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System Integration

Status Report

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System Integration

- There are two methods for System Integration.
- Method 1 is for large and complex systems, such as ILC or Positron Source and consists of a ‘TOP DOWN’ approach.
- Method 2 is for small to medium systems, such as Collimator, Undulator, OMD or Target systems, and tends to use the ‘BOTTOM UP’ approach.

System Integration

The ‘TOP DOWN’ approach is the natural choice for the Positron Source and has been employed up until recently.

This approach looks at the whole picture and then breaks it down into more ‘manageable chunks’.

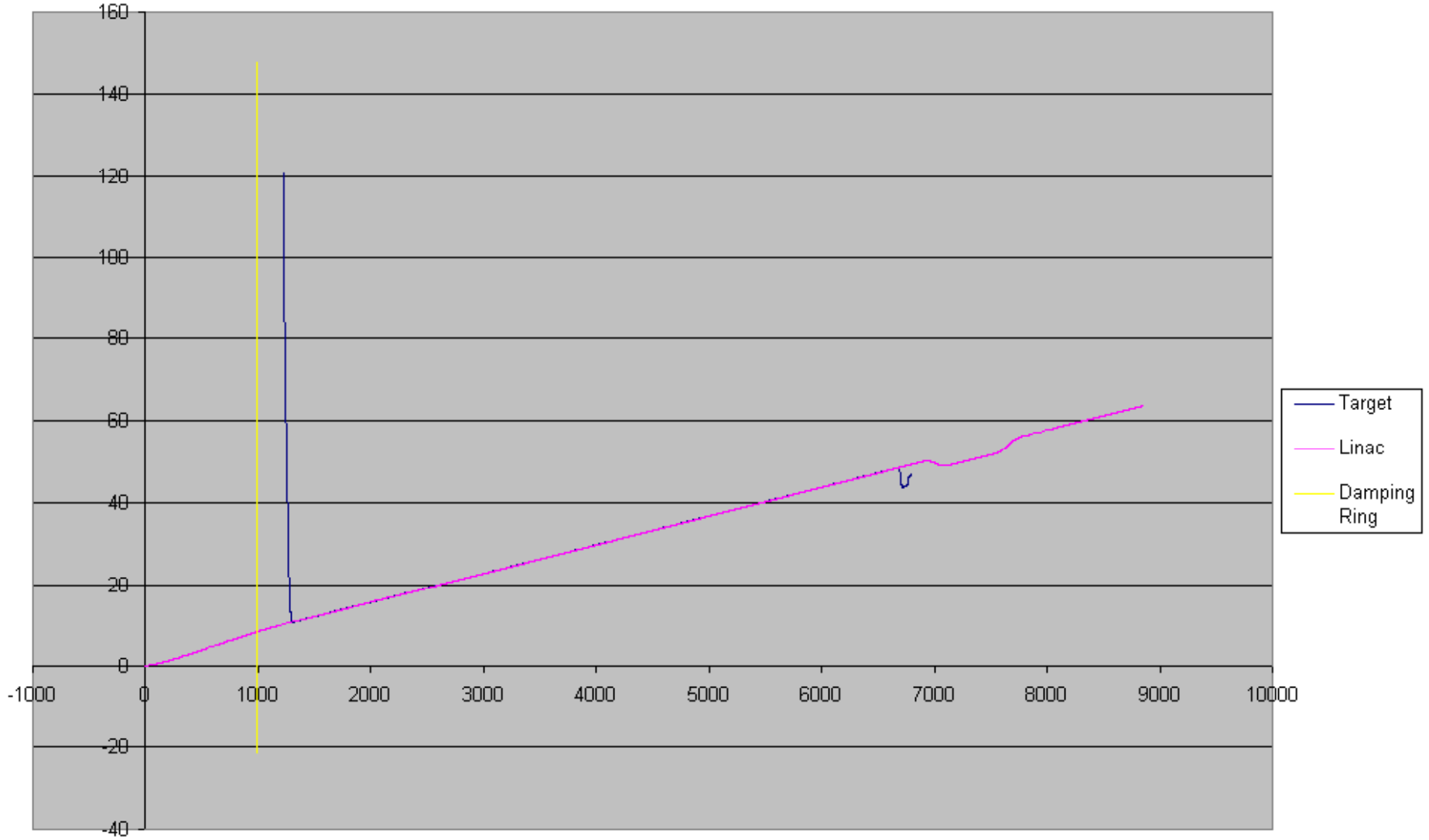
System Integration

The ‘BOTTOM UP’ approach is the opposite and not the ideal choice for the Positron Source.

This approach requires pretty much ALL details (to a certain degree) in order to put the pieces together that make up the entire picture.

System Integration

- The next slide shows a graph based on information from the Damping Ring, BDS and Accelerator groups (Lattice files).
- It illustrates that 'Houston, we got a problem' exists (unless the data has been misinterpreted) in the RDR Baseline design.


160
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9000
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Target
Linac
Damping Ring

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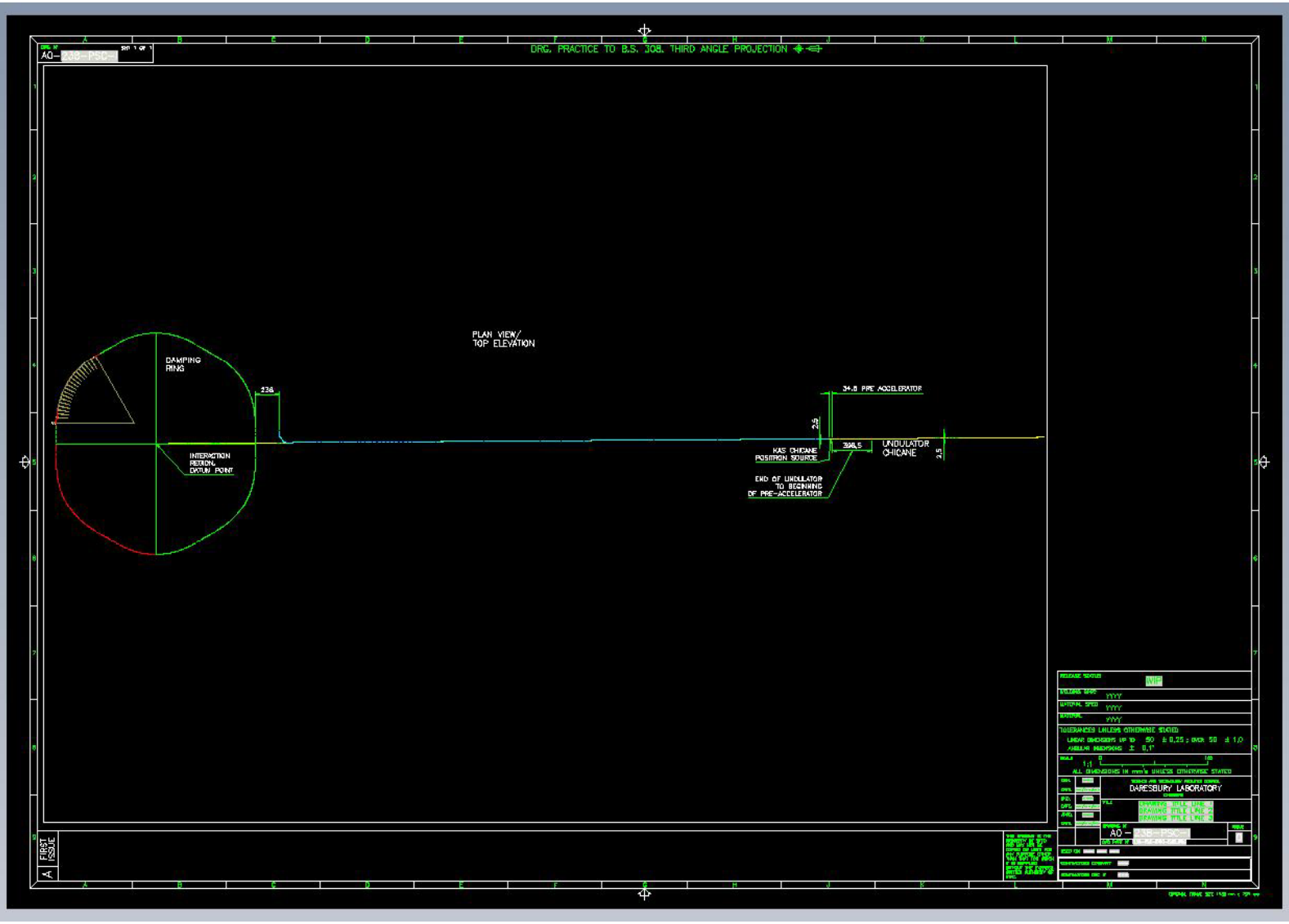

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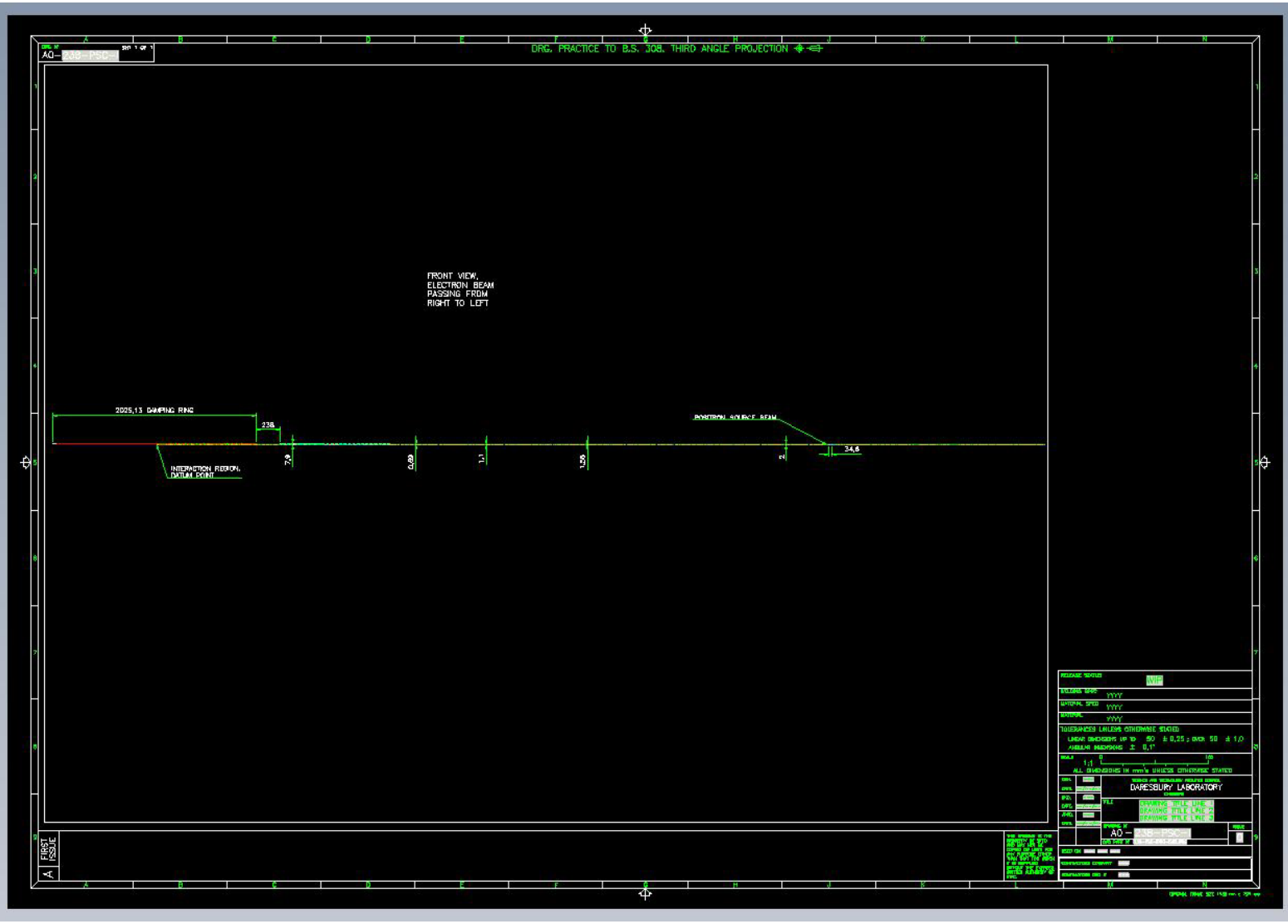

System Integration

Upon this recent discovery a change in the system integration approach to a mix between the 2 methods has been adopted.

Currently the Undulator section is addressed with a ‘Work In Progress’ drawing as per next slide.

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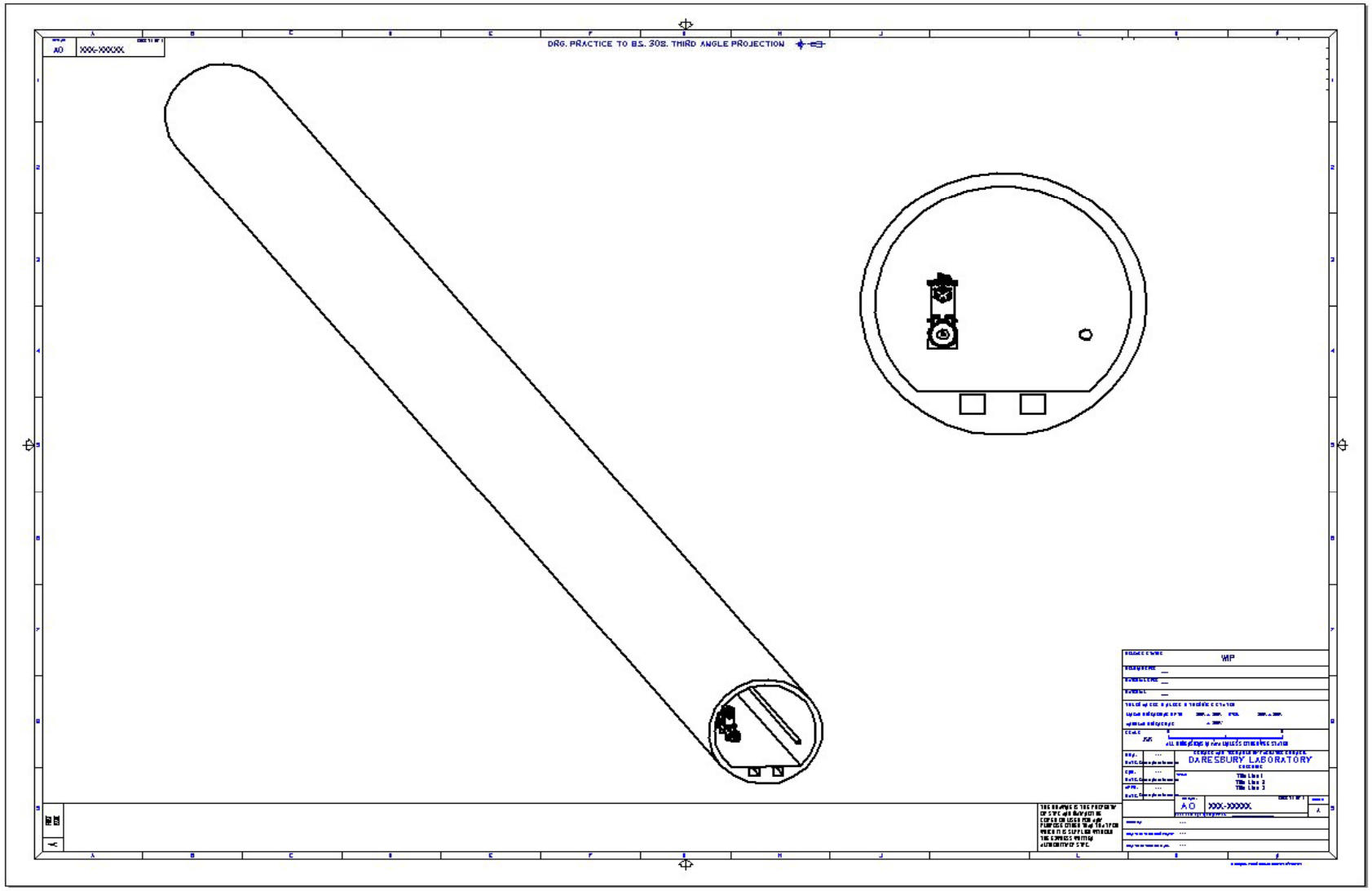

System Integration

- The plan is to gather information from relevant people (i.e. Undulator design CAD models, Target CAD data, OMD details, Remote Handling information, etc.).
- Place all components or place holders in their relevant position.
- Establish current status of progress through this process and identify risks and opportunities.

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- Areas to cover:
  - Undulator
  - Collimator
  - Target and Remote Handling
  - OMD
  - Capture RF
  - e^- and γ dumps
  - Pre-accelerator
  - Booster LINAC (??)
  - Magnets
  - Beam Diagnostic
  - Vacuum system
  - CFS (??)
  - KAS (??)

System Integration

- Lot of work to be done.
- Plenty of information still required.
- Revised proposal to investigate/incorporate.
- Let's work together and make it happen.

- Questions?

Thank you for your attention and contributions.