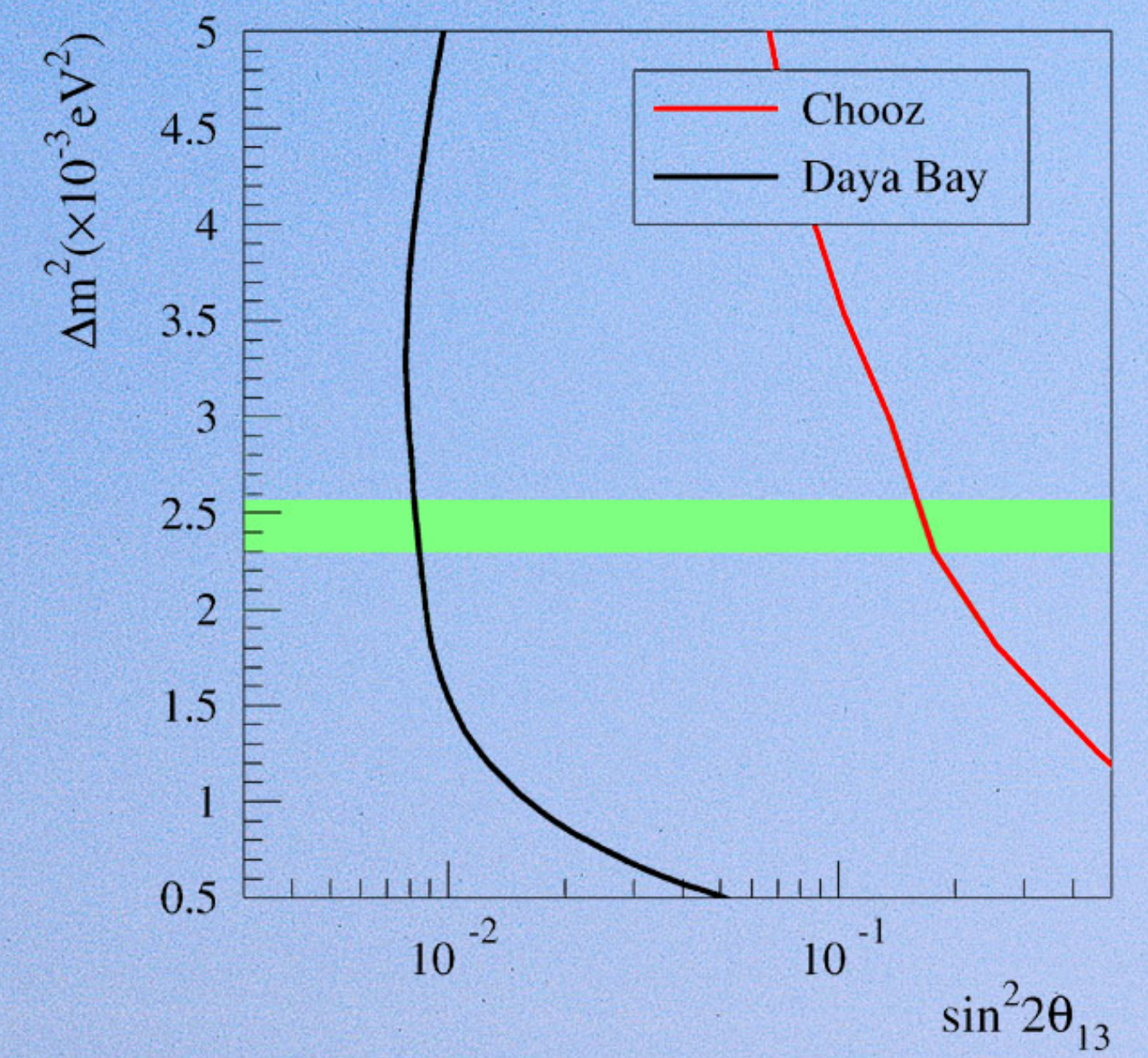
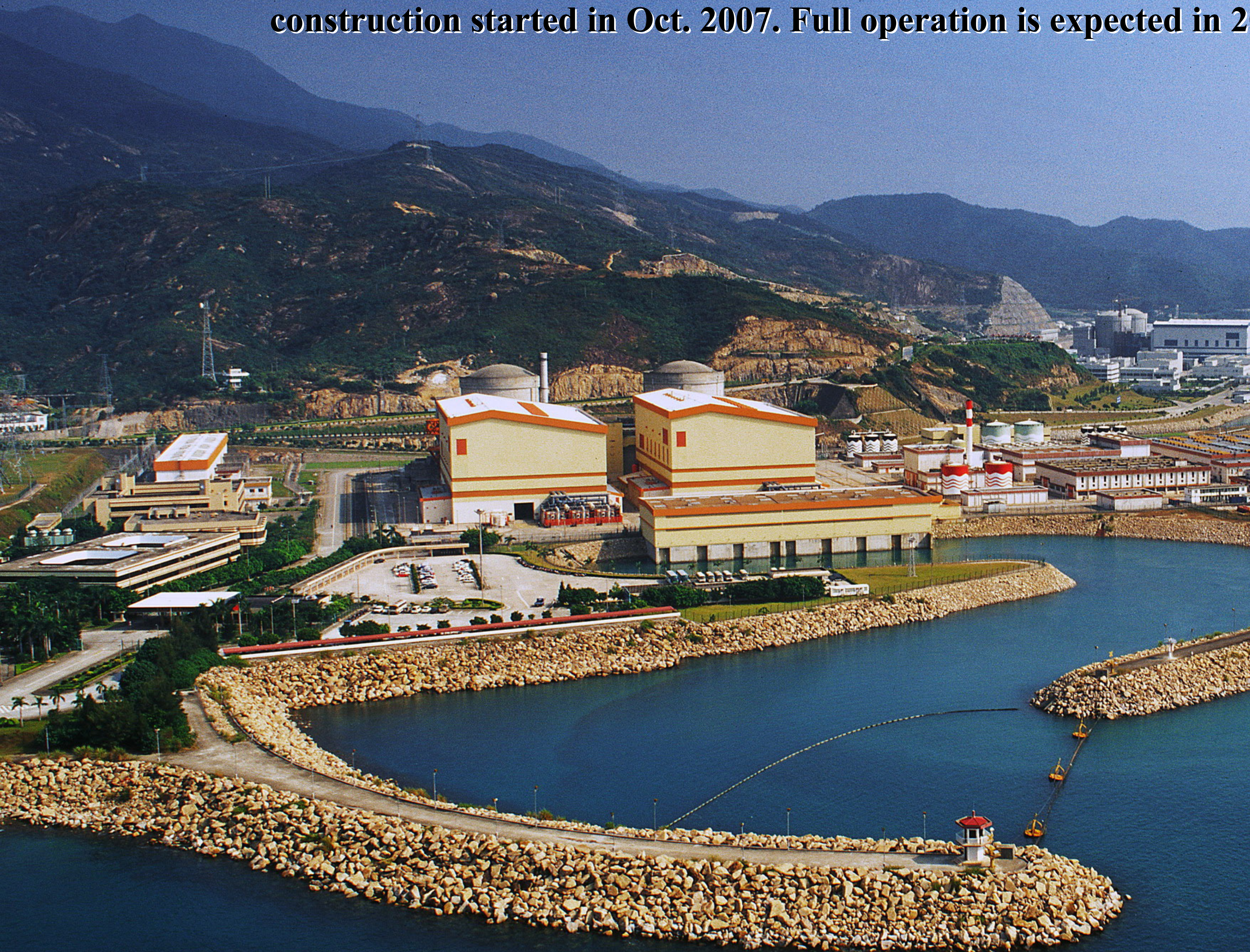


Daya Bay Reactor Neutrino Experiment

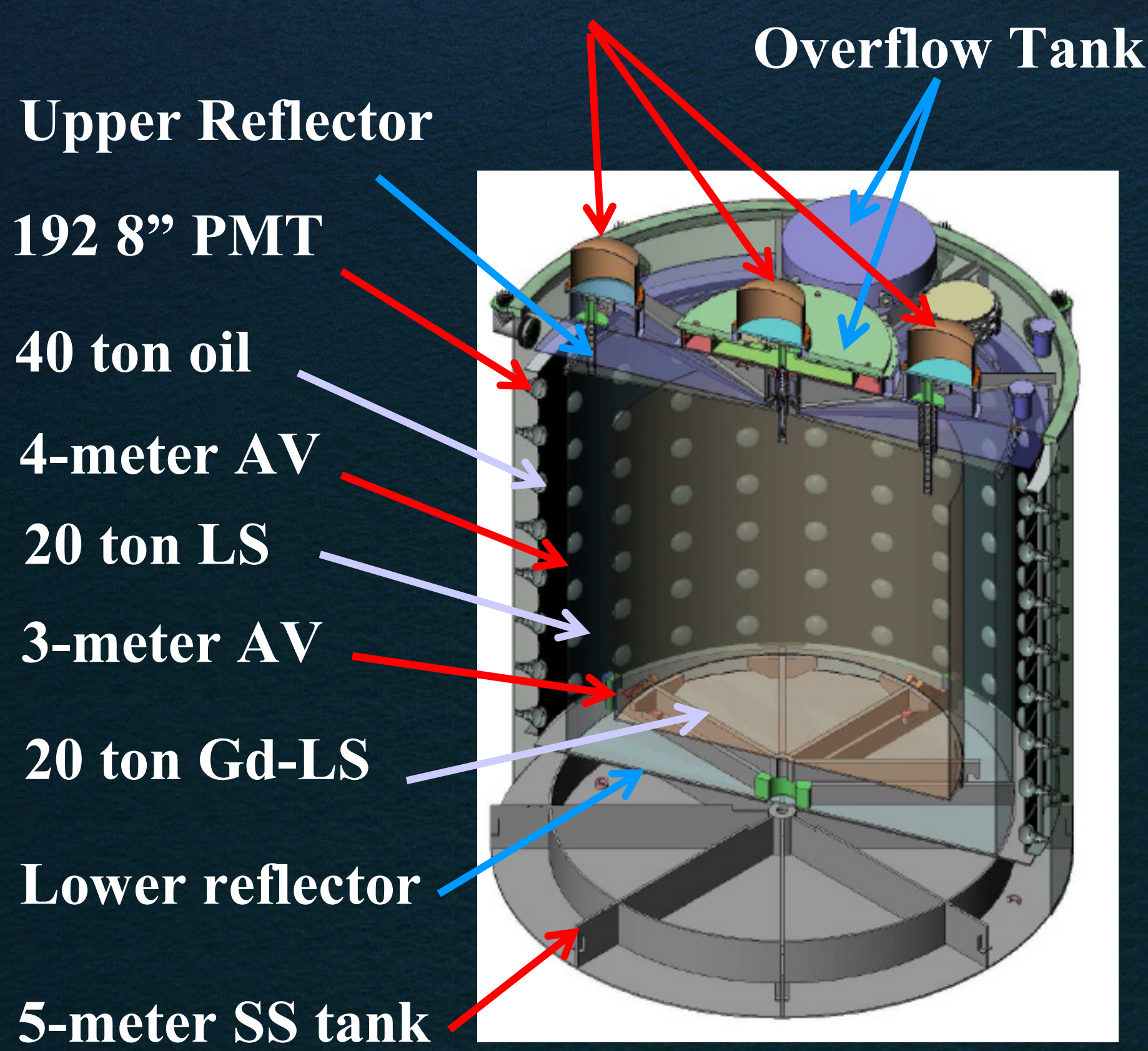
Daya Bay Reactor Neutrino Experiment is a neutrino oscillation experiment to determine the neutrino mixing angle θ_{13} . Daya Bay and Ling Ao Nuclear Power Plants in southern China have four 2.9-GW_{th} cores running. Another two will operate in 2011. The cores are very close to mountains, providing an excellent site for neutrino experiment. Civil construction started in Oct. 2007. Full operation is expected in 2011.



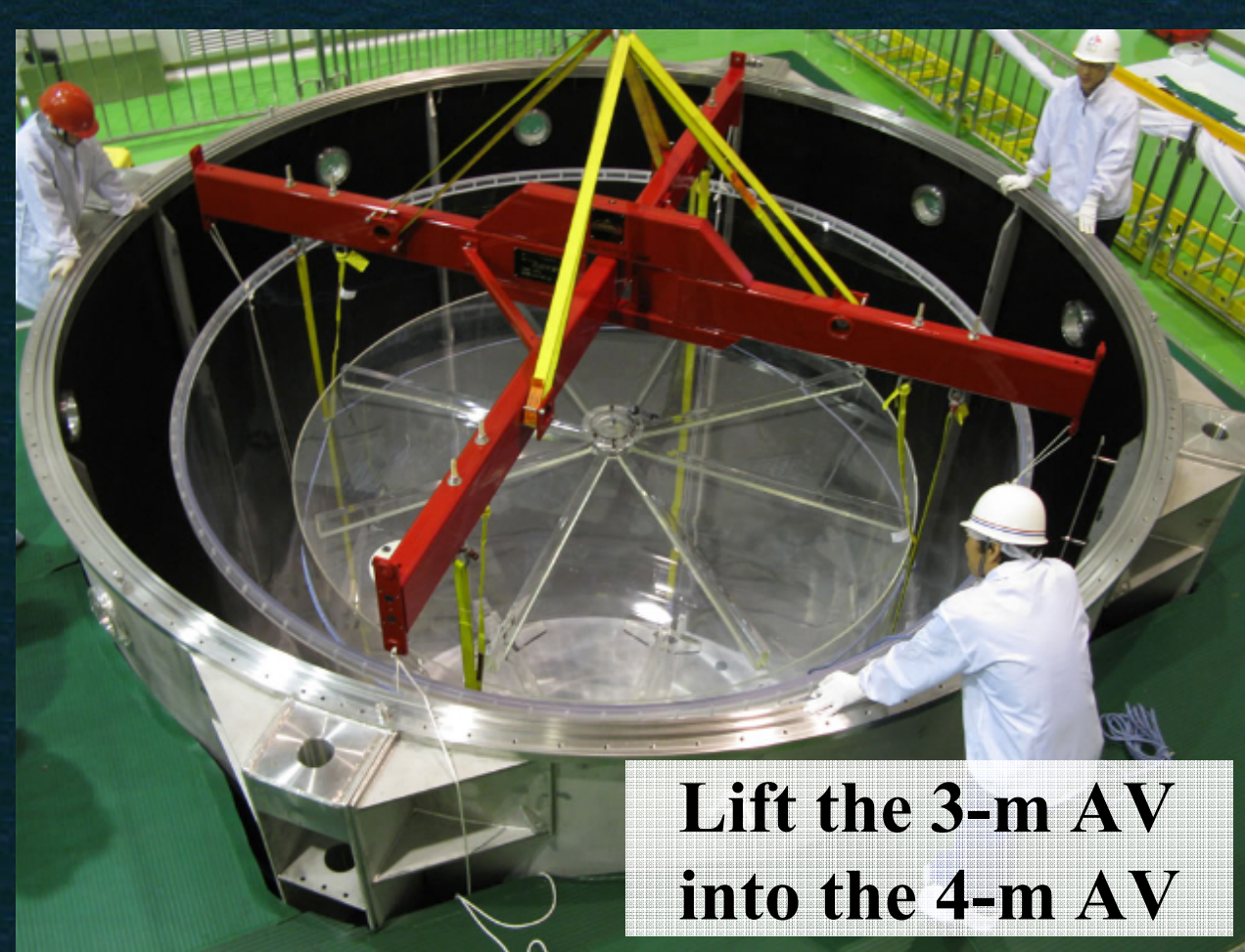
Sensitivity in $\sin^2 2\theta_{13}$ will be better than 0.01 at 90% CL with 3 years' full operation, an order better than the current limit. Green band shows the Δm^2 at 90% CL measured by MINOS.



Automatic Calibration system



Antineutrino Detector under construction in the clean room of Surface Assembly Building



Near-far relative measurement greatly reduces systematic errors. Identical ADs will be put at 3 sites, which are connected by horizontal tunnel in the mountains.

Antineutrino Detector (AD) is a 5mX5m cylinder, filled with 3 different liquids separated by acrylic vessels (AV). Gadolinium-doped liquid scintillator (Gd-LS) is used as antineutrino target. Each AD weighs ~110 ton.

ADs are shielded by 2.5m thick water in a pool filled with deionized water. Muon System consists of water Cherenkov detector and resistive plate chambers (RPC). The combined muon efficiency is 99.5%

