



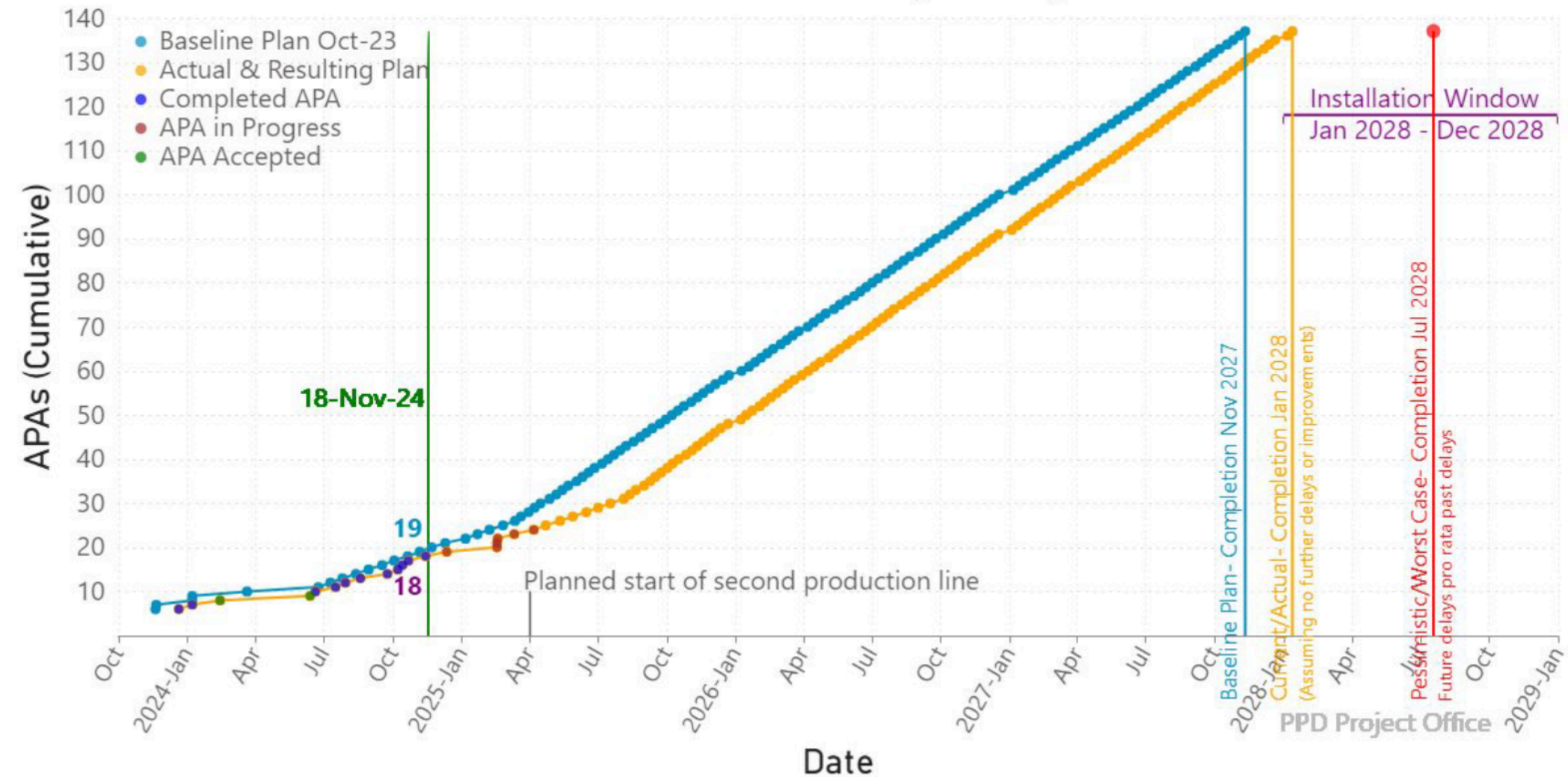
# APA Storage Proposal

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December 18, 2024



## UK APA Production Schedule and Status

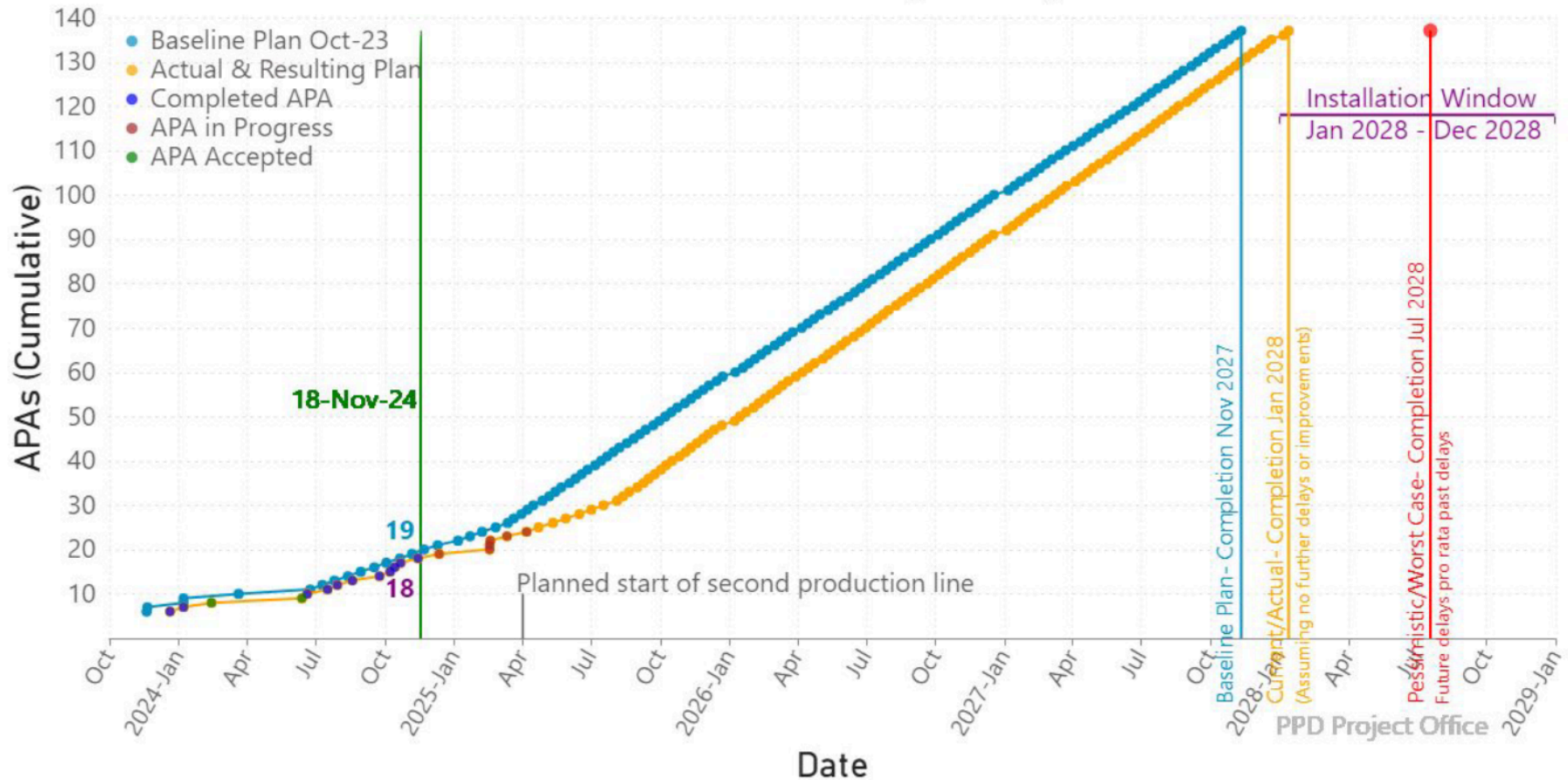
Based on Gantt Chart Planning and Tracking



PPD Project Office



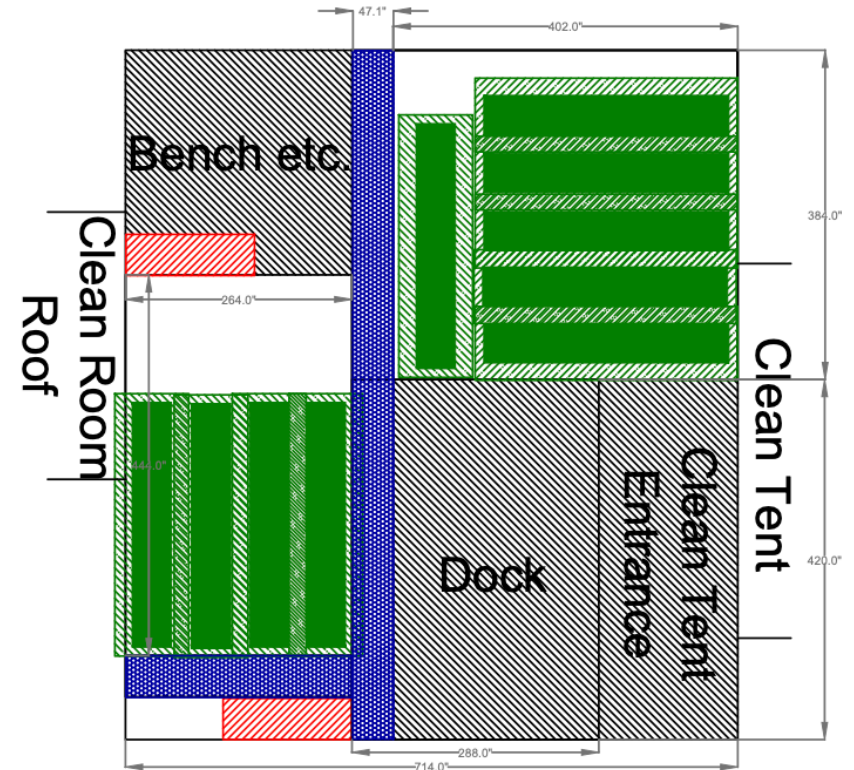
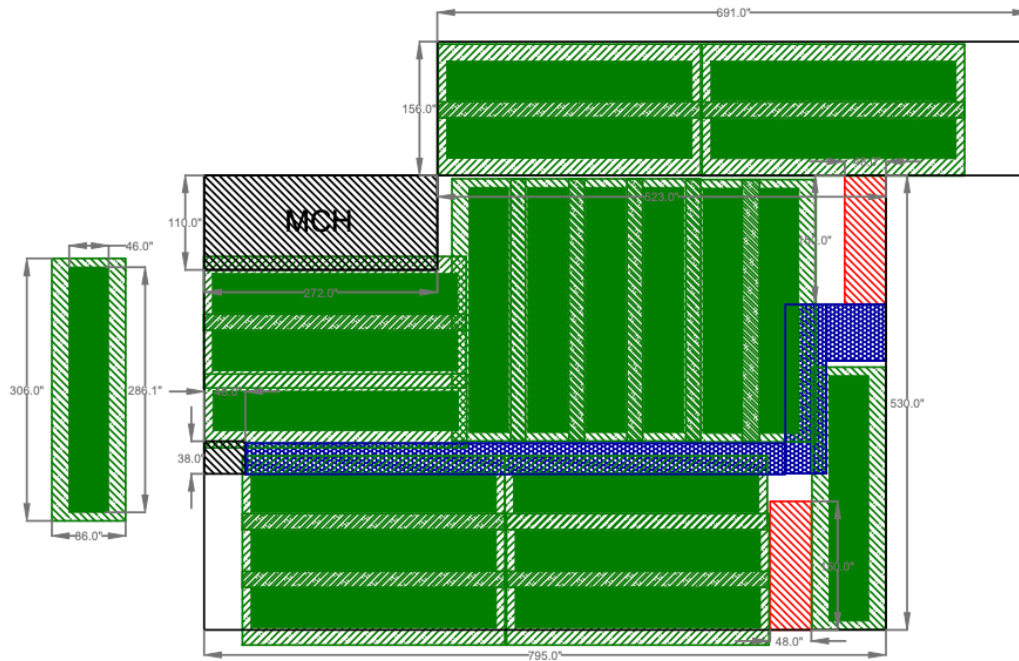
**UK APA Production Schedule and Status**  
Based on Gantt Chart Planning and Tracking



- 40 APAs complete by October 2025, 80 APAs complete by October 2026
- UK warehouse can probably store 50 APAs or 25 ASFs



- 8 APAs (4 ASFs) completed by February 2026, 14 APAs (7 ASFs) completed by April 2027
- May be able to store 3 ASFs at Chicago between April 2027 and January 2028 start of installation



- These diagrams show the maximum number of ASFs (30) that can fit in DAB
- We probably want to leave more space around each ASF, so assume we can fit 22 comfortably
- We would need to upgrade the crane with a VFD for ~ \$25k





- Between Fermilab DAB and Chicago we may be able to store 25 ASFs in the US, or 50 APAs
- We can store about 50 APAs or 25 ASFs in Daresbury
- That leaves another 52 APAs or 26 ASFs to store
- The warehouse in Madison can easily accommodate 26 ASFs
  - Cost of \$0.90 per square foot per month
  - Each ASF + clearance requires ~159 square feet or \$149 per month
  - The DAB VFD cost is equivalent to storing 22 ASFs for 8 months
- We will install 12 APAs or 6 ASFs each month



- Adopt a "Yes - And" storage model that makes use of the UK space, DAB, Chicago and the Madison warehouse
  - Store the first 18 UK ASFs and 4 US ASFs at DAB, DAB is filled by January 2026
  - The cost of the DAB crane upgrade is much less than the cost of storage in a commercial warehouse for 24 months (net cost is the equivalent of 16 months in a commercial warehouse)
- Ship the next 25 UK ASFs to Madison starting in November 2026 until January 2028 (14 months)
  - We can expand/contract our footprint as needed there
  - The cost per month at 25 ASFs is \$3721, need an additional ~ \$28k for offloading/loading
  - The first shipments to SURF come from Madison



- Once the Madison warehouse is emptied we send ASFs from DAB to SURF, replenish DAB with ASFs from the UK
- Estimate for total cost to the US project for this proposal is ~ \$130k over 2 years, or an average of \$5.4k per month during that time





- The number of ASFs per UK shipment could complicate storage in the US by virtue of requiring more tech effort than is readily available for offload
- If we find problems with the transportation (ie big shocks, broken wires) that could mean we will have to segregate and store APAs with issues while we decide what to do with them
- If we put crates over the ASFs that introduces effort and cost for removing and disposing of them
- The UK storage space may be smaller than my visual estimate