

HyNet Hydrogen Production Plant 1 – Technical Note

EPR Response – 13a – Secondary Containment Materials

Summary

Problem Statement

Advise the material of construction of each secondary containment bunds (reference: Table 2-9 of Permit Application Supporting Document), or, if this detail is not available yet, confirm that the materials of construction will be selected to ensure compatibility with the stored liquids in each primary containment tank.

Response

Table 2-9 has been updated below to include a material of construction of the secondary containment.

Equipment Name	Duty / Capacity (m ³)	Type of Fluid	Type of Containment	Secondary Containment Material of Construction
Amine Storage Tank	1043	Amine solution (70% w/w)	Bund	Note 1. Liner = HDPE
TEG storage tank	72		Bund	Note 1. Liner = HDPE
Filtered Water Tank		Water	Not required	
Aluminium Sulphate Storage Tank	6	Aluminium Sulphate solution (8% w/w)	Bund	Note 1. Liner = HDPE
Sulphuric Acid Storage Tank	0.8	Sulphuric Acid solution (33% w/w)	Bund	Note 1. Liner = uPVC
Clarified Water Tank		Water	Not required	
Raw Water Balance Tank		Water	Not required	
Backwash Settlement Tank		Water and Sludge	Not required – but Bund will be provided	Note 1. Liner = HDPE
Sodium Hypochlorite Storage Tank	6	Sodium Hypochlorite solution (10% w/w)	Bund	Note 1. Liner = HDPE
Demin Water Storage Tank		Water	Not required	
Sodium Hydroxide Storage Tank	6	Sodium Hydroxide solution (32% w/w)	Bund	Note 1. Liner = HDPE

Equipment Name	Duty / Capacity (m ³)	Type of Fluid	Type of Containment	Secondary Containment Material of Construction
Sodium Bisulphite Storage Tank	2	Sodium Bisulphite solution (20% w/w)	Bund	Note 1. Liner = HDPE
Fire Water Storage Tank	4000	Water	Not required	
Waste Water Blending Tank		Waste	Not required	
Sludge Blending Tank		Sludge	Not required – but Bund will be provided	Note 1. Liner = HDPE
Thickened Sludge Holding Tank		Sludge	Not required - but Bund will be provided	Note 1. Liner = HDPE
Phosphoric Acid Storage Tank	5	Phosphoric Acid solution (various conc)	Bund	Note 1. Liner = HDPE
N Supplement & Micro-Nutrient Storage Tank	30		Not required	
Cooling Medium Storage Tank	4200	Propylene glycol solution (33% w/w)	Bund	Note 1. Liner = HDPE
11-33kV Transformer		Oil	Bund	Note 1. Liner = HDPE
Liquid Oxygen tank	670		Double Skin	Carbon Steel outer skin
Liquid Nitrogen tank	300		Double Skin	Carbon Steel outer skin
Emergency Generator Diesel Tank	8.5	Diesel	Double Skin	Carbon Steel outer skin

Note 1: Bund material of reinforced concrete, with an impermeable liner. Liner thickness set for design life at 2mm. Liner material selection to be compatible with contents.