

# Cold cryostat (membrane)

27-5-2015

If encouraged by this initial design review, the next steps in preparation of the CD-2/3 DOE review in winter 2015 will be:

- 1 To adapt the design to the final choice of the mechanical safety factors. Here the potential is to lower substantially the weight of the structure and the price.
- 2 To rethink the possibility of organizing a third containment barrier, changing the steel base material to a Nickel type of steel.
- 3 To optimize the size and complexity of all bolted connections, in order to simplify the in-situ assembly
- 4 To insert in the design the requirements coming from the active detectors in terms of support, accessibility during assembly and services, in particular on top of the vessel.
- 5 To optimize the thickness of the floor and the roof .
- 6 To finalize the seismic calculation, once the right spectra and acceleration informations are becoming available.
- 7 To workout with the LBNF/CF group all aspects related to the lowering down of material and the logistics underground, including all aspect related to the manipulation of big objects underground and the availability of dedicated special tools

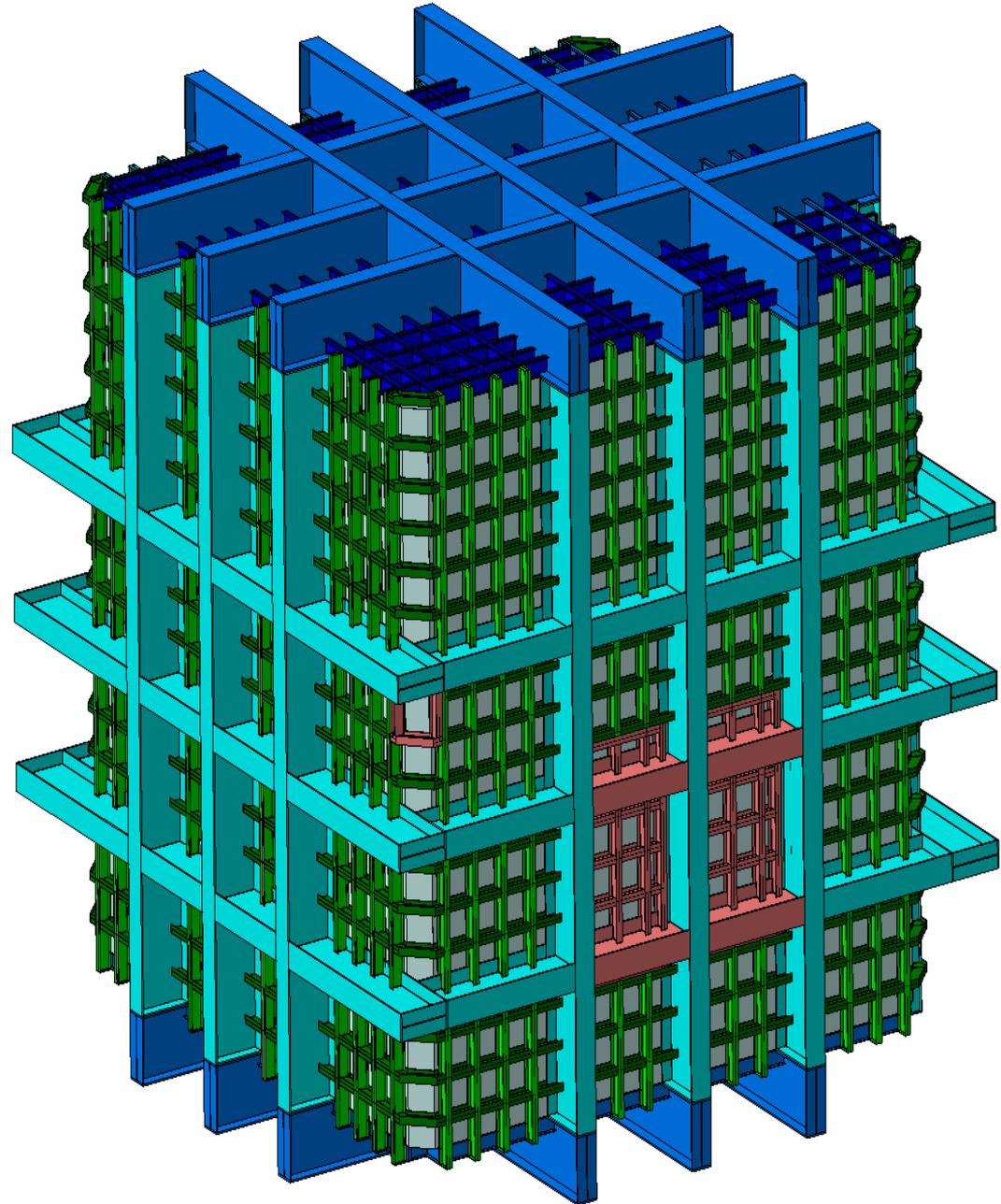
The main strategy in this case will be:

- ✓ To continue to maintain and update the detailed CAD model, which will allow to easily prepare all tendering design specifications.
- ✓ To give all mechanical specifications for verification by an independent engineering consultant, in particular to make sure that all US construction norms are respected.
- ✓ To give to the company, holding the licence for the membrane cryostat, the mandate to do a full-fledged feasibility study, before embarking in the final engineering design.
- ✓ To start making definitive plans for contract preparation for procurement of material and installation work in 2017
- ✓ To continue the R&D on larger prototypes

Next prototypes

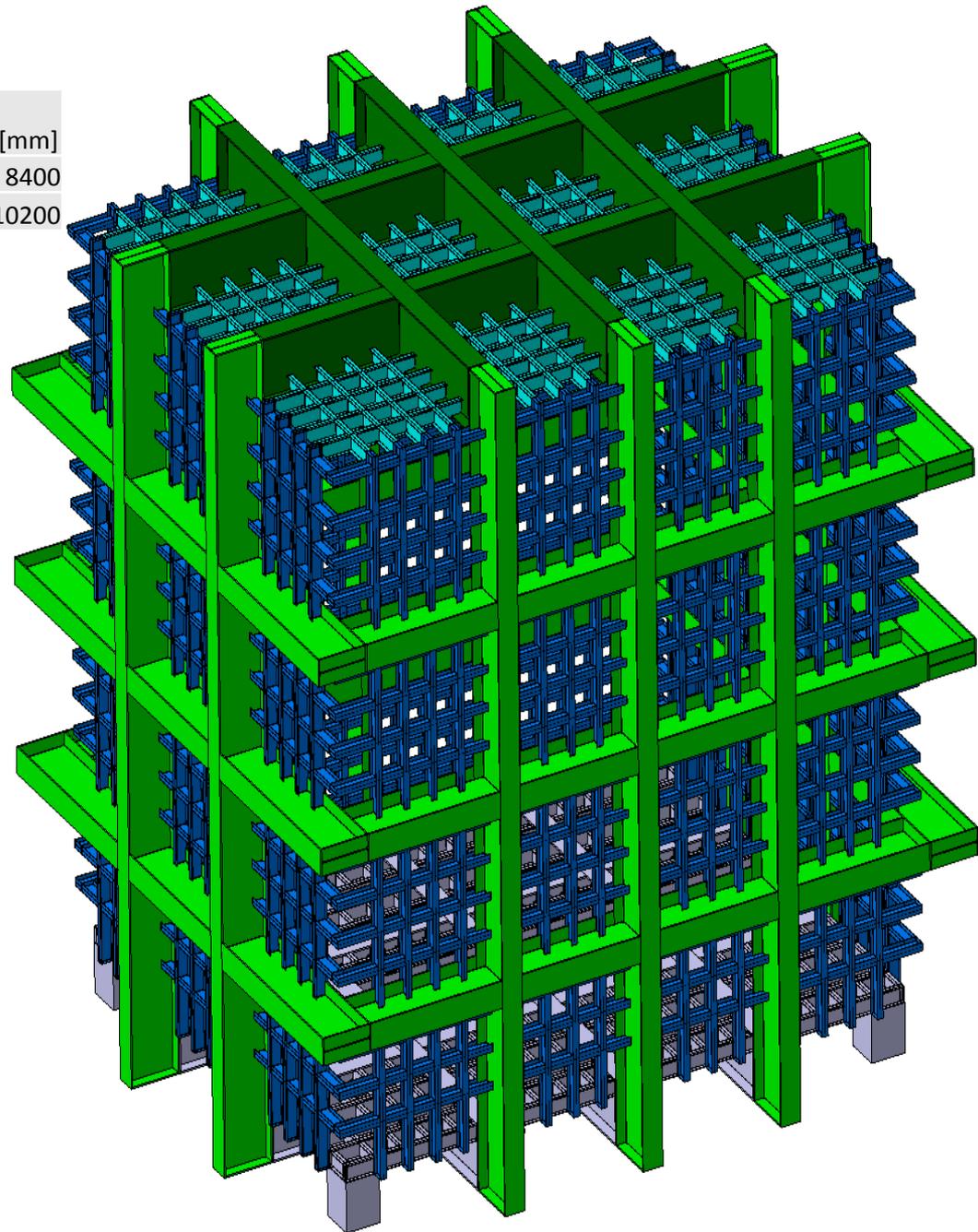
# WA105

WA105 - 1200mm insulation	Length [mm]	Width [mm]	Height [mm]
Membrane Internal dimensions	8150	8150	8100
SS plate Internal Dimensions	10550	10550	10500



# Single Phase prototype

Single Phase Prototype - 900mm insulation	Length [mm]	Width [mm]	Height [mm]
Membrane Internal dimensions	7280	9520	8400
SS plate Internal Dimensions	9080	11320	10200



# SBND

SBND - 600mm insulation	Length [mm]	Width [mm]	Height [mm]
Membrane Internal dimensions	5200	7020	5420
SS plate Internal Dimensions	6400	8220	6620

