



- NOTES**
- Banking compound connection at 400kV changed from previous National Grid connection at substation at 132kV
  - Ground flare system for all hydrogen emissions during normal operations.
  - Liquid nitrogen supplied by tanker.
  - Solid waste e.g. spent catalyst / adsorbent disposed of off-site by specialist contractors.
  - Electrolysis System consists of electrolyser stack, balance of stack, rectifiers and transformers. PEM electrolyser technology selected.
  - Process wastewater from the HPF may be neutralised and reused in PPS demineralisation system, to be determined during the FEED.
  - Theoretical compression and purification included in BFD for use in HEC only, offtaker boundary included to illustrate actual HPF interface with offtaker.
  - Adiabatic cooling system considered as base case for project however cooling technology may be optimised during the FEED.
  - Re-use of process water reject to be considered during FEED.

- REVISION NOTES**
- RFI 1. Backup Power Generator moved from Electrical Block. Diesel Input added.
  - RFI 2. Raw Water and Fire Water Storage added to the Water Supply Block. Input and Output Raw Water streams added.
  - RFI 3. Electrolyser Block changed to Electrolysis System Block. Lye system removed. See Note 5.
  - RFI 4. Hydrogen Storage removed.
  - RFI 5. Purge stream from adiabatic cooling to process drains added, see Note 6.
  - RFI 6. Local Discharge changed Pembroke Power Station (PPS) Wastewater system and discharge, see Note 6.
  - RFI 7. Harmonic filtering and Static Synchronous Compensator included
  - RFI 8. Cooling concept selected as adiabatic rather than hybrid.
  - RFI 9. Removal of hydrogen vent, hydrogen is intended to be directed to the flare in normal operation
  - RFI 10. Notes updated to reflect design updates
  - RFI 11. Hydrogen flare pilot fuel changed to permanent flow during normal operation

- LEGEND**
- > Continuous Flow
  - - - - -> Intermittent Flow
  - ◁ External Connection
  - ▭ Process Block
  - - - - - Operating Block
  - - - - - Site Boundary
  - △ RFI Revisions

|   |          |    |    |    |
|---|----------|----|----|----|
| C | 23/04/25 | ES | SD | TR |
| B | 15/04/24 | CW | GE | GE |
| A | 11/03/24 | CW | MB | GE |

**Revision description:**  
ISSUED TO SUPPORT HAR2 RFI SUBMISSION – UPDATE TO ARUP PRE-FEED BFD BY RWE

| Rev | Date | Author | Checker | Approver |
|-----|------|--------|---------|----------|
|-----|------|--------|---------|----------|

**RWE**

Project Title  
**PEMBROKE GREEN HYDROGEN 1**

Drawing Title  
**BLOCK FLOW DIAGRAM**

Rev. C    Date: 23/04/2025