

# **Si-W Forward Calorimeters**

***(Nosecone Calorimeter “NCC”)***

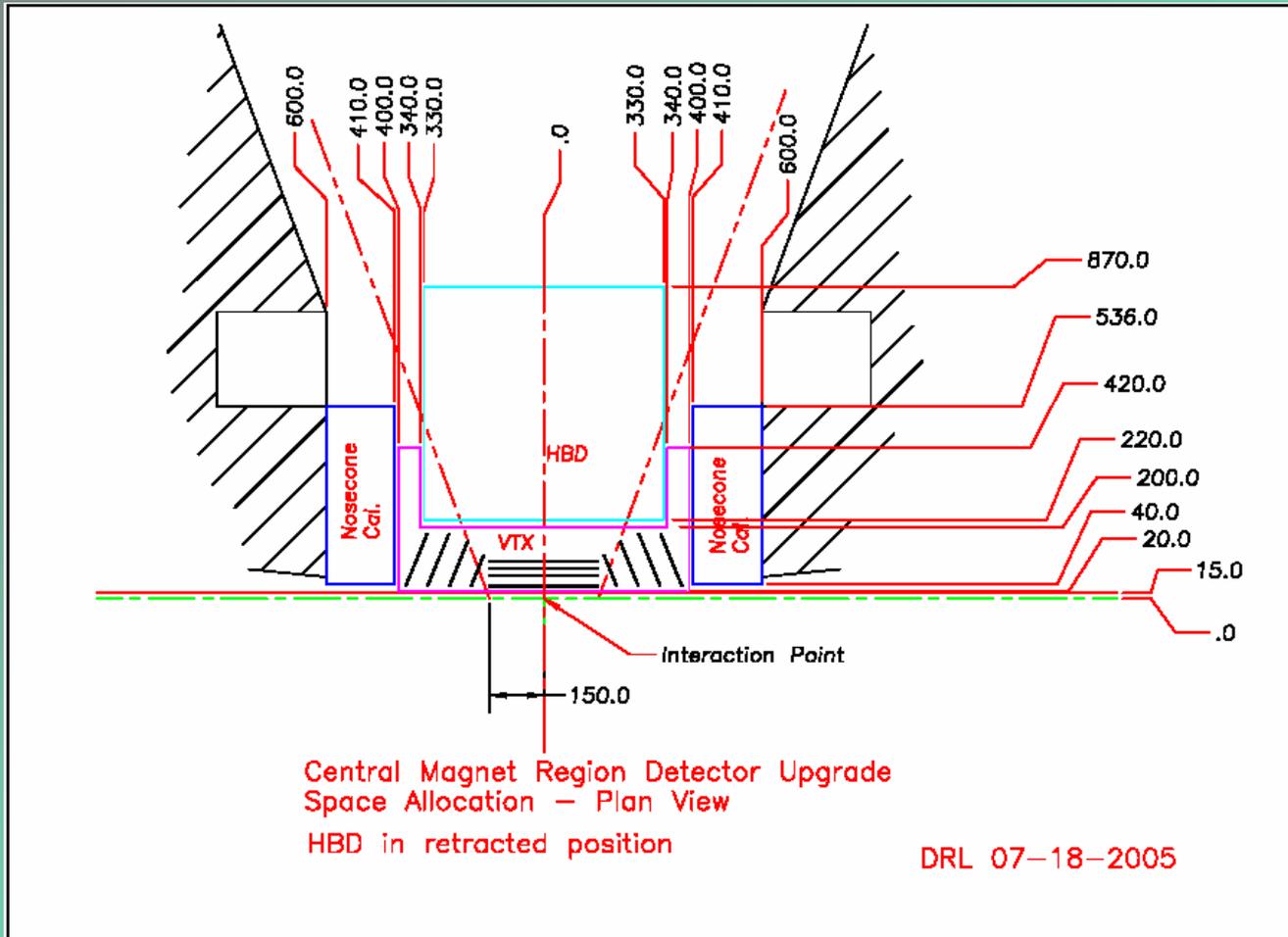
## **Mechanical System Integration**

**Don Lynch**

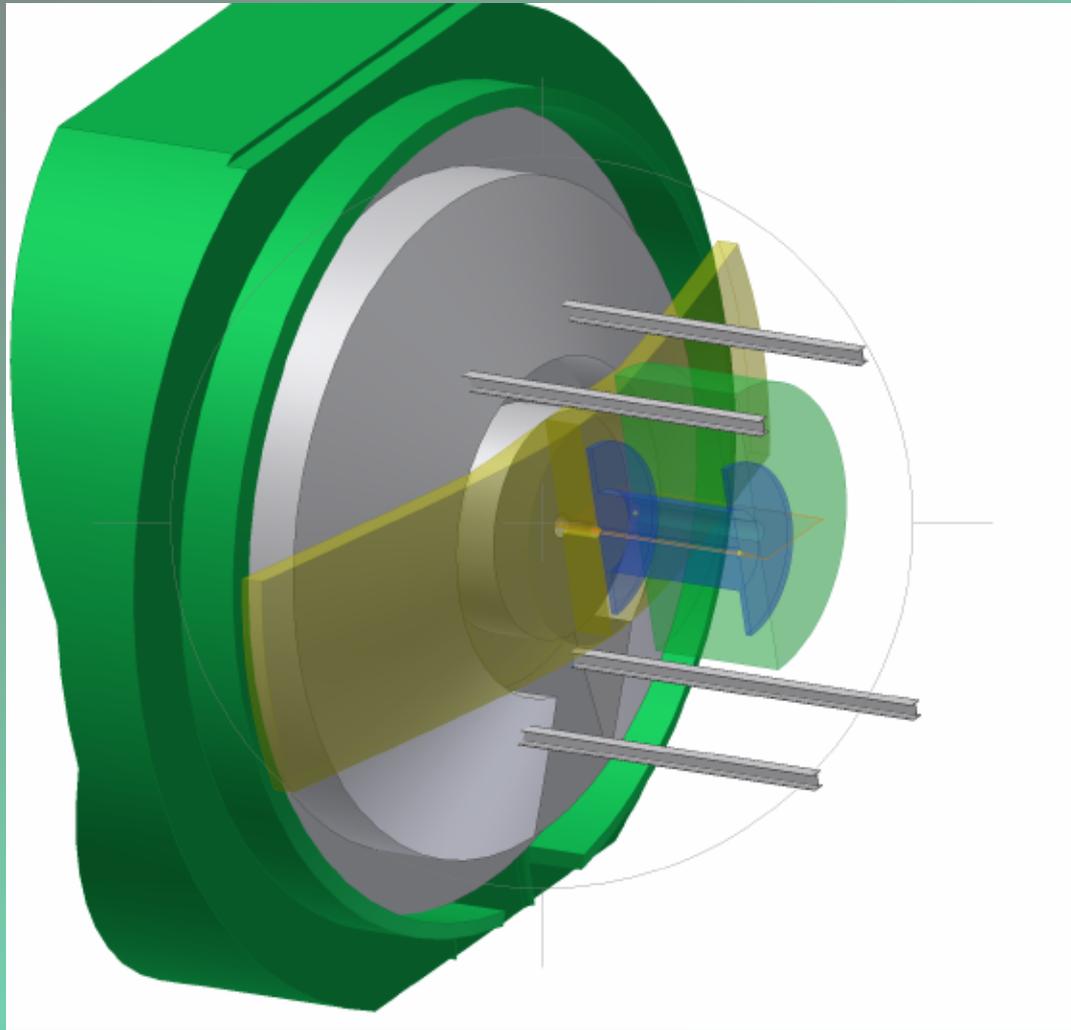
# NCC Detector Mechanical Tasks

- Define space allocation
- Mechanical/structural support
- Services (cables, cooling, etc.)
- Installation/Alignment Concept and logistical support

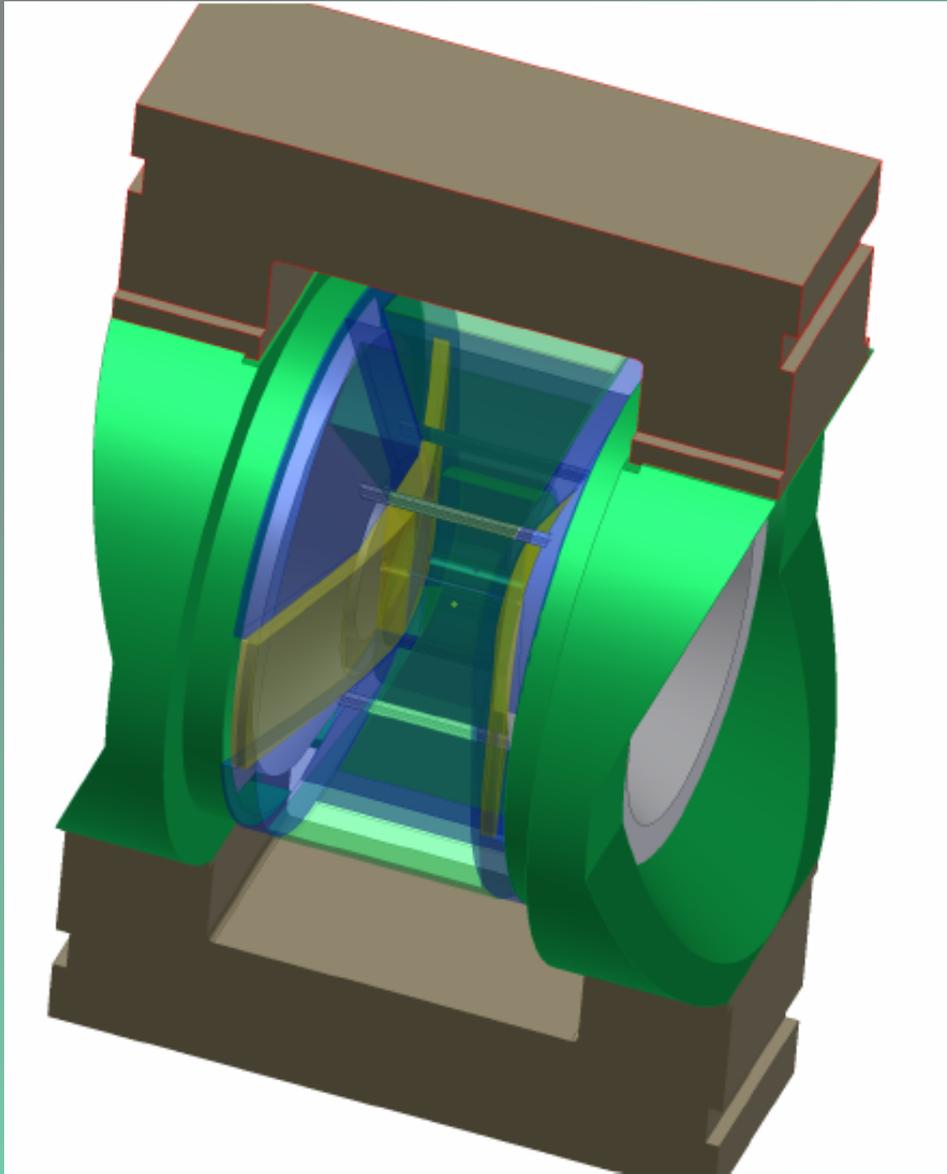
# CM Region Space Allocation



# CM Region 3D Space Allocation



## Allocation of Space in CM Region



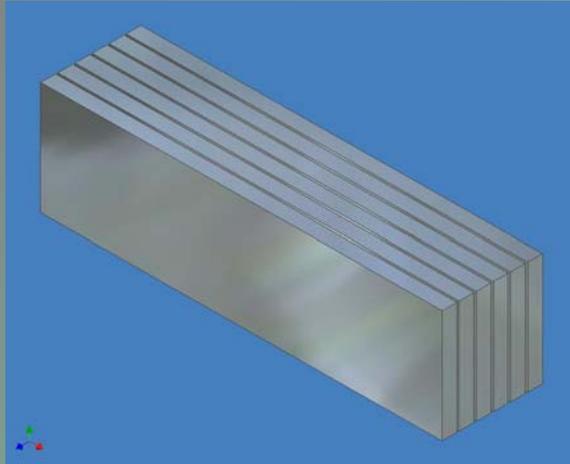
# Current CM Region



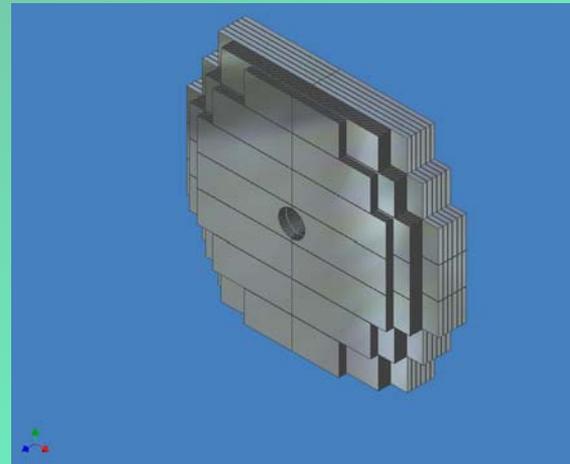
**PHENIX Forward Calorimeters**

**Design Status**

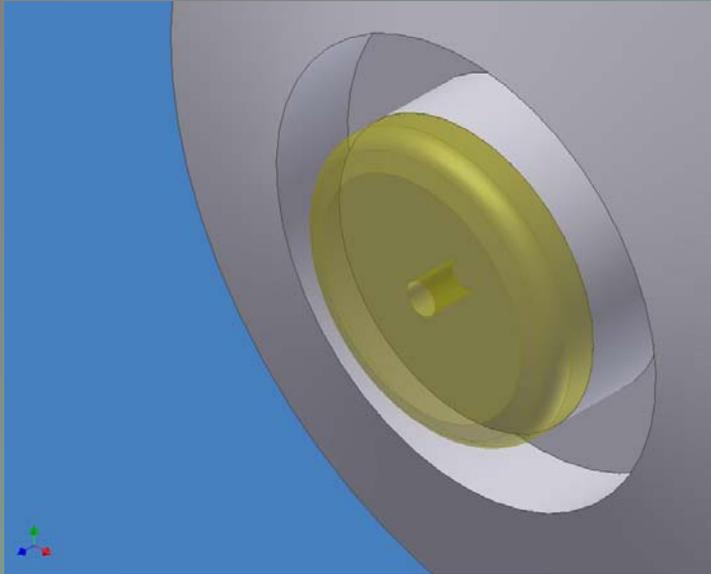
**04/15/2005**



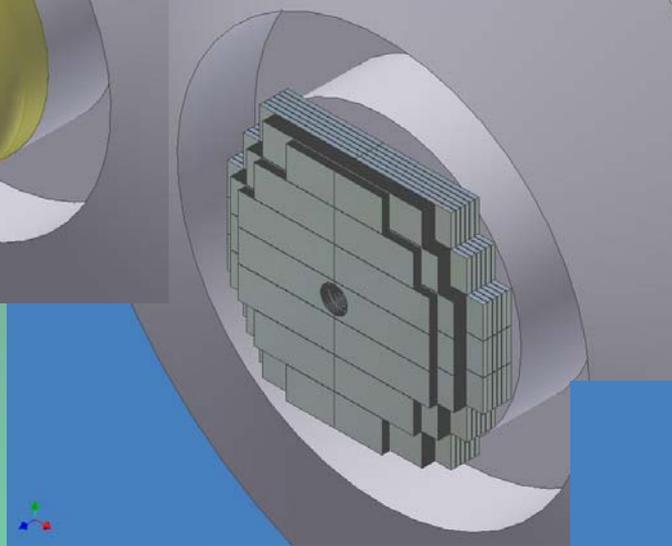
**Building block:**  
*Detector Module*



**Assembled detector**

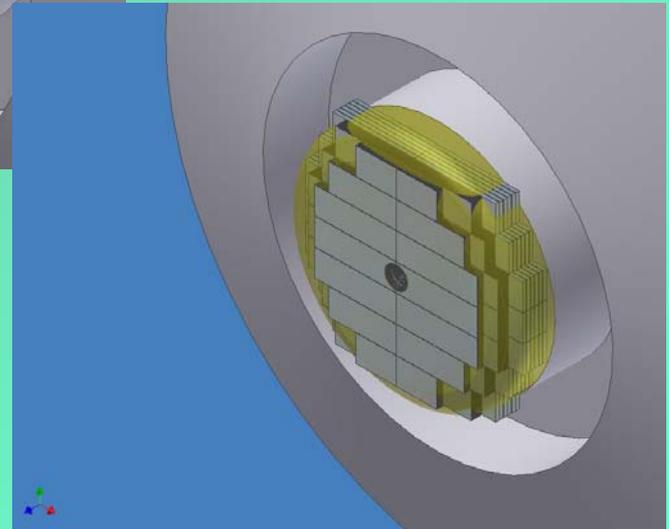


Brass nose cone

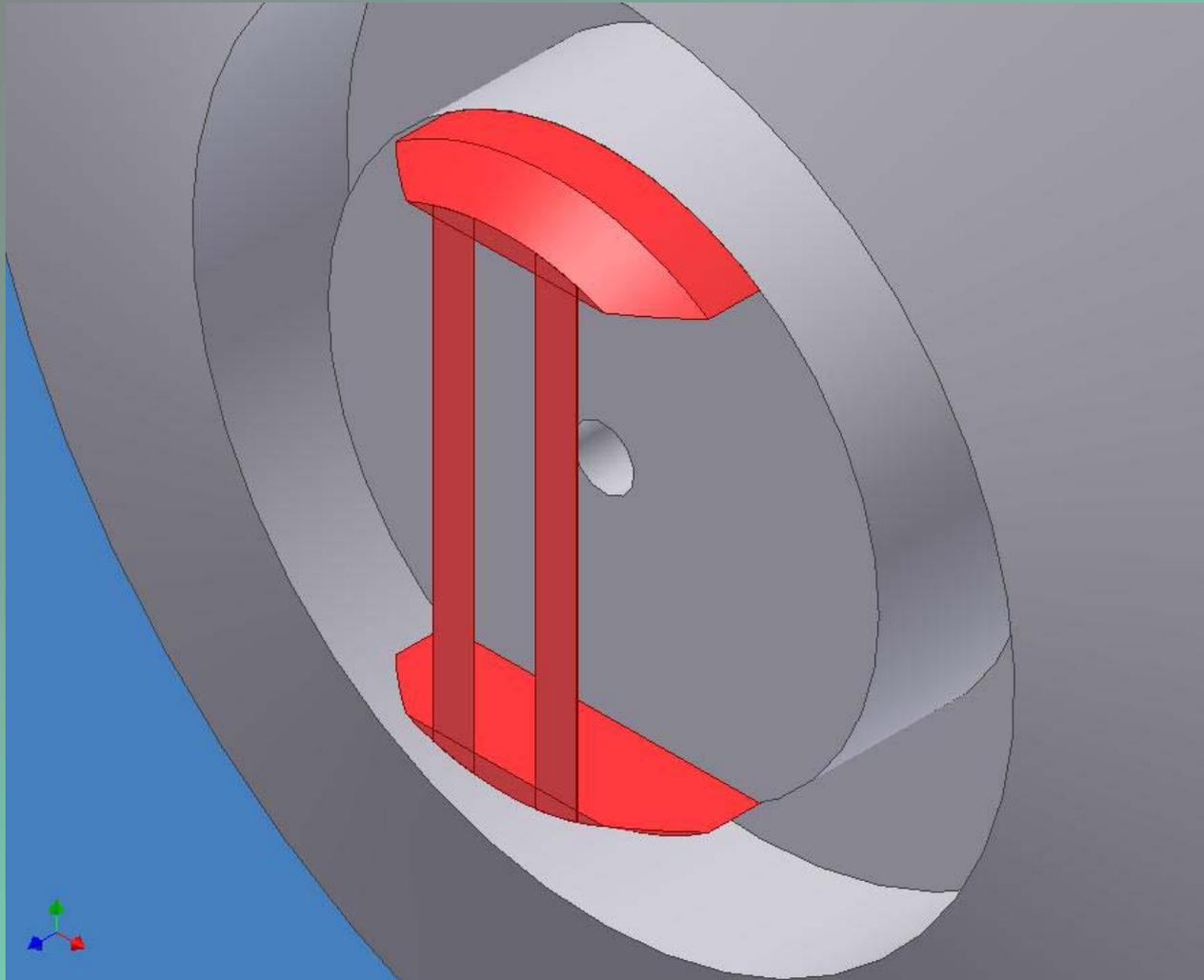


Calorimeter in place of  
brass nose cone

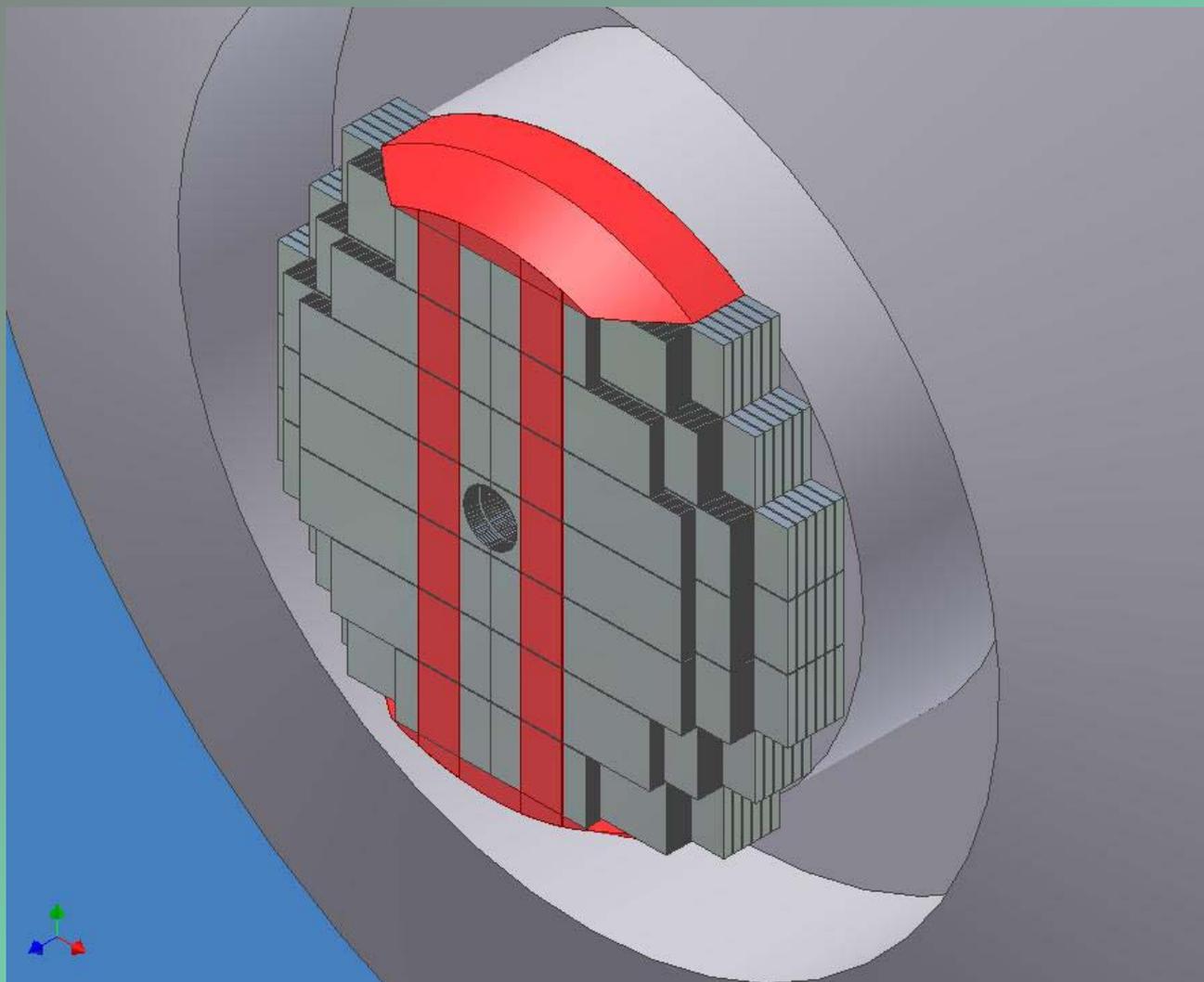
Overlap of the two volumes:  
calorimeter and brass nose  
cone



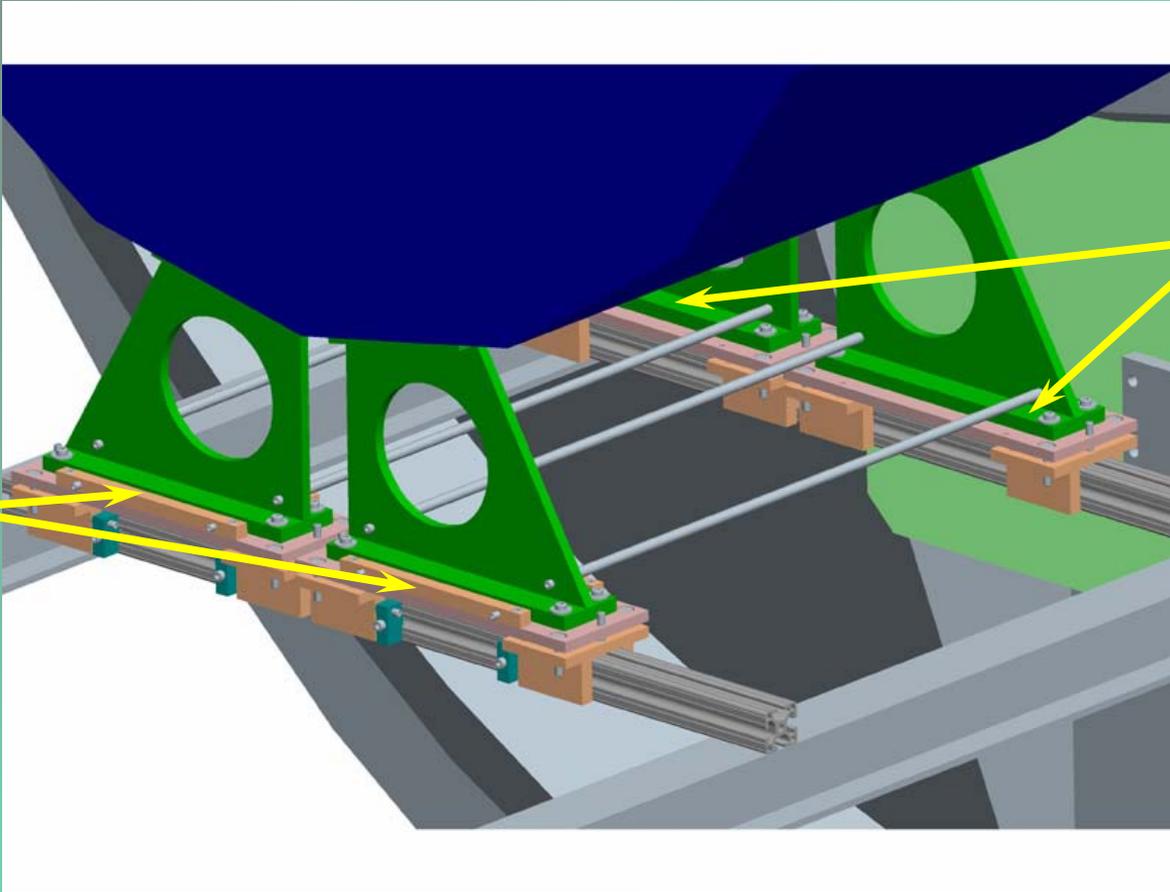
# Calorimeter support structure



# Installed Forward Calorimeter



# HBD Mechanical Support Concept



HBD Support  
X, Y, Z  
adjustments  
on this side

HBD Support  
X, Y  
adjustments  
on this side

# Bridge Utilities

Bridge water manifolds and cable trays



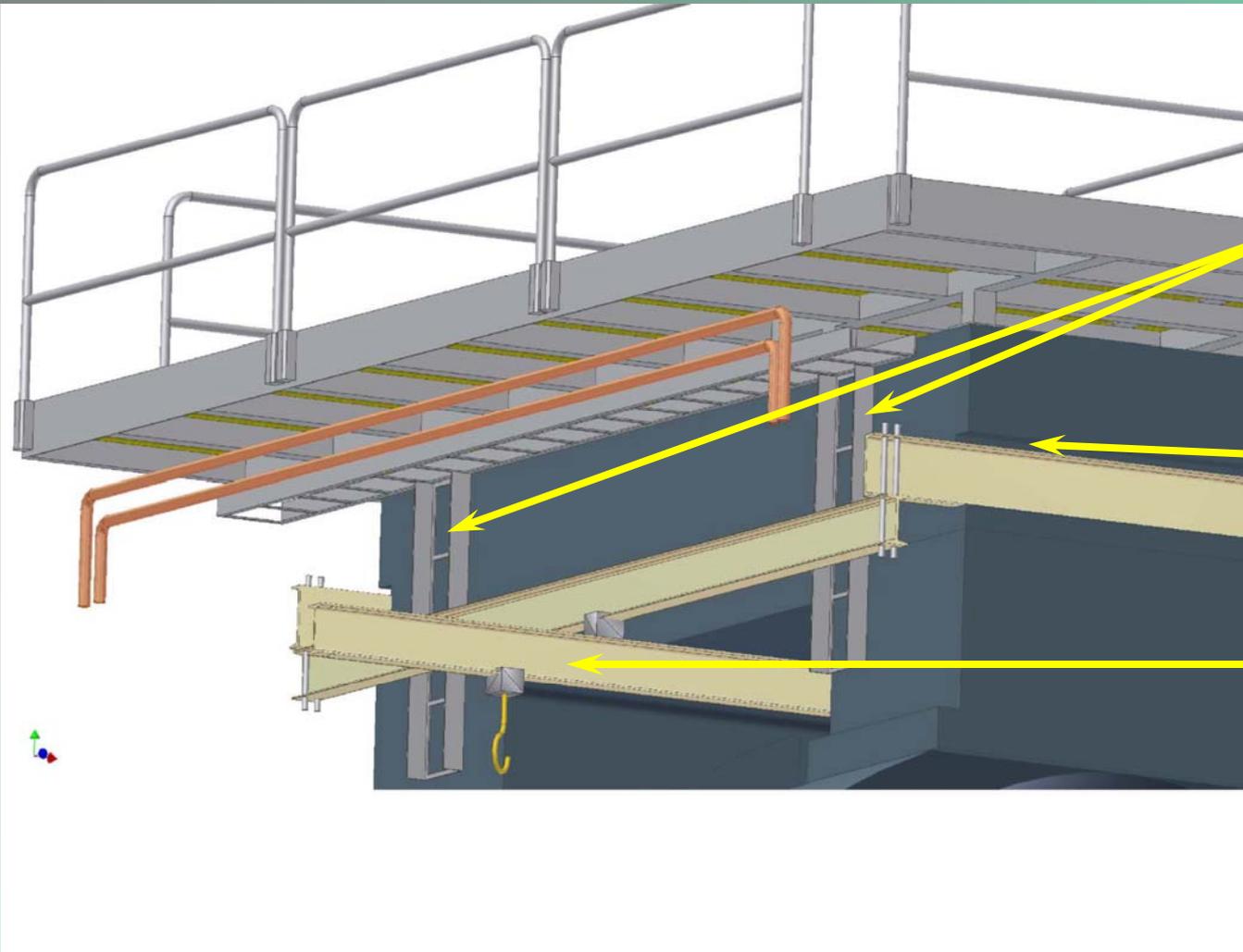
Bridge elect. distribution and disconnect



Bridge water supply & return flexible connections



# CM Region Crane and Cable Routing Concept



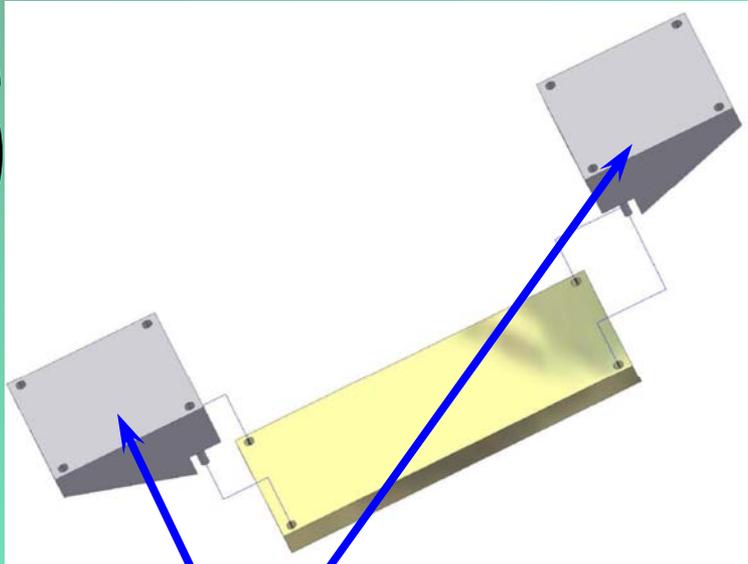
Cable Trays  
to route  
cables NCC  
Detector from  
Bridge

Crane Supports  
use existing flux  
return notches

CM Crane north-  
south & east-west  
motions; extended  
travel east to  
existing crane  
coverage

# CM Access Platform Extensions

**In Fabrication at CS**



**CM scissor lift table  
Extensions  
(extends table 22" east & west;  
Steps up 8")**

# **NCC Mechanical Efforts**

## **Current Status**

- **Generic efforts for CM region**
  - Space allocation concept in place
  - CM Platform extensions at CS
  - Crane design underway
  - Bridge utilities installed
  - Cable routing concept underway
- **NCC Specific efforts**
  - Space allocation defined
  - Alignment, Positioning Tolerance, Precision and Repeatability defined
  - Structural support concept specified
  - Detail design awaiting inputs