)

Lines in Category III have undergone full conformity assessment by a Notified Body, including design examination, final inspection, and certification of compliance.

Lines subject to the PED Cat. III are as follows:

#	TAG NR/LINE NR	Fluid Service	Phase	Ped Cat.
1	4"-HY-142-03HSS-N	Hydrogen	Gas	III
2	4"-HY-167-03HSS-N	Hydrogen	Gas	III
3	4"-HY-171-03HSS-N	Hydrogen	Gas	III
4	4"-HY-175-03HSS-N	Hydrogen	Gas	III
5	4"-HY-180-03HSS-N	Hydrogen	Gas	III
6	4"-HY-184-03HSS-N	Hydrogen	Gas	III

Module A2 (Category II)

Lines in Category II have been subject to internal production control and final pressure testing, supervised on a sampling basis by the appointed Notified Body.

Lines subject to the PED Cat. II are as follows:

#	TAG NR/LINE NR	Fluid Service	Phase	Ped Cat.
1	1"-HY-007-03HSS-N	Hydrogen	Gas	II
2	6"-VL-010-01HSS-N	LP Vent	Gas	II
3	1"-HY-015-03HSS-N	Hydrogen	Gas	II
4	1"-HY-016-03HSS-N	Hydrogen	Gas	II
5	1"-HY-017-03HSS-N	Hydrogen	Gas	II
6	1"-HY-018-03HSS-N	Hydrogen	Gas	II
7	1"-HY-019-03HSS-N	Hydrogen	Gas	II
8	1"-HY-020-03HSS-N	Hydrogen	Gas	II
9	1-1/2"-HY-024-03HSS-N	Hydrogen	Gas	II
10	4"-VL-025-01HSS-N	LP Vent	Gas	II
11	1"-HY-026-03HSS-N	Hydrogen	Gas	II
12	4"-VL-111-01HSS-N	LP Vent	Gas	II
13	4"-VL-112-01HSS-N	LP Vent	Gas	II
14	4"-VL-113-01HSS-N	LP Vent	Gas	II
15	4"-VL-114-01HSS-N	LP Vent	Gas	II
16	4"-VL-115-01HSS-N	LP Vent	Gas	II
17	10"-VL-116-01HSS-N	LP Vent	Gas	II
18	10"-VL-117-01HSS-N	LP Vent	Gas	II
19	10"-VL-123-01HSS-N	LP Vent	Gas	II
20	1"-HY-132-03HSS-N	Hydrogen	Gas	II
21	1"-HY-133-03HSS-N	Hydrogen	Gas	II
22	1"-HY-134-03HSS-N	Hydrogen	Gas	II
23	1"-HY-135-03HSS-N	Hydrogen	Gas	II
24	1"-HY-136-03HSS-N	Hydrogen	Gas	II
25	1"-HY-143-03HSS-N	Hydrogen	Gas	II
26	1"-HY-144-03HSS-N	Hydrogen	Gas	II
27	1-1/2"-HY-148-03HSS-N	Hydrogen	Gas	II
28	4"-HY-152-01HSS-N	Hydrogen	Gas	II
29	1"-HY-153-03HSS-N	Hydrogen	Gas	II
30	1"-HY-164-03HSS-N	Hydrogen	Gas	II
31	1"-HY-165-03HSS-N	Hydrogen	Gas	II
32	1-1/2"-HY-166-03HSS-N	Hydrogen	Gas	II
33	6"-VL-168-01HSS-N	LP Vent	Gas	II
34	1"-HY-169-03HSS-N	Hydrogen	Gas	II
35	1-1/2"-HY-170-03HSS-N	Hydrogen	Gas	II

This document undergoes an issuance cycle within EDMS Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

#	TAG NR/LINE NR	Fluid Service	Phase	Ped Cat.
36	6"-VL-172-01HSS-N	LP Vent	Gas	II
37	1"-HY-173-03HSS-N	Hydrogen	Gas	II
38	1-1/2"-HY-174-03HSS-N	Hydrogen	Gas	II
39	6"-VL-176-01HSS-N	LP Vent	Gas	II
40	1"-HY-178-03HSS-N	Hydrogen	Gas	II
41	1-1/2"-HY-179-03HSS-N	Hydrogen	Gas	II
42	6"-VL-181-01HSS-N	LP Vent	Gas	II
43	1"-HY-182-03HSS-N	Hydrogen	Gas	II
44	1-1/2"-HY-183-03HSS-N	Hydrogen	Gas	II
45	6"-VL-185-01HSS-N	LP Vent	Gas	II
46	1"-HY-186-03HSS-N	Hydrogen	Gas	II
47	1"-HY-187-03HSS-N	Hydrogen	Gas	II
48	1"-HY-188-03HSS-N	Hydrogen	Gas	II
49	1"-HY-189-03HSS-N	Hydrogen	Gas	II
50	1"-HY-190-03HSS-N	Hydrogen	Gas	II

2 DESIGN INPUTS

The design activity inputs are outlined in the following documents:

#	Document Number	Document Title
1	123A90-DDL-PP-RE-70001	Stress & Vibration Analysis Report
2	123A90-DDL-SAF-RE-30006	HAZOP Report
3	123A90-DDL-PR-PID-80011	BLPH P&ID ELECTROLYSER PACKAGE
4	123A90-DDL-PR-PID-80012	BLPH P&ID FUEL CELL PACKAGE
5	123A90-DDL-PR-PID-80013	BLPH P&ID HYDROGEN STORAGE VESSELS HEADER (INLET)
6	123A90-DDL-PR-PID-80014	BLPH P&ID HYDROGEN STORAGE VESSELS HEADER (OUTLET)
7	123A90-DDL-PR-PID-80015	BLPH P&ID HYDROGEN STORAGE VESSEL A
8	123A90-DDL-PR-PID-80016	BLPH P&ID HYDROGEN STORAGE VESSEL B
9	123A90-DDL-PR-PID-80017	BLPH P&ID HYDROGEN STORAGE VESSEL C
10	123A90-DDL-PR-PID-80018	BLPH P&ID HYDROGEN STORAGE VESSELD
11	123A90-DDL-PR-PID-80019	BLPH P&ID HYDROGEN STORAGE VESSEL E
12	123A90-DDL-PR-PID-80020	BLPH P&ID HYDROGEN STORAGE VESSEL F
13	123A90-DDL-PR-PID-80021	BLPH P&ID SEA-WATER INTAKE SYSTEM SHEET 1
14	123A90-DDL-PR-PID-80022	BLPH P&ID SEA-WATER INTAKE SYSTEM SHEET 2
15	123A90-DDL-PR-PID-80023	BLPH P&ID WATER TREATMENT PLANT SHEET 1
16	123A90-DDL-PR-PID-80024	BLPH P&ID WATER TREATMENT PLANT SHEET 2
17	123A90-DDL-PR-PID-80025	BLPH P&ID WATER DISPOSAL SHEET 1
18	123A90-DDL-PR-PID-80026	BLPH P&ID WATER DISPOSAL SHEET 2
19	123A90-DDL-PR-PID-80027	BLPH P&ID INSTRUMENT AIR PACKAGE
20	123A90-DDL-PR-PID-80028	BLPH P&ID HYDROGEN VENT HEADER
21	123A90-DDL-PR-PID-80029	BLPH P&ID HYDROGEN VENT DRUM

This document undergoes an issuance cycle within EDMS Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

#	Document Number	Document Title
22	123A90-DDL-PR-PID-80041	BLPH P&ID INSTRUMENT AIR DISTRIBUTION HEADER
23	123A90-DDL-PR-PID-80042	BLPH P&ID INSTRUMENTATION SYMBOLOGY
24	123A90-DDL-PR-PID-80043	BLPH P&ID OPEN DRAIN SYSTEM

Materials used in the construction are traceable and certified according to EN 10204 (Type 3.1 or 3.2).

Reference is made to:

#	Document Number	Document Title
1	123A90-MTR-002	Material Traceability Report

3 FABRICATION AND INSTALLATION

Welding activities have been carried out by qualified welders using approved WPS/PQRs.

Reference is made to:

#	Document Number	Document Title
1	123A90-PML-WEL-LIS-05000	Welder List - Piping
2	123A90-PML-WEL-PRO-05003	Welding Book - Piping

NDT was performed in accordance with project inspection classes using appropriate methods (VT, RT, PT, MT).

Reference is made to:

#	Document Number	Document Title
1	123A90-PML-QHSE-LIS-00090	NDE Operator List
2	123A90-PML-QHSE-PRO-00095	Radiographic Examination Procedure - Piping
3	123A90-PML-QHSE-PRO-00099	Magnetic Particle Examination - Piping
4	123A90-PML-QHSE-PRO-00101	Dye Penetrant Examination Procedure - Piping
5	123A90-PML-QHSE-PRO-00103	Visual Examination Procedure - Piping

3.1 QUALITY CONTROL AND DOCUMENTATION

The construction, inspection, testing and reinstatement activities related to the piping lines are performed in accordance with the applicable Inspection and Test Plans (ITPs) and are documented within the Test Pack dossiers related to Systems 25 and 43.

The Test Pack dossiers constitute the primary construction and verification records for the relevant piping systems and include, where applicable and relevant to PED classified piping:

- Coloured marked P&IDs
- Hydrostatic test circuits

- Material lists and extracts of line lists
- Isometric drawings and support details
- Welding registers and material traceability records
- Inspection, pre-commissioning and testing records
- Cleaning, drying and flange management records
- Pressure and leak test records

HYDROSTATIC TEST RECORDS - SYSTEM 25 - HYDROGEN STORAGE

Task number	Desription	Test Pack code	System	System Desc	Subsystem code
C10003469	Pressure Test	25-08-TP-031	25	Hydrogen Storage	25-08
C10003461	Pressure Test	25-08-TP-030	25	Hydrogen Storage	25-08
C10004797	Pressure Test	25-07-TP-068	25	Hydrogen Storage	25-07
C10003281	Pressure Test	25-07-TP-007	25	Hydrogen Storage	25-07
C10003657	Pressure Test	25-06-TP-057	25	Hydrogen Storage	25-06
C10003565	Pressure Test	25-06-TP-043	25	Hydrogen Storage	25-06
C10003517	Pressure Test	25-06-TP-037	25	Hydrogen Storage	25-06
C10003377	Pressure Test	25-06-TP-019	25	Hydrogen Storage	25-06
C10003329	Pressure Test	25-06-TP-013	25	Hydrogen Storage	25-06
C10003649	Pressure Test	25-05-TP-056	25	Hydrogen Storage	25-05
C10003557	Pressure Test	25-05-TP-042	25	Hydrogen Storage	25-05
C10003509	Pressure Test	25-05-TP-036	25	Hydrogen Storage	25-05
C10003369	Pressure Test	25-05-TP-018	25	Hydrogen Storage	25-05
C10003321	Pressure Test	25-05-TP-012	25	Hydrogen Storage	25-05
C10003641	Pressure Test	25-04-TP-055	25	Hydrogen Storage	25-04
C10003549	Pressure Test	25-04-TP-041	25	Hydrogen Storage	25-04
C10003501	Pressure Test	25-04-TP-035	25	Hydrogen Storage	25-04
C10003361	Pressure Test	25-04-TP-017	25	Hydrogen Storage	25-04
C10003313	Pressure Test	25-04-TP-011	25	Hydrogen Storage	25-04
C10003633	Pressure Test	25-03-TP-054	25	Hydrogen Storage	25-03
C10003541	Pressure Test	25-03-TP-040	25	Hydrogen Storage	25-03
C10003493	Pressure Test	25-03-TP-034	25	Hydrogen Storage	25-03
C10003353	Pressure Test	25-03-TP-016	25	Hydrogen Storage	25-03
C10003305	Pressure Test	25-03-TP-010	25	Hydrogen Storage	25-03
C10003625	Pressure Test	25-02-TP-053	25	Hydrogen Storage	25-02
C10003533	Pressure Test	25-02-TP-039	25	Hydrogen Storage	25-02
C10003485	Pressure Test	25-02-TP-033	25	Hydrogen Storage	25-02

This document undergoes an issuance cycle within EDMS Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

Task number	Desription	Test Pack code	System	System Desc	Subsystem code
C10003345	Pressure Test	25-02-TP-015	25	Hydrogen Storage	25-02
C10003297	Pressure Test	25-02-TP-009	25	Hydrogen Storage	25-02
C10003617	Pressure Test	25-01-TP-052	25	Hydrogen Storage	25-01
C10003525	Pressure Test	25-01-TP-038	25	Hydrogen Storage	25-01
C10003477	Pressure Test	25-01-TP-032	25	Hydrogen Storage	25-01
C10003337	Pressure Test	25-01-TP-014	25	Hydrogen Storage	25-01
C10003289	Pressure Test	25-01-TP-008	25	Hydrogen Storage	25-01

HYDROSTATIC TEST RECORDS - SYSTEM 43 - HYDROGEN VENT SYSTEM

Task number	Form desc	Test Pack code	System	System Desc	Subsystem code
C10003402	Pressure Test	43-00-TP-022	43	Hydrogen Vent System	43-00
C10003417	Pressure Test	43-00-TP-024	43	Hydrogen Vent System	43-00
C10003573	Pressure Test	43-00-TP-044	43	Hydrogen Vent System	43-00
C10003701	Pressure Test	43-00-TP-064	43	Hydrogen Vent System	43-00
C10003708	Pressure Test	43-00-TP-065	43	**Hydrogen Vent System**	**43-00**
C10004557	Pressure Test	43-00-TP-066	43	Hydrogen Vent System	43-00
C10004790	Pressure Test	43-00-TP-067	43	Hydrogen Vent System	43-00

This document undergoes an issuance cycle within EDMS Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy