User Safety Practices

Panel Facilitator

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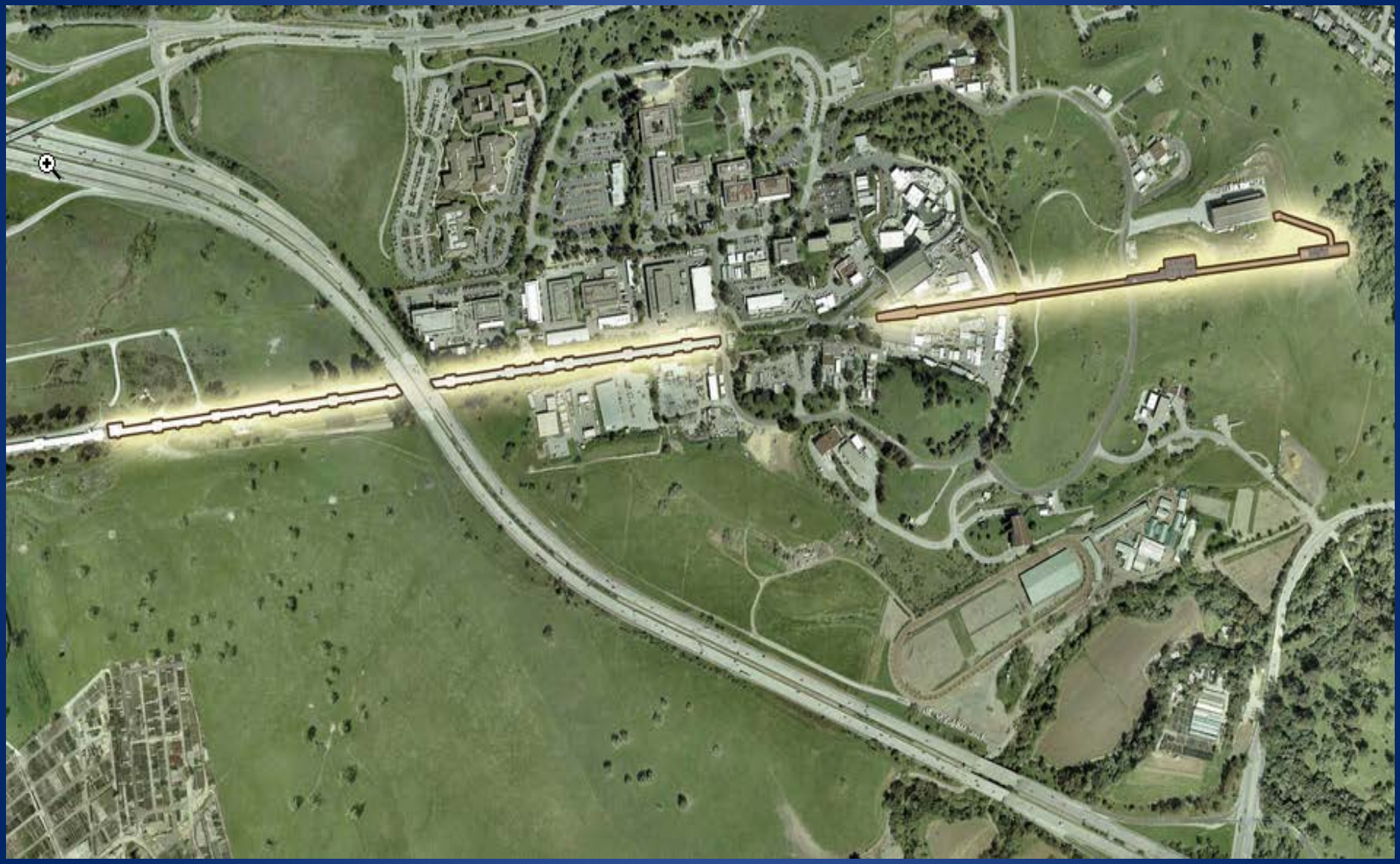
Facility Introduction - LCLS

- Ian Evans – ESH Program Manager for Linac Coherent Light Source (LCLS), Stanford Synchrotron Radiation Source (SSRL) and LCLSII Project
- LCLS is a Hard X-Ray Free Electron Laser (FEL) facility
- 6 experimental stations; providing capabilities to study and map materials, chemical reactions, magnetic behaviors, living bacteria, cells, proteins etc.

Facility Introduction - LCLS

- LCLS, the world's first hard X-ray free-electron laser, pushes science to new extremes with ultrabright, ultrashort pulses that capture atomic-scale snapshots in quadrillionths of a second. Pulses are fired at a rate of 120 per second, each one lasting just "femtoseconds", a timescale at which the motion of atoms can be seen and tracked. These images can reveal never-before-seen structures and properties in matter, and can be compiled to make movies of molecules in motion.

Facility Introduction - LCLS



Facility Introduction - LCLS

- 6 experimental stations
- 600+ users/yr
- ~100 experiments per year
- Large collaborations, routinely >10 users/ experiment on-site

Why manage ESH Risk!

- Policy
  - Its required
- Its the right thing to do and because from a business model it's the only way to work.
  - Accidents, equipment damage
  - Injuries, getting hurt or hurting someone else
  - Front page of the news paper
  - Loss of science programs (SLAC, Holifield)
  - Loss of funding
- We are committed to providing facilities free from recognized hazards and to performing work safely
  - Staff and Users

What we do well

- Supporting Experiments
  - Committed and Capable Staff
- Building Relationships with Users
  - We need to know our customers
- Work Planning and Control
  - Integrating ESH values into proposal process
  - Ensuring experiments are effectively evaluated
  - Appropriate controls are implemented

Challenges

- Not enough beamtime
- Small sample preparation space
- Training for the task
- Supporting Experiments
  - We can't say no, an experiment failing is not an option
- Making Users share the burden for managing their experiments

What does it take?

- Pragmatism
  - Implementing a reasonable and logical way of thinking about risks
- Engagement
  - Involvement and Commitment to making User experiments happen
- Tolerance for ambiguity
  - From proposal to experiment – it will change (often)
- Sanity
  - A sense of humor helps