

Civil Engineering, Infrastructure & Siting (CEIS) Working Group Introduction



John Osborne - Matthew Stuart SMB-SE-FAS

PBS and PiP Status Update



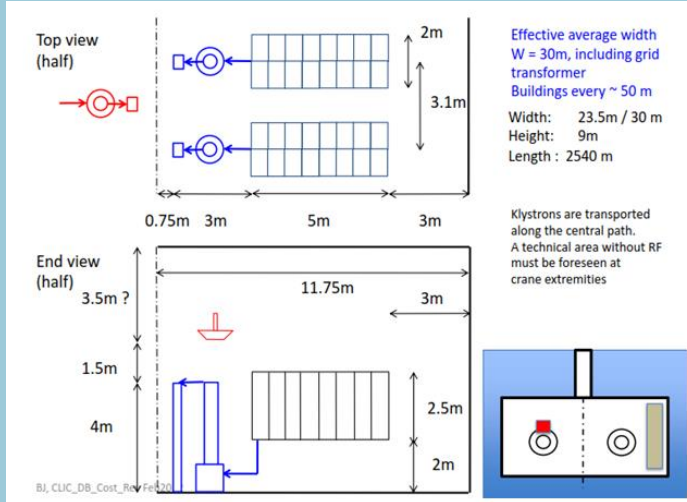
- Integration Drawings and Drive Beam Injector Building Layout.
- 380 GeV Klystron option to 3 TeV Upgrade option.
- PiP Update

Civil Engineering & CV Integration - Drive Beam Option



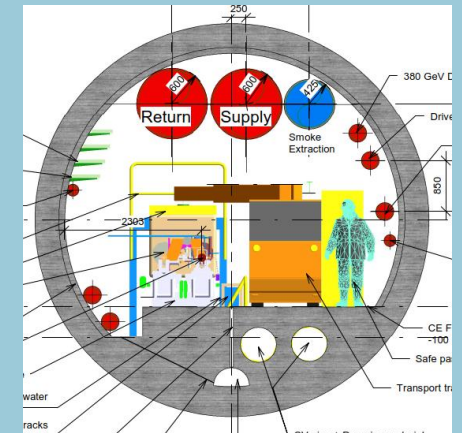
Drive Beam Option

- Layout of drive beam building based on this information taken from CDR (Bernard).
- Length of one "container" is 11.75m
- Height of 9m. Is this excessive or correct



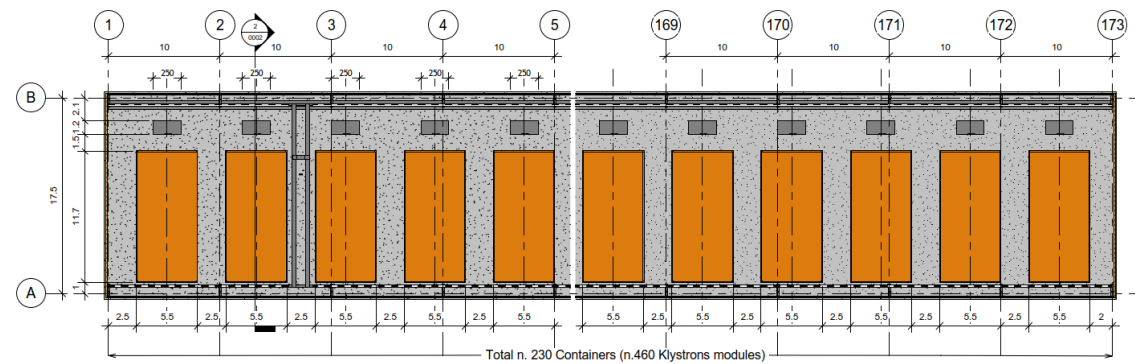
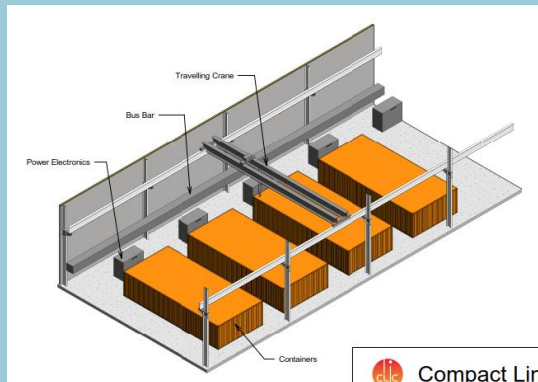
Drive Beam Option

- Integration of smoke extraction ducts now incorporated
- Exact location of drive beam/main beam pipes still to be considered.



Drive Beam Option

- At the moment minimal space for transportation (1.5m width) - is this enough?
- Access stairwell located every 200m
- Intermediate requirements for building access etc...?

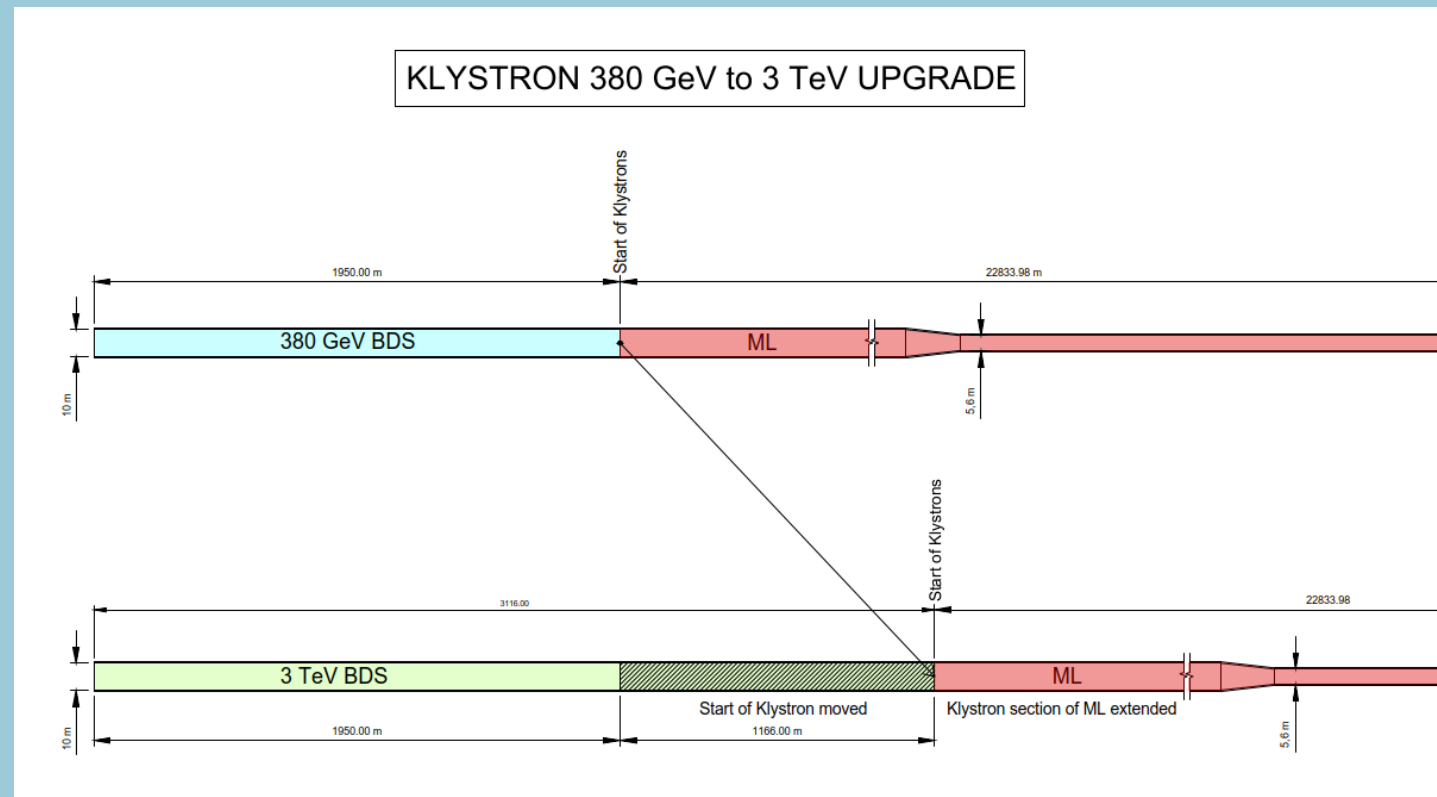


Civil Engineering - Klystron Option Upgrade



Klystron Option with upgrade

- Current proposal is for a 380 GeV Klystron option with possible upgrade scenarios using drive beam technology.
- The BDS length would have to increase in length (1166m) Therefore Klystrons have to be relocated.
- This requires an increase in length of the 10m diameter tunnel by the same amount.
- Transition requirements from Klystron to drive beam unknown. Tunnel dimensions for transition?





Project Implementation Plan Summary

| Chapter | Discipline | Pages | Comments | Responsible person | PIP Status | Cost Status |
|-------------|----------------------------|-------|-------------------------------|--------------------------|--------------------------|------------------|
| CEIS | | | | | | |
| | Civ. Eng | 5/5 | Pages increased to 5 for CE | John Osborne/Matt Stuart | First draft completed 😊😊 | First Estimate 😊 |
| | Electricity supply | 5/3 | | Davide Bozzini | First draft completed 😊😊 | First Estimate 😊 |
| | CV | 4/3 | | Mauro Nonis | First draft completed 😊😊 | Not Received ☹️ |
| | Transport and Installation | 4/3 | | Ingo Ruehl/Michael Czech | First draft completed 😊😊 | First Estimate 😊 |
| | Safety systems | 4/3 | incl. enviroment and access | Simon Marsh | First draft completed 😊😊 | Not Received ☹️ |
| | Radiation studies | 3/3 | | Markus Widorski | First draft completed 😊😊 | N/A |
| | Cryo | 0/3 | in case of SC solenoid, check | Dimitri Delikaris | NA | N/A |

Total Pages: 25

- Project Implementation Plan (PiP) Produced for ESU.**
- 25 page document compiled and reviewed.
 - Final edit of the document to be completed by the end of September.
 - Cost Estimates for most disciplines completed.
 - Still waiting for CV and Safety.
 - First draft of PBS completed

Project Implementation Plan Summary



Future Study:

- Still some Work on integration of the CV ducts required.
- RP parameters defined, shielding wall thickness and local protection still to be determined.
- Smoke extraction Integration started - still needs completing.

Summary:

- PiP First draft completed and sent to reviewers.
- Next PBS review will be in October (exact date TBC) - Official reviewers to be present
- Still require costs from some disciplines.
- Next CEIS Meeting on the 05th of October 2018