



PIP-II Technical discussion Managing Technology Obsolescence

Victor Grzelak

PIP-II Technical Integration

July 12th 2022

A Partnership of:

US/DOE

India/DAE

Italy/INFN

UK/UKRI-STFC

France/CEA, CNRS/IN2P3

Poland/WUST



Agenda

Day 1

- 9:30-9:40 – Introduction – Victor Grzelak
- 9:40-10:25 – FNAL System design – Greg Vogel
- 10:25-10:50 – Operational Conditions at FNAL – Darren Crawford
- 1050-1110 – Break
- 1110-11:55 – FNAL software – John Diamond

Day 2

- 08:00 - 08:45 – RF Systems at FNAL – Victor Grzelak
- 08:45 - 09:20 – RF Systems – TBD
- 08:45 - 09:20 – Ampleon's Approach to Obsolescence – TBD
- 09:50 - 10:05 – Break
- 10:05 - 11:20 – Round Table discussion – Led by Greg Vogel and Victor Grzelak
- 11:20 - 11:40 – Closeout actions – Led by Victor Grzelak
- <https://indico.fnal.gov/event/54738/>

Chairs

Victor Grzelak

- Deputy L3 for HPRF systems

Formerly

- Group leader for Booster RF Systems
- RF Department Operations Manager

Greg Vogel

- AD/Controls Deputy Department Head
- AD/Controls hardware group head
- Timing & Links group head

Formerly

- AD/Instrumentation Dept. Engineer



Please use the raise hand function if you'd like to ask questions

Project assumptions and core questions

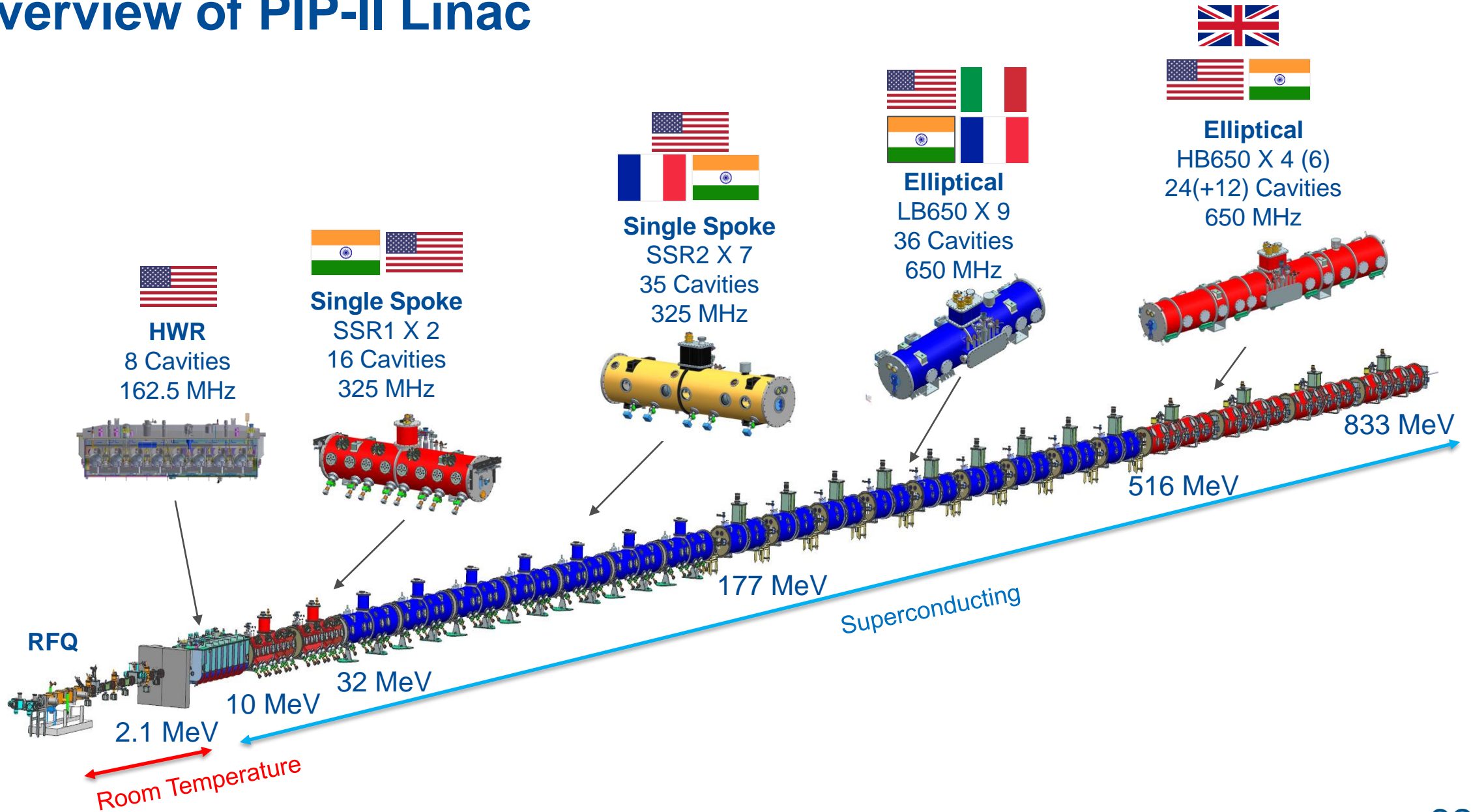
Assumptions

1. PIP-II upgrade should support the physics program at FNAL for 20+ years
2. PIP-II will replace current LINAC in 2028
3. Machine will run 24/7 for ~11 months a year with minimum shutdowns for maintenance

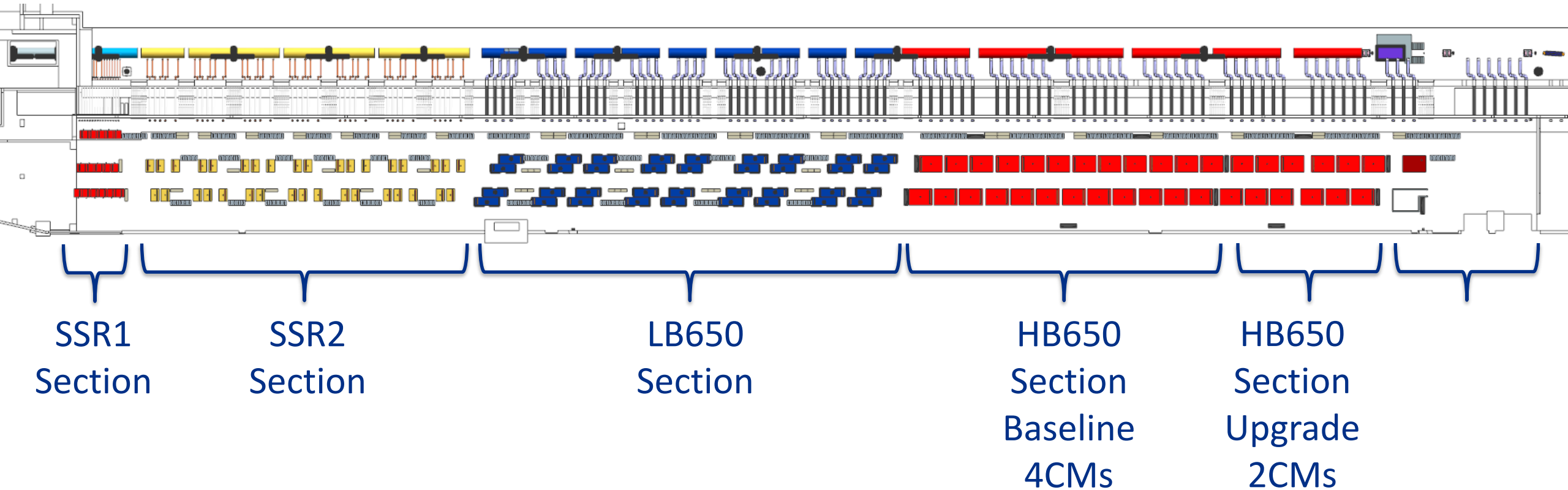
Core questions

1. In the long term, obsolescence is inevitable, how do we design to mitigate it?
2. When selecting components, how do we optimize long term support?
3. How can we ensure knowledge transfer over generations of operation?
4. Does the project have adequate means of capturing software for long term support?

Overview of PIP-II Linac



PIP-II Linac Gallery Sections



Thank you for your attention!

Break will end at 11:10 CST