

[Form 2 (to be reported to Committee on Countermeasures for Contaminated Water Treatment and to be disclosed to public)]

Technology Information	
Area	1
Title	Supply of Tanks for Contaminated Water Storage
Submitted by	CB&I

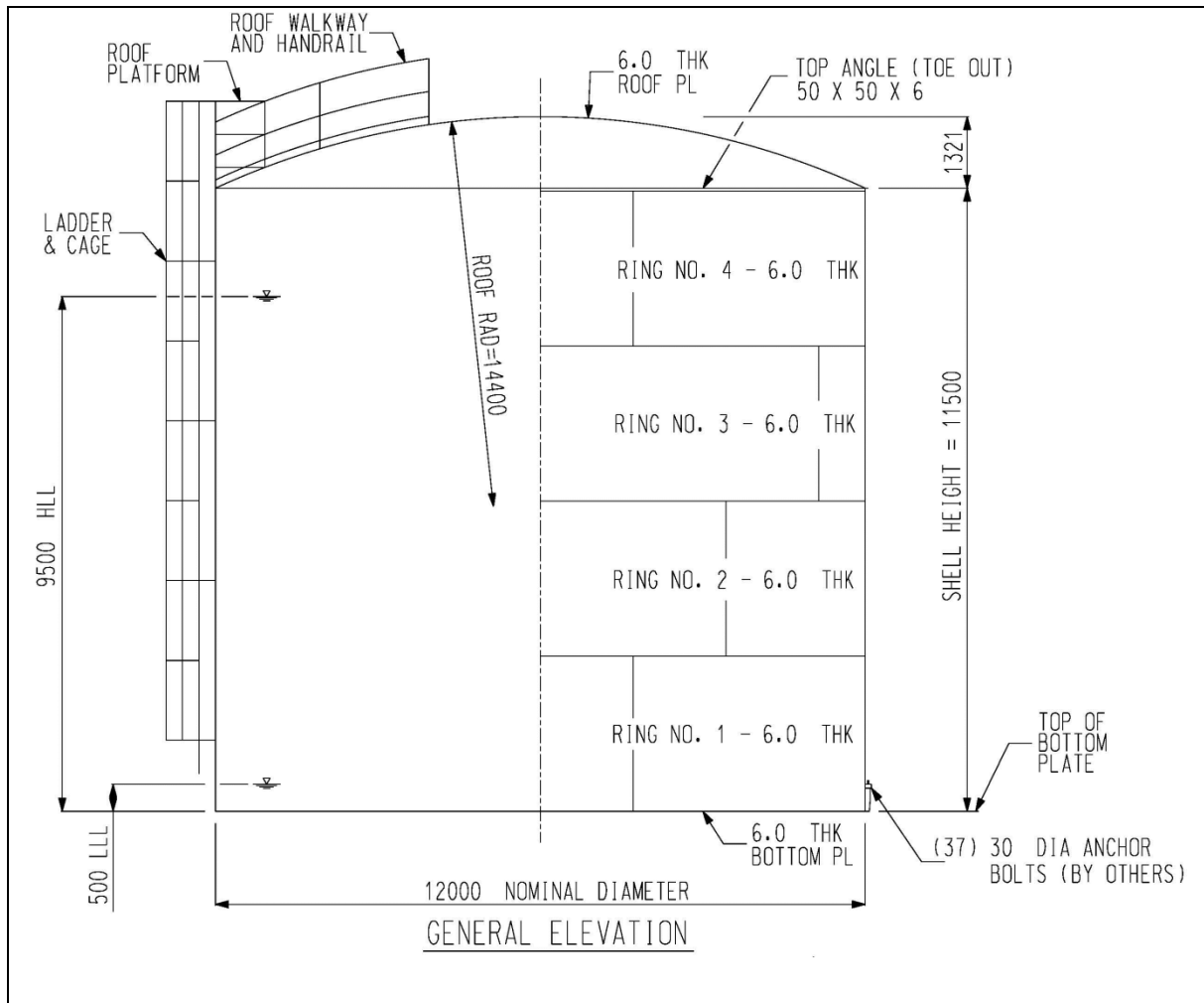
1. Overview of Technologies (features, specification, functions, owners, etc.)

CB&I has the capability to shop-build the tanks off-site, most likely in Thailand, allowing cost reductions while still maintaining the same level of safety, quality and schedule performance due to CB&I utilizing our in-house fabrication facility. These savings are realized by removing construction work hours from site, resulting in reduced manpower, equipment, and site construction costs. CB&I has successfully exported similar tanks from this location for other projects.

CB&I is able to assemble tanks larger than 12m dia. X 10m high at our fabrication location. Larger tanks offer a more economical solution and less schedule risk for a given total storage capacity. CB&I in-house fabrication facility has capacity to shop-built tanks up to 20m diameter X 30m high. Site built tanks can be any size, limited only by the space available at site.

The following sketch is indicative of the tank CB&I would propose meeting Owner specified design criteria. Proposed design includes a dome roof and a galvanized ladder with cage and roof walkway.

- 12m dia x 11.5m high (includes 2m seismic wave freeboard). Plate thickness = 6mm.
- Material = A240-304L stainless steel.
- Seismic Design in accordance with API 650, peak ground acceleration = 0.36g.
- Wind pressures applied in accordance with API 650, design wind speed = 53.6 m/s.
- Design pressure = ATM, Design vacuum = 0.25kPa, product specific gravity = 1.0.
- No projectile or blast loading has been considered.



2. Notes (Please provide following information if possible.)

- Technology readiness level (including cases of application, not limited to nuclear industry, time line for application)
 - Technology for the proposed tank is standard and 100% ready assuming fully developed design criteria provided by Owner, including wind, seismic, material requirements, and platform and nozzle orientations.
 - CB&I has in-house capability to perform all aspects of tank design, including finite element analysis, in same location as in-house expertise in fabrication and construction detailing, materials engineering, weld engineering, and construction technology – all in our Plainfield, Illinois, USA office.
 - The schedule critical path is likely through the geotechnical investigation, foundation design and construction.
 - CB&I's ability to meet Owner's desired schedule is dependent on material supplies available from stock, on space available on CBI's engineering and fabrication schedules, and upon ocean vessels availability for shipping the tanks completely built up.
 - CB&I is Nuclear QA certified in the United States and is currently working on grassroots projects at 2 nuclear facilities in the United States. CB&I has an entire business unit

dedicated to Nuclear Services. CB&I has a legacy in the nuclear business, designing and constructing the majority of the reactor containment vessels in the United States.

Challenges

- Timetable to perform geotechnical investigation, foundation design and construction.
- Fukushima site access to offload shop-built storage tanks from ship and transport to foundation.
- Site area for construction equipment clearances and material laydown.