SYSTEM TO IDENTIFY, ANALYZE AND CONTROL THE HAZARDS OF LABORATORY RESEARCH AT ARGONNE NATIONAL LABORATORY

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A VITAL PART OF THE DEPARTMENT OF ENERGY NATIONAL LABORATORY SYSTEM

ARGONNE NATIONAL LABORATORY
WHO WE ARE

$740M
OPERATING BUDGET IN 2015

3,200+
EMPLOYEES IN 2015

1,250+
SCIENTISTS AND ENGINEERS
WHAT WE DO...

Our tools are science and engineering
Our job is research and discovery
Our goal is a better world
WHY WE PLAN WORK?
Working safely should be a natural part of working, not just something “the safety people do. "Safety is EVERYONE's responsibility.” Integrated Safety Management is a process that enables Argonne to perform cutting edge research, while protecting our irreplaceable intellectual capital – our employees, as well as the public and the environment.
INTEGRATED SAFETY MANAGEMENT (ISM)

Argonne ISM Objectives

Do it safely, do it right.

No work is so important that it needs to be done without proper safety measures.

ISM is founded on seven guiding principles and five core functions
WORK PLANNING AND CONTROL
Work planning and control (WPC) is the use of a formal, systematic methods to optimize outcomes, to identify and mitigate mission, environmental, safety, security, and health (ESSH), and business risks, and to optimize the management of available resources, which include, but are not limited to money, equipment, time, and personnel. It is initiated at the earliest stages of work planning and remains in effect through all subsequent phases of work. WPC rigor and formality reflects a degree of care commensurate with the risks and complexity of the work.

Work planning and control is more than ESH. It is about mitigating risk and optimizing outcomes. It is more than paper plans. Control refers to hazard controls and supervisors’ control of workers.
EVOLUTION OF WORK PLANNING AND CONTROL

Future: system integration a cradle to grave approach to planning

WAE electronic signature released: Feb 2015

WPC feedback & improvement released: November 2014

WPC SOP usability changes released: April 2013

Future: system integration a cradle to grave approach to planning

WPC web-application Release 2.0: Aug 2012

WPC policy and procedure (POL-16 and PROC-200): Sept 2011

Lab Director’s team recommends WPC improvements: April 2011

WPC web-application Release 1.0: Sept 2010

WPC experimental procedure (PROC-79): May 2009

Non-experimental procedure (PROC-64): February 2009
WORK PLANNING AND CONTROL SYSTEM
INITIAL SCREEN

Captures the basic information of the work package

System highlights:
- * Indicates required fields
- Start/end date validation
- Hover over test provides a brief definition of the requirement to complete the field
- System check for completed field (missing fields indicated in red)
- Basic editing functionality
- Drop down menu selections
## Informational sections

### Additional Preparers
- ESH Coordinator(s) pre-populated
- All preparers have the ability to edit the document

### Attachments
- Ability to add any type of attachment (e.g. word, pdf, photo, movie) and description

### Authorizers
- The person(s) who are able to authorize the work in the WAE application

### Cost Codes and Funding Agents
- Field to provide cost codes and funding agents for the project

### Organization
- Field to identify other organizations that would be involved in the project
TASKS

- Ability to define a task per project
- Ability to have multiple tasks per work control document or a single task
- Hazard analysis is defined in the task
INDEPENDENT AND LIMITED WORKERS

• Add, remove, edit workers as independent or limited
  – An independent worker is a worker who has completed all of the required training such that the worker can conduct work within the scope of a work control document WITHOUT supervision
  – Limited worker is a worker who either (a) must work under the direct supervision of a person-in-charge or another independent worker, OR (b) must conduct work within specified conditions in a work control document

• Workers can be added to a specific task or “All” tasks
• Training is verified and missing courses identified
HAZARD CRITERIA- HAZARD TREE

IDENTIFY SPECIFIC HAZARD

- General site hazards
- Physical safety hazards
- Industrial hygiene hazards
  - Biohazards
  - Physical agents
    - Confined space hazard
  - Heat or cold stress
  - Hot or cold surfaces
  - Noise
  - Laser
- Radiofrequency/microwave hazard
- Static magnetic field
- Ultraviolet, visible, and near-infrared radiation
- Other physical agent hazard not identified above
- Toxic chemicals and dusts
- Environmental hazards
- Fire and life safety hazards
- Radiological hazards
- Operational considerations

TASK RELATIONSHIP & CONTROL SET

Flag colors
- **Green** control is setup properly
- **Yellow** control is setup properly but subject matter expert (SME) review
- **Red** control is not complete
### Control sections

- Engineering
- Administrative
- Personal Protective Equipment
- Training
- Permits and Other Required Documents

### System highlights

- System pre-populates controls
- Additional controls can be added to any of the control sections
- Controls can be deleted. This will trigger a subject matter expert (SME) review
- The value field is used to add details e.g. type of gloves – Nitrile. This field can be set to optional or required.
WORKFLOW

- Tabular view or graph view
- Ability to add custom reviews before, after, or with any of the review groupings
- SME notification is sent in parallel
- Preferred Reviewer can be selected
- If a preferred reviewer is not chosen then all of the reviewers will receive an email notification
- If changes are required, the preparer can return to draft. If the changes to do affect the SME approval, that SME does not have to reapprove
A summary of changes is provided to reviewers

Industrial Hygiene documents recommendation for monitoring based on the task and hazard selected

Reviewers have the ability to approve or disapprove and add comments
WHERE WE ARE HEADING
FUTURE FOR WORK PLANNING AND CONTROL

System integration and system enhancements

- Integration with our chemical management system
  - Ability to select chemicals
  - Pre-populate physical and health hazards
- Reactive chemistry review process
- Integration with our Industrial Hygiene system

- Hazard control set
  - Adding, modifying, and deleting control sets based on users input and changes
- Work flow improvements
- Reporting and metrics
- Streamline system output reports
  - PPE summary reports
  - Print selection table
THANK YOU.

DO YOU HAVE ANY QUESTIONS?