

WBS\_2 Activity  
21-FEB-02

- Legacy PBX-M Equipment Removal in Progress for NCSX
  - Must be done before PBX-M removal starts May 02
  - Legacy Inspections performed 2/13/02
  - Legacy Tagging in progress
  - Master Equipment List (MEL) transferals to NCSX Subsystem Engineers in progress
  - Removal of WBS\_2 Site Credits started
  - Timely and useful exercise at this time; impacting WBS\_2 planning
- SOFE Jan 02, presented the Poster "Neutral Beam Injection Requirements And Design Issues For The National Compact Stellarator Experiment"
  - Seemed to be well received; no issues arose during presentation
  - Discussion with D.Ciric, (Culham) re status of MAST NBI Long NBI Upgrade (on track)
- Pumping Speed, Base Pressure
  - Investigated W7-AS, LHD literature on vacuum performance
  - Discussed W7-AS and LHD vacuum characteristics with encountered W7-AS and LHD physicists
  - Conclusions: NSCX should have adequate pumping speed to achieve base pressures of  $\sim 2 \times 10^{-8}$  torr and to pumpdown from expected prefill pressures sufficiently fast to accommodate  $\sim 5$  min rep rate based on PBX-M service.
- Fringe Fields at Turbo Molecular Pumps (TMP)
  - Fringe fields at PDX TMP estimated
  - Art Brooks fringe field simulations (1102 case) used to estimate fringe fields at likely location of NCSX TMP's
  - Conclusions: NCSX 1102 case fringe fields seem comparable to PDX 500 KA case but details depend on the final Cryostat and duct design
- Fringe Fields at NB Beamlines
  - Art Brooks fringe field simulations (1102 case) used to estimate fringe fields at likely location of NB Beamlines
  - NCSX 1102 fringe fields seem less than or comparable to PDX 500 KA case
  - Art Brooks given specific NB regions of interest to rerun

with finer resolution

- Final NBI position may be driven by major radius of the Cryostat which forces TMP and NBI TIV outwards

- NBI Duct Design
  - Discussed with D.Johson installing angled ports on the NBI duct aimed at the Upper and Lower divertors, and possibly a midplane port
  - Discussed this possibility and duct issues with M.Cole (ORNL)
  - M. Cole forwarded useful drawings
  - Modified an NCSX plan view layout to show a conceptual duct design that meets the requirements; reviewing with D. Johnson; will ship to M.Cole, T.Brown, and L.Morris
  - Noted that the major radius of the Cryostat forces TMP and NBI TIV outwards.
  
- Reviewed WBS\_2 Dictionary
  - Good shape; minor clarification inserted into GDC description
  
- WBS\_2 Cost Estimates
  - Started with WBS\_211, Gas Fuelling
    - Inserted labor demographics into PVR Cost Estimates
    - Transferred some Engineering work from Engineering to a SuperTech
  - Considering combining NBI WBS\_251 (maintenance) and \_252 (realignment)
  - Discussed NB Computerization with G.Oliaro, P. Sichta, P. Roney. G. Oliaro will review WBS 25 NB computerization estimate
  - Discussed with R.Majeski getting input for WBS\_24, ICH; RF work still in progress
  - All previously listed costs for moving and storage of PBX-M site-credits will be removed
  
- CDR Conceptual Design Chapter
  - Under Review for possible modifications
  - May include updates on design progress on NB ducts, Torus Pumping, and other auxiliary systems
  - The updated version will be used for consistent input into the CDR Engineering design description

