Design basis/considerations:
Working fluid
Low deltaT, low pressure drop: performance parameter, gross to net power ratio
Material compatibility
Manufacturability
Biofouling/Corrosion
System Integration

Codes/Standards
ASME Codes for safety not for performance
Standards for working fluid
Need to be some kind of code for system
No codes for testing OTEC HX for system

HX Type	**Shell and tube**	**Plate frame**	**Aluminum Plate Fin**
Material	Titanium (power plant condensers), carbon steel (process industry), stainless steel (high pressure), copper-nickel (corrosion issue), aluminum (refrig. Industry)	stainless steel, titanium (process industry)	brazed aluminum (cryogenic and LNG plants)
Configuration/ manifolding	Simple, do-able Cannot be used in vertical evaporator	Difficult complex piping system expensive valving less flexible for OTEC	Easy to manifold in modular system
Scalability	Easy to scale up	Limited Size and number of plates Not use gasket	Easy to scale up

Performance data and design	Lots of performance data; need enhanced tube	Lots of data High pressure drop HX	Lots of data DOE test data
Field O&M	Easiest A lot of experience with these HX "Degrades gracefully"	Difficult; gaskets not fully welded	Monitoring aluminum corrosion Does not degrade gracefully Modular design - pull and replace
Manufacturability	Largest at this point, 5 MWe (net OTEC power); 6 m shell diameter Can be modulated	Easy: automated welding Plate size is an issue (OTEC needs large)	Modular; Current extrusion and brazing limit size of modules (2 MWe)
Relative Cost	High: labor intensive; integration: low cost	HX cheaper but add pipes/manifolding; ammonia side esp.	Potential lower cost (R&D in progress) lower in cost for integration

HX platform integration: may need to discuss with platform group