APPENDIX 5E

Estimate of Sludge Generated from the SD2 Platform Complex

Estimate of Sludge Generated from the SD2 Platform Complex

The relationship is as follows:

Daily volumetric sludge production =

$$POB \times Sludge \cdot production \cdot for \cdot black \cdot water \Big/ MLSS$$

Maximum persons on board (POB) = 240 (during commissioning)

Mixed liquor suspended solids concentration (MLSS) = 15,000 g/m^3

Sludge production for black water = 20 to 40 g/head.d

The calculated volumetric sludge productions are given below for range of sludge productions:

	Units	Highest (offshore)	Average (domestic)	Least (vendors)	Calculation steps
Mixed liquor suspended solids	g/m^3	15,000	15,000	15,000	Typical value for membrane bioreactor (MBR) plants
Sludge dry solids production	g/head.day	40	30	20	Black water per person load of 40 g BOD removed/head.d x dry solids production for MBR plants (extended aeration) of 0.3 to 1.0 kg dry solids / kg BOD removed (source).
Max estimated daily sludge volume	m^3/d	0.64	0.48	0.32	POB x g/head.day / MLSS
Number of days per month	days	30	30	30	
Monthly sludge volume (max)	m^3/month	19.2	14.4	9.6	Daily sludge volume x days/month

Source: Construction Industry Research and Information Association Report (CIRIA) Report (2000) The selection of package wastewater treatment plants. CIRIA report FR/IP/33.