

Argonne National Laboratory – East

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Division of Compensation Analysis and Support

Advisory Board on Radiation and Worker Health

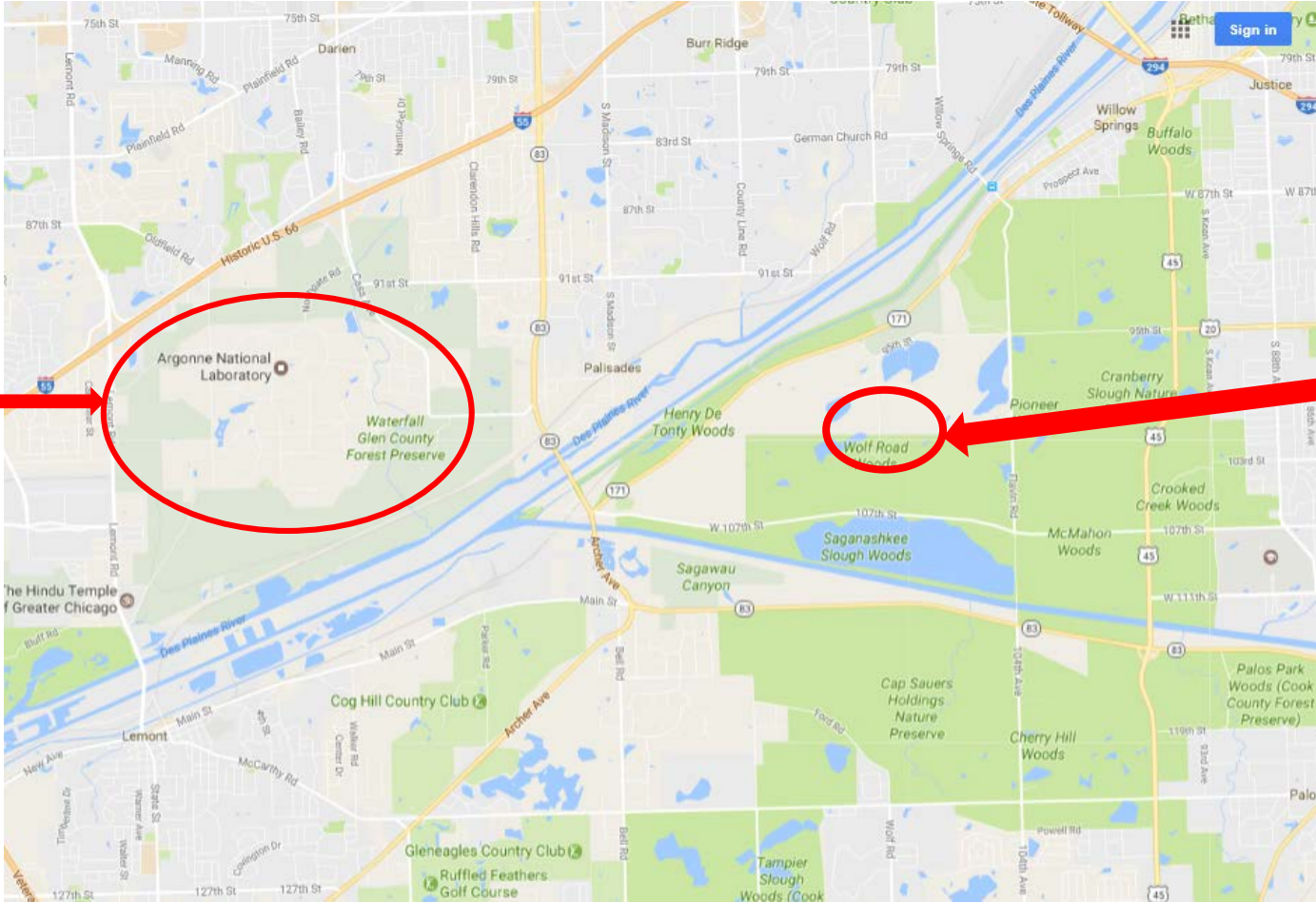
Naperville, Illinois | March 22, 2017

Background

- Established July 1, 1946
- Operated by University of Chicago
- Continuation of operations from the Metallurgical Laboratory (Met Lab)
- Met Lab operations moved to Site A
- Site A operated 1943-1954
- Operations transitioned to Site D starting in 1948
- Site D operations on-going

Location

**ANL-E (Site D):
1948-present**



**Site A (1943-1954)
Plot M (1944-1948)**



Site Operations

- Production, power and research reactors
- Various accelerator facilities
- Associated R&D and support operations
- Fuel development and separations research
- Waste management operations
- Biological research on animals and humans
- Health physics and medical department

NIOSH ANL-E Timeline

- 6 Technical Basis Documents issued 2006, External TBD updated 2014
- SC&A TBD review issued May 2009
- 13 Findings and 7 Secondary Findings
- SC&A TBD review update May 2016
- Board WG established in August 2016
- First WG meeting March 10, 2017
- 10 NIOSH action items remain

NIOSH ANL-E Statistics

- Number of claims in NOCTS: **412** (107 > 50 %)
- No current SEC petition
- SEC-00212 did not qualify for evaluation in 2013
- Number of documents in SRDB: 4276
- Over 50 % of those collected since TBDs were first released
- Additional data capture likely

Open Internal Dosimetry Issues

- Addressing various U and Pu mixture compositions
- DR recommendation on exotics/accelerator produced radionuclides
- Approach for early gross alpha analysis
- MDCs and uncertainties in bioassay methodology
- Guidance for missed dose assignment,
- Dose assignment for unmonitored workers, potential need for coworker model
- Internal dose from Radon

Open medical dosimetry issues

- TBD update with current recommendation based on OTIB-006
- Investigate end data of potential PFG use

Open external dosimetry issues

- Add information on available external dosimetry used and details on updated external dosimetry workbook
- Neutron dosimetry approach needs to be revised and possibility of n:p approach researched
- Dose assignment for unmonitored workers
- Guidance on dose from skin contamination

Open environmental TBD issues

- On-site external exposure before 1972 (use of PROC-0060) to be addressed
- Outdoor inhalation and exposure from incidents at Site A

Other issues

- Insufficient number of incidents and accidents addressed in TBD
- Monitoring of contractors, transferees and visitors
- Human Radiation Experiments

Additional information needs

- Operations transfer between Met Lab to ANL-E and from Site A to Site D
- Details on operations at Site A and Plot M
- Exposure potential at early reactors and accelerators
- Early health physics procedures and requirements
- Pre-1972 environmental exposures
- Monitoring status of contractors and subcontractors