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, timeline 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 CB&I’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.