

# MICE HPRF Up-date

## Tim Stanley RAL 29-1015

### – Testing

- 212 kW achieved from driver stage 4616 #1 at DL, ready for endstage 116 #2. Good experience, in tuning and fault-finding, for TS and SA; juggling of 8 interactive RF and DC variables!

### – Assembly at DL for 116#2

- 116#2 nearly ready mechanically
- Fitting of new crowbars progressing well.
- Electrical prep. Has been resource-limited; technician becomes available from next week. 116 #2 expected to be ready by end of 2015.

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- Services
  - Water
    - Amplifier cooling:
      - » repeat of de-min water distribution panel as for amplifier system 1; sub-contract and test by DL. Manufacture ordered.
      - » Cooling circuit dedicated solely to RF.
    - Cavity cooling:
      - » Cavity body average dissipation 2 kW; tight-spec re. temperature; 1 US GPM , ~ 56 psi pressure-drop, 28 degrees +/- 0.1 degree C
      - » Couplers: ~0.7 US GPM, low dissipation, no temperature control required.

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Air:

Amplifiers and cavity-tuning systems: no great challenge

SF6/g3 - for TX-line voltage stand-off: KR analysing g3 option. Stand-alone cylinder system and leakage detection; no throughput.

Vacuum – responsibility of vac. Group; liaison underway with Mark Tucker of RAL

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## Co-ax components + assembly

Components for final-step RF system picked and packed.

Some mods required to lengths; various options being considered for cost-effective solution

Brackets for support of hybrid spitters made and delivered to DL; Sub-assembly, by RAL techs at DL, against DL drawings, envisaged.

Pre-assembly/rehearsal desired at RAL; ?venue

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## Cavities:

Class 100 clean room recommended by FNAL (although Class 10 used for tests); bespoke construction, by DL, envisaged.

R9 ready for handover by Easter 2016, and receiving of cavities.

Fitting of couplers might be required.

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## – Infrastructure –

- AG and JT's drawings show no mezz-floor structural mods required; again saves risk of lead-time with outside contractor. Hole-cutting should be routine.
- Supports, for TX lines around cavities, need through-floor uprights

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- Operating Controls System
  - RF Team have defined list of channels and functions; will evolve further
  - DL elec and controls team progressing with detailed design and build
  - Ajit Kurup, IC, to be involved

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- LLRF - extra resource - two more engineers - now applied at DL



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## Programme and resource

Aware of squeeze on construction-time in Hall after STEP IV

Timely availability of R9 required

STEP IV has drawn electrical resource away from RF build; RF team ready for 116#2

### Resource:

Extra involvement of

Saad Alsari , IC – RF

Ajit Kurup, IC - controls

very welcome.

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- Safety:
  - Be, X-ray and TX line gas safety cases by TS and AN
  - X-ray protection system advised by Paul Wright:
    - Real-time detectors at all three Hall entrances
    - Initially to execute auto beam-stop
    - Later to stop RF only
    - Also rad-badges along shield-walls
    - Raw results from FNAL not alarming, but calibrated results awaited to determine whether/spec. of south shield-wall required.
  - Awareness of new safety protocols

# MICE HPRF Up-date

# Project Overview

- What is the project about?
- Define the goal of this project
- Define the scope of this project



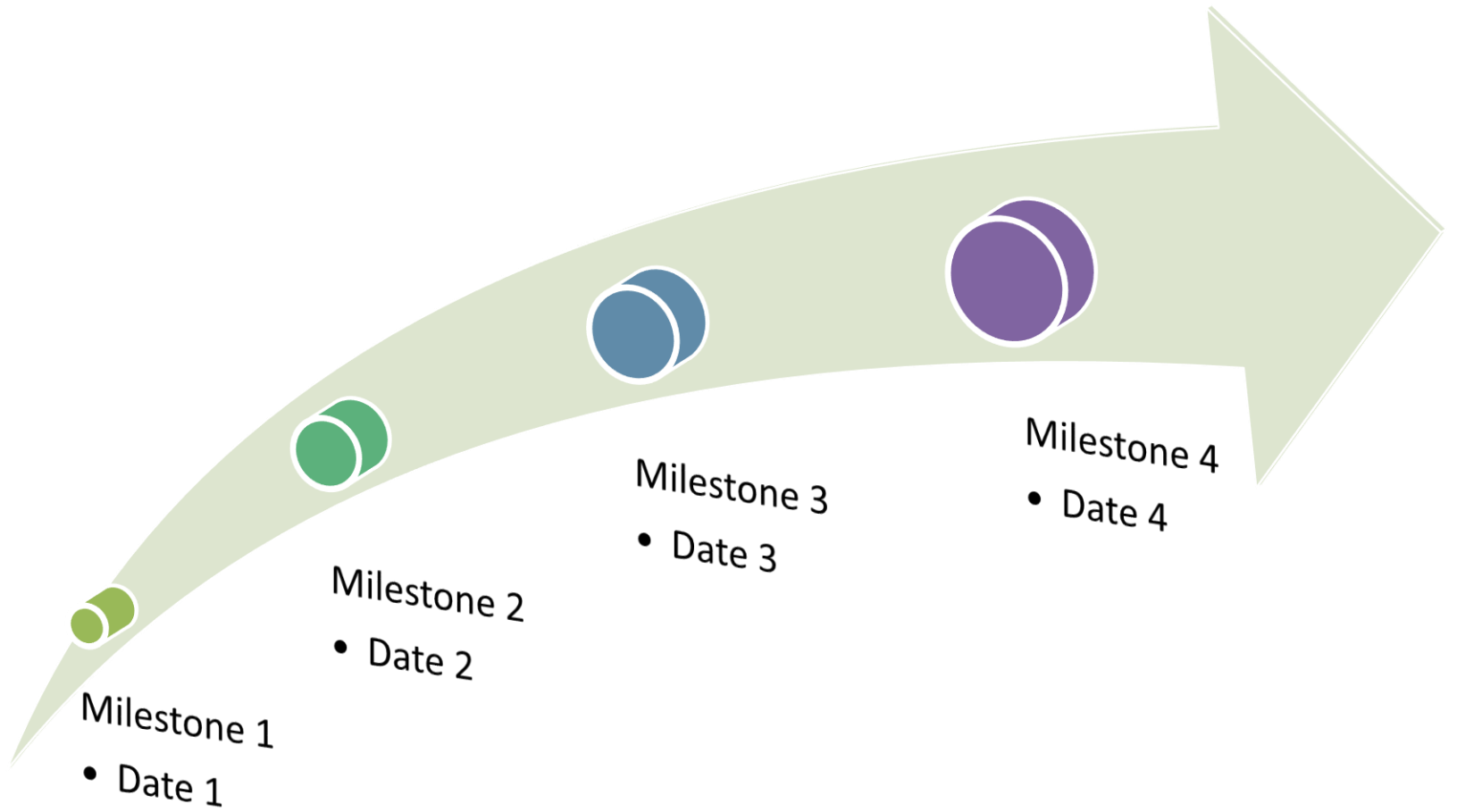
# Current Status

- What progress has been made since the previous milestone?
  - Which tasks have been completed?
  - What issues have been resolved?
  - What new issues have risen? \*
- Is the project currently ahead of schedule, on track, or delayed?
  - If delayed, what is the mitigation plan?

# Issues and Resolutions

- Description of the issue
- How was it resolved?
- What and how did it impact the project?
  - Time
  - Cost
  - Other

# Timeline

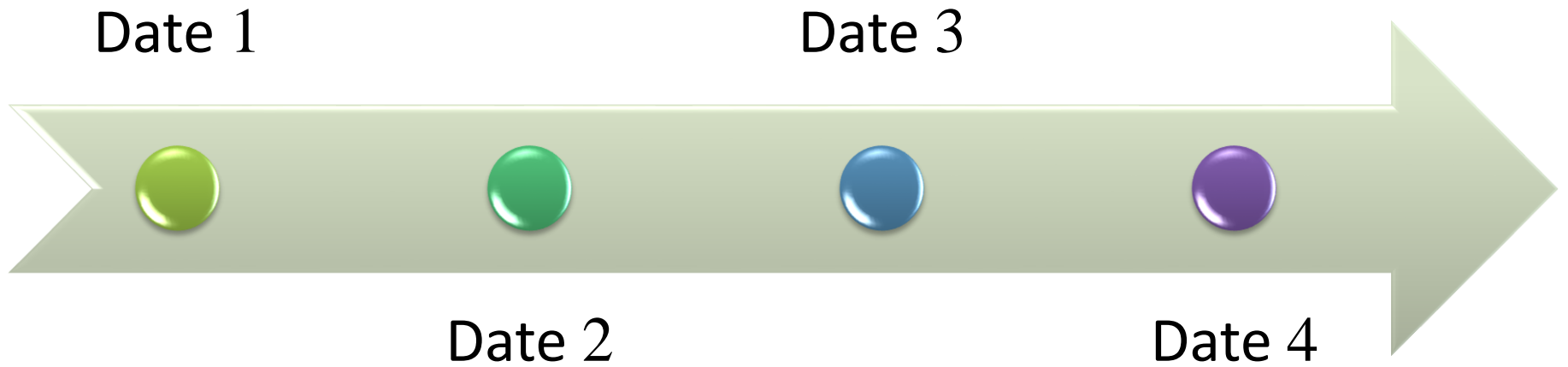


# Timeline





# Timeline

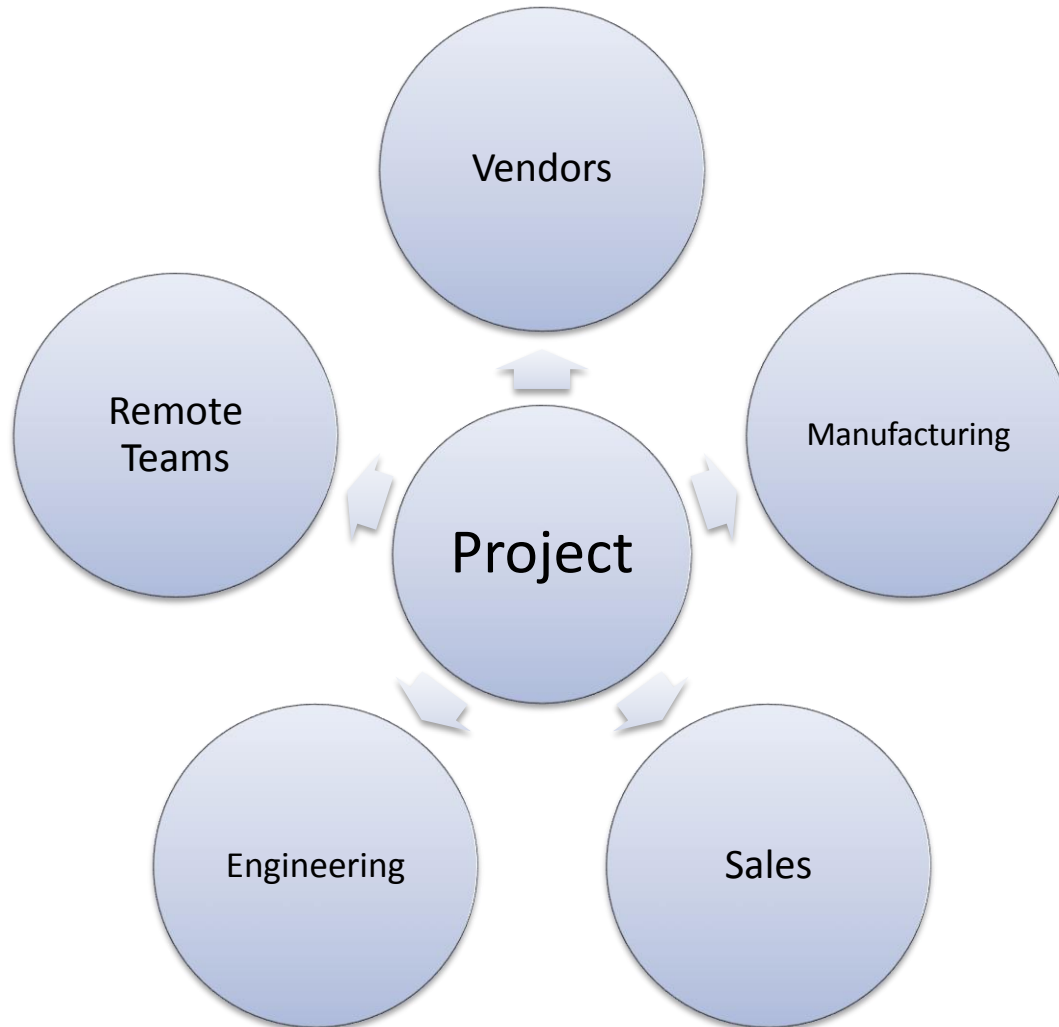


# Looking Ahead

- When is the next milestone?
- What are the expected deliverables?
- Known risks and issues
  - What is the investigation timeline for these issues?
- What are the immediate next steps?



# Dependencies and Resources





# APPENDIX

# Appendix

- Budget
- Design documents
- Marketing plan
- Supplemental documents
- Contact information