

The LLNL Work Planning and Control Process

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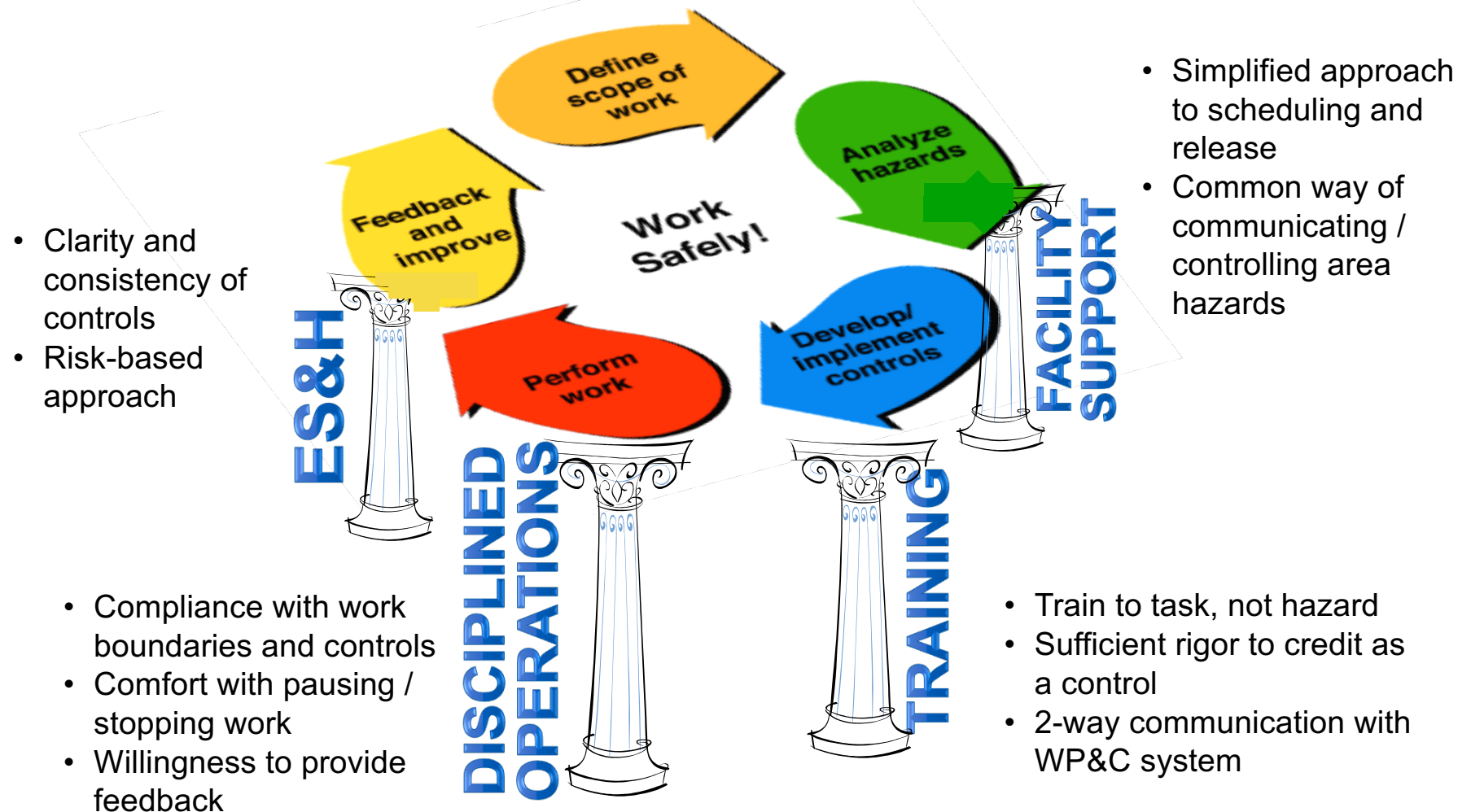


Experimental Test Site
(11 sq. mile site near Tracy, CA)



- Established in 1952
- Approximately 6,500 LLNS employees
- 1 square mile, 684 facilities
- Annual federal budget: ~ \$1.7B
- Operated by LLNS, LLC (UC, Bechtel, BWXT, AECOM, Battelle)

Work Planning and Control relies on other key management processes



Improvements to underlying processes have expanded the project scope

We have 3 categories of work at LLNL

Mission Work



~1100 Authorized Activities

Laboratories, Shops, Field testing,
HE fabrication / machining / testing,
NIF operations, Pu facility

- Replace current IWSs with new WCDs (Permits, HCPs, WPROs), facilitated by a Work Planner
- Implement area-by-area over several years

Service Provider Work



50+ Work Groups

Custodians, Landscapers, IT
desktop, Telecommunications,
Crafts

- Replace current IWSs with Competent Worker qualifications and Site-Wide Worker concept.
- Permit non-routine work
- Implement all at once

Subcontracted Work



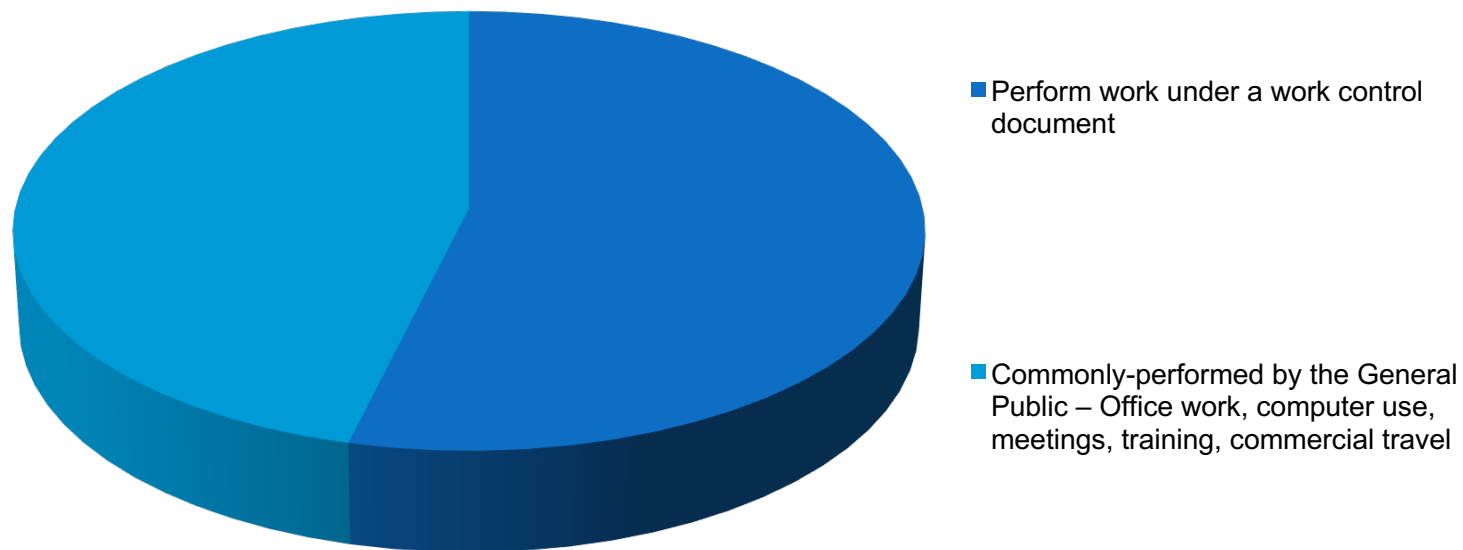
~350 Authorized Activities

Calibrations, Service contracts,
Deliveries, Procure / Install,
Construction

- Continue to operate under Doc. 2.5 for couple of years
- Utilize certified RIs / STRs
- Investigate incorporating Work Planners

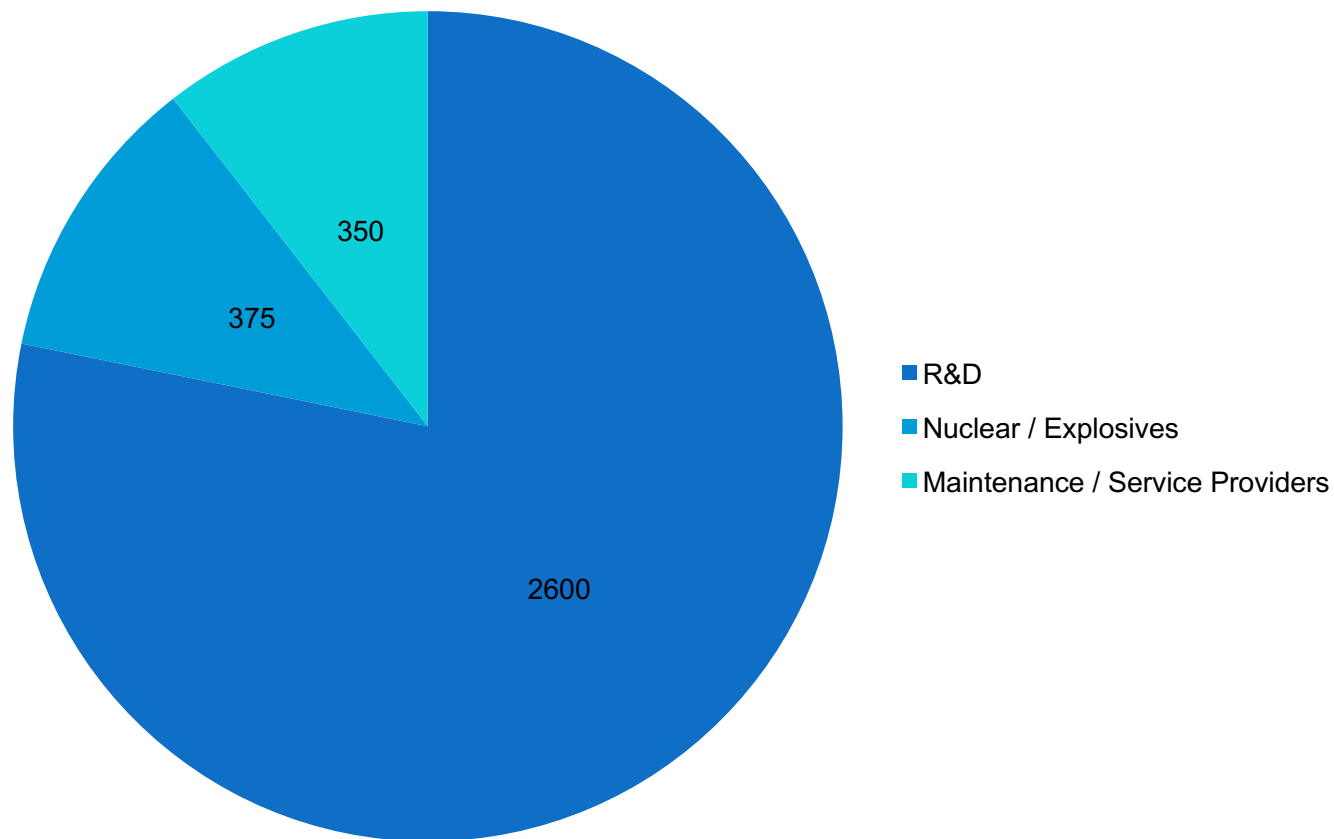
About half of the Lab's workforce performs work under formal work control

- 46% of LLNL workers (3000) do not work under formal work control documents



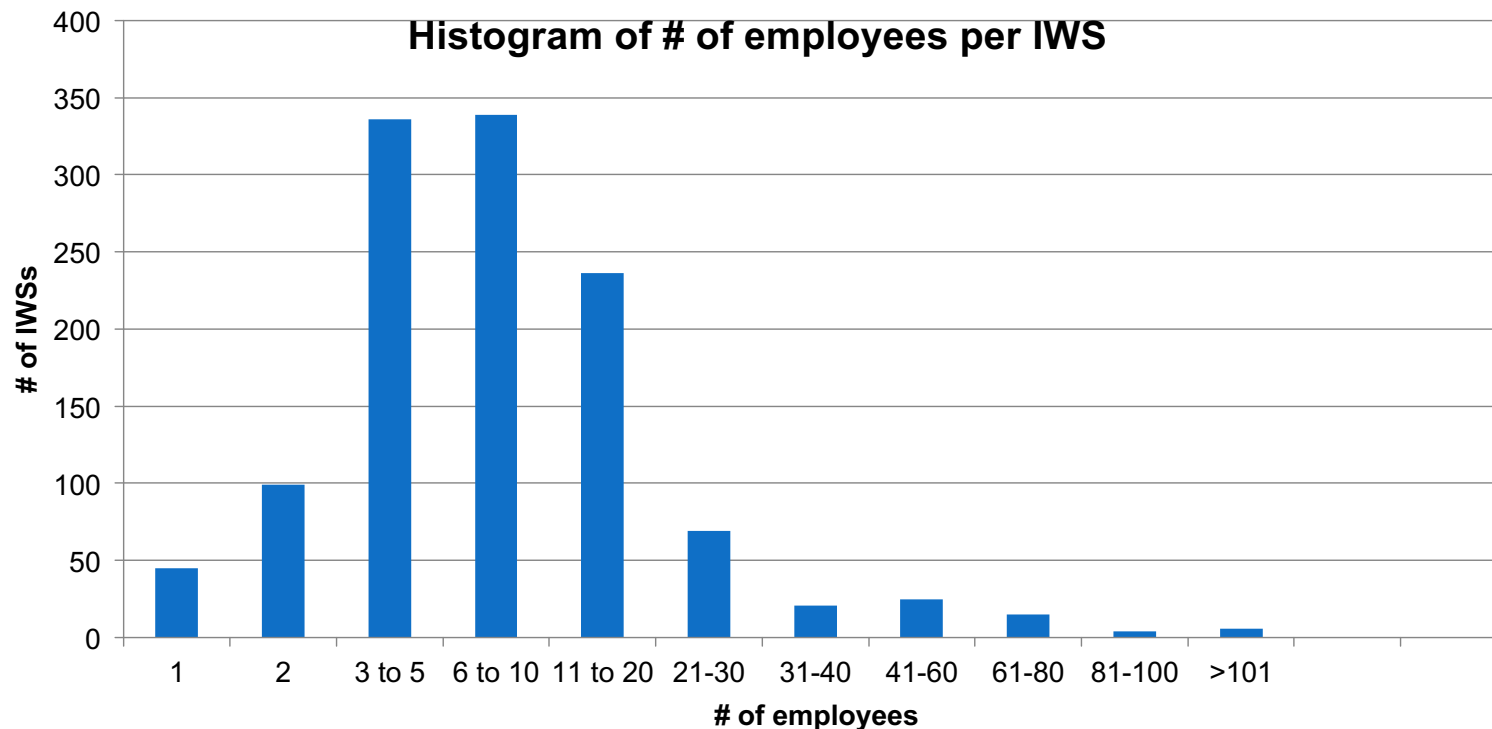
The majority of LLNL workers support mission work

- Of the 3500 workers who do work under a WCD, 90% are supporting mission work. Only 11% of workers under a WCD work in nuclear or high-hazard operations
- Additionally, only 10% of workers are performing maintenance and modification work



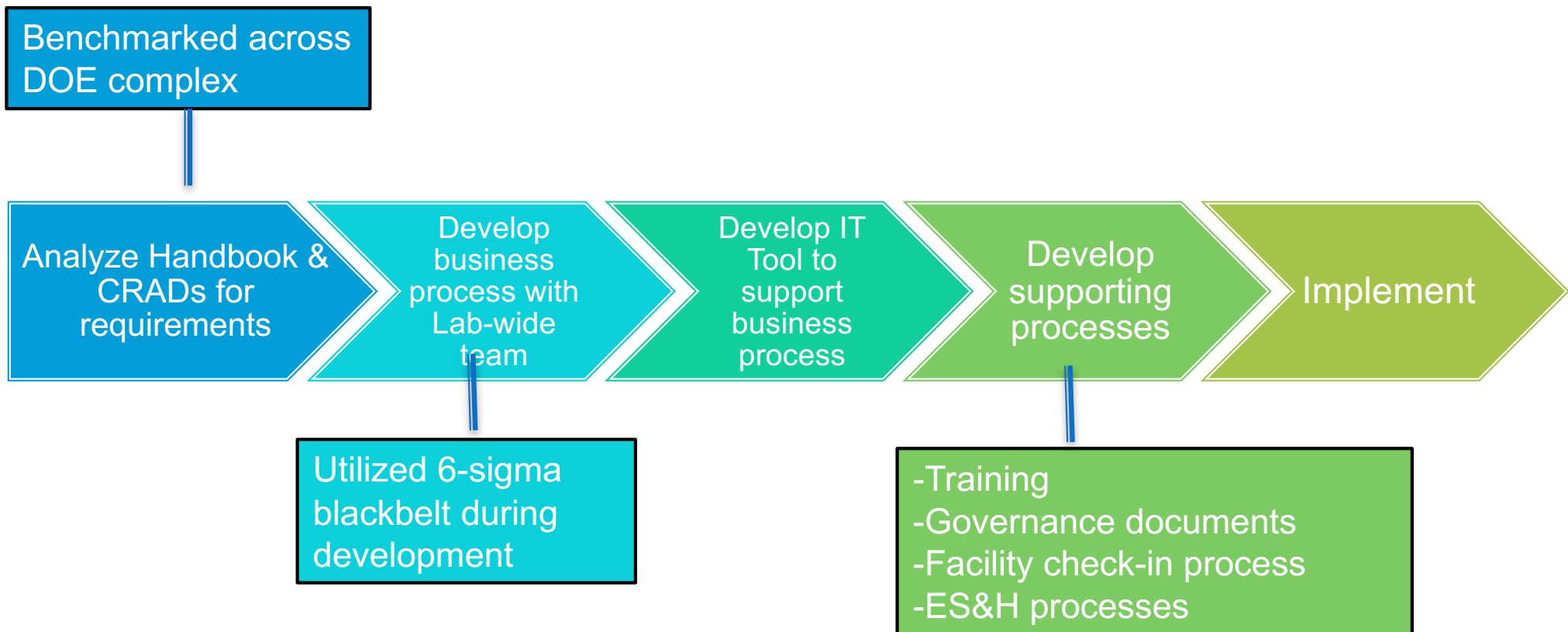
Tailoring of hazards to the work is why we have so many IWSs

- 41% of all activities have 5 or less workers
- Only 12% of activities have >20 workers. Only 6 exceed 100



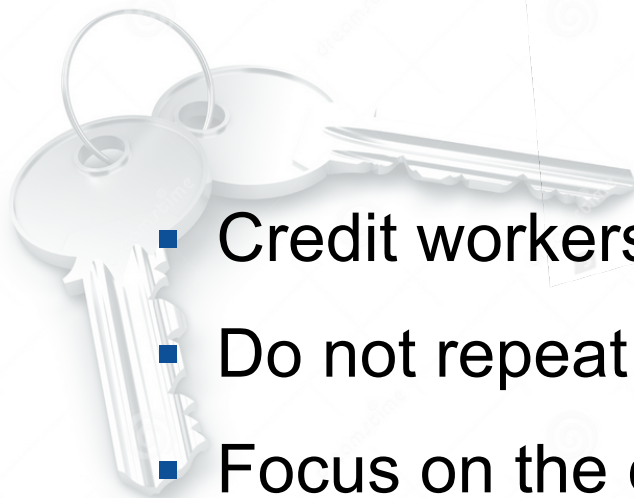
Most LLNL work activities are small-scale R&D

We followed a systematic approach to refreshing the WP&C system



We have continuously revised our business processes and implementation schedule based on lessons-learned from pilot efforts

WCDs are key to helping workers get the job done safely



- Credit workers for training and qualification.
- Do not repeat controls for common, low-risk hazards.
- Focus on the critical controls for higher-risk hazards.

The WP&C planning process ensures that WCDs are clear and concise and useful to the worker.

Facility Managers must de-conflict and release work



- Schedule, de-conflict, and release work with the potential to impact the facility.
- Room Responsible Persons serve as the FM's "local" de-conflict and release function.

We created a single, institutional process for scheduling, release, and check-in.

Workers must work within an environment of disciplined ops



- Understand the work scope, hazards, and controls.
- Workers stop or pause when work scope begins to creep, new hazards are identified, or when work cannot be performed as planned.

The WP&C system relies on disciplined operations to ensure workers work within the approved work scope and controls.



Qualified Work Planners

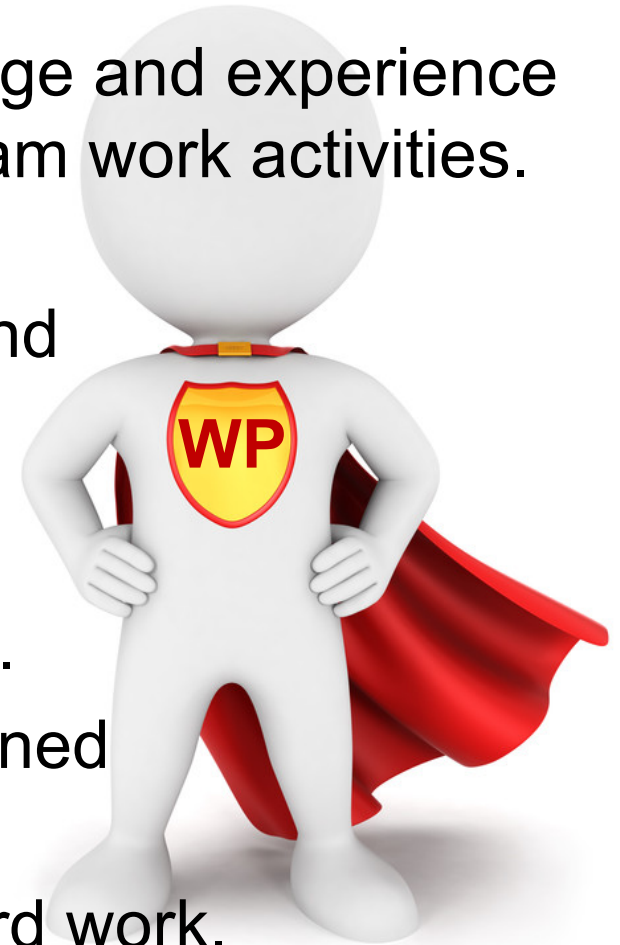


What?

- Specialists with broad general knowledge and experience in ES&H, facility operations, and program work activities.
- Core curriculum with endorsements for higher hazard, maintenance, off-site, and subcontractor work.

Why?

- We weren't very good at planning work.
- Shifts Work Supervisor focus to disciplined operations.
- Focuses ES&H intellect to higher hazard work.



The Work Planner leads the work planning process to ensure quality, and is the lynchpin of the WP&C process.

General Worker Training



What?

- Training curriculum, based on a General Hazard Analysis, that includes Hazard Communication, PPE, Waste Management, and General Hazard Awareness.
- All workers on a WCD must complete this training.



Why?

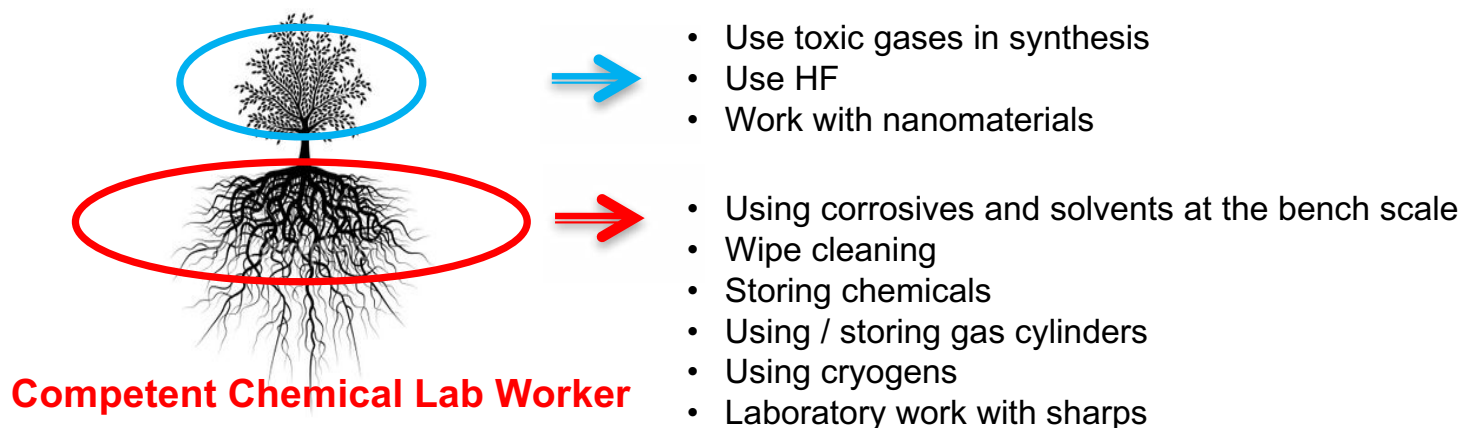
- Work control documents had lost focus on what workers should really worry about.

Low-hazard tasks included in the General Worker curriculum are no longer included in WCDs.

Competent Workers

What?

- Safety qualification that includes many of the commonly performed tasks within a work discipline.



Why?

- Credits worker SKAs and focuses WCDs on unique tasks, hazards, controls.

Competent Worker becomes a control in a WCD for commonly performed tasks.

Competent Workers



There are two flavors of Competent Workers.

Mission-focused

- Biosafety
- Chemical Laboratory
- Laser
- Electronics
- Electronics Fabrication
- Mechanical

Site-Wide Service-focused

- All Trades
- Security Alarms and Locksmiths
- Telecommunications
- IT Network-Data Center
- Haz/Rad Waste Field Services
- Material Distribution
- Mail Services
- Technical Documents/Inspections

Competent Worker becomes a control in a WCD for commonly performed tasks.

Work Screening

What?

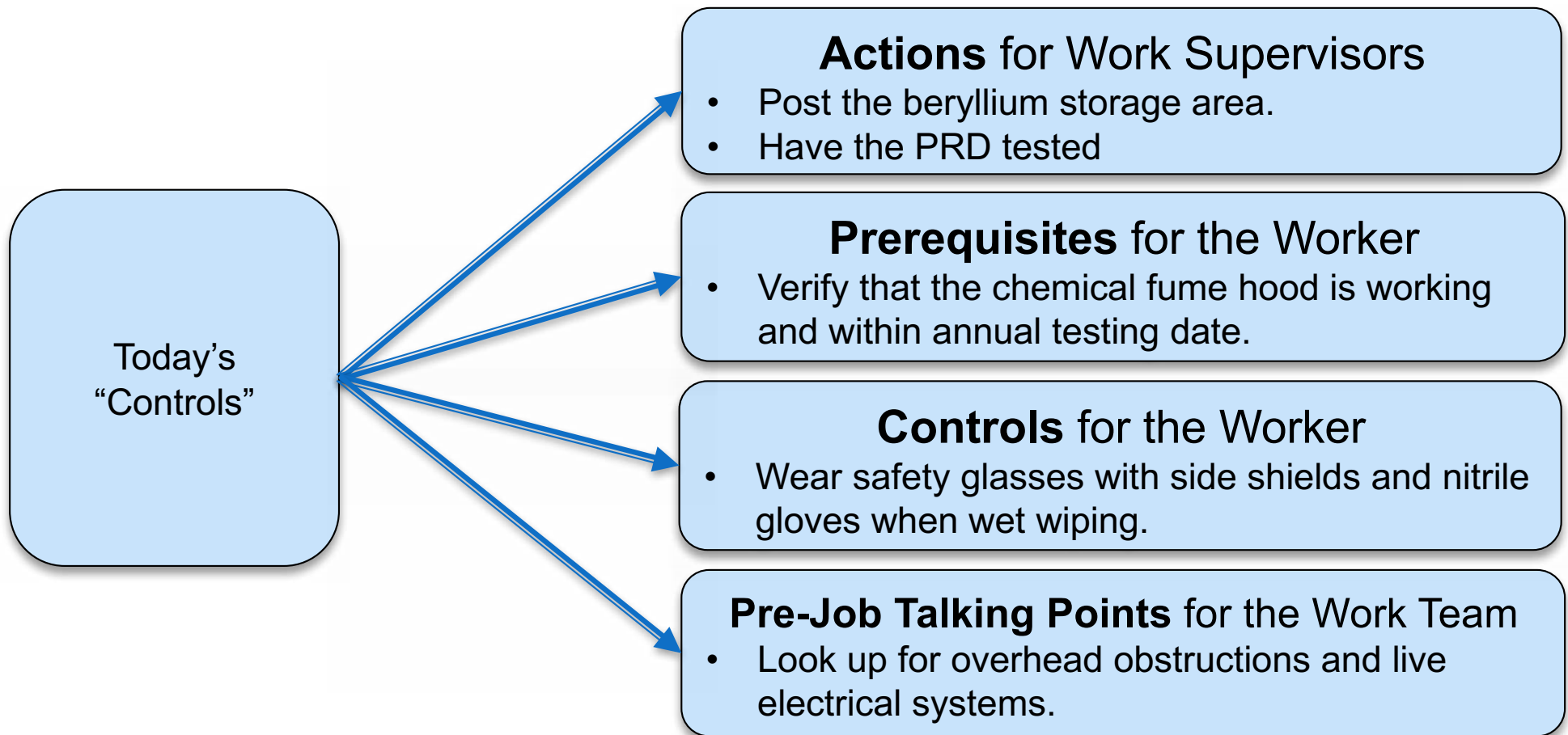
- Set of 15 questions asked very early in the planning process to identify long-lead and high impact items.
- Questions focus on facility safety basis, infrastructure needs, new equipment and materials, environmental impacts

Why?

- Work supervisors often did not understand the requirements to start up new work.

Ensures a complete understanding of what is required to start a new work activity.

A control is not a control is not a control



This thought process informed the layout of our Job Hazard Analysis (JHA) template.

Task-Based Job Hazard Analysis (JHAs)



What?

- Task-level hazard analysis that forms the core of the Work Control Document (WCD).
- Includes bounding conditions, prerequisites, hazards, controls, actions, pre-job talking points, task notes.
- Presents action-based information about a task in a clear, concise format for workers and work supervisors.

Why?

- Workers had to hunt for controls in their work documents.

JHAs form the core of the WCD.

[EXPL02] - Handle explosives; excludes large charges and primary explosives

<p>Task Description:</p> <p>Manually handle contained explosives and/or</p> <hr/> <p>Boundary Conditions, this task does <u>not</u> include:</p> <ul style="list-style-type: none"> Activities requiring respiratory protection (other than voluntary use of an N95). Carrying explosives up and down stairs when not in protective containers. Working with: <ul style="list-style-type: none"> Molten explosives, LEI, and Primary explosives. <hr/> <p>Related PATs: The following hazards were not analyzed in this task, but may be commonly encountered when performing this work:</p> <ul style="list-style-type: none"> [AWCEXPL] - Explosives Work Area [EXPL06] - Prepare an explosives area for new, non-routine work activities <hr/> <p>Task Notes: <i>This is used to document assumptions made during analysis or other technical details.</i></p> <p>**The HE CERT Role must be added to the WCD either as an activity-wide certification or task-level certification before this PAT can be used. **If handling Explosives that are known or suspected to release harmful vapors or particulate (eg. Comp B, TNT, DNT) contact the ES&H team Industrial Hygienist to determine appropriate controls, including the potential need for respiratory protection.</p>	<p>Prerequisites:</p> <ul style="list-style-type: none"> Verify that hand trucks and carts that will be used to move explosives are approved for use with explosives. <ul style="list-style-type: none"> Tag and remove damaged hand trucks and carts from service. Verify that the building weight limit will not be exceeded when explosives are being weighed, packaged, or transferred concurrent with a contact operation in an adjacent cell. <p>First-Aid & Emergency Information:</p> <ul style="list-style-type: none"> None 	<p>Hazard ID / [Risk Level]:</p> <ul style="list-style-type: none"> Assembly/Device/Article - High Energy Initiator Bare Explosives - IHE Bare Explosives - Liquid Bare Explosives - Powder Bare Explosives - Secondary Bare Explosives - Slurry Bare Explosives - Solid Bare Explosives >10mg - <25kg Class II (Moderate Accident Potential) Class III (Low Accident Potential) Containerized Explosives Ergo - Awkward Positions Ergo - Force (Lifting/Pushing/Pulling/Gripping) Ergo - Repetition Explosives Area Pyrotechnic 	<p>Hazards & Environments Aspects:</p> <ul style="list-style-type: none"> Explosives are energetic materials that can react violently and cause personal injury or property damage from unintentional or inadequately controlled ignition or explosion. Explosives may be toxic, with exposure pathways through inhalation of dust or vapor, ingestion or skin contact. Improper handling can result in systemic poisoning or skin irritation. Lifting loads <30 lbs., with occasional lifts up to 50 lbs., several times daily may result in strain/sprain or overexertion injury. Handling may require work in awkward or cramped locations. 	<p>Engineering Controls:</p> <ul style="list-style-type: none"> None <p>Administrative Controls:</p> <ul style="list-style-type: none"> Minimize the handling and drop distance in all manual explosive handling situations. Use proper lifting techniques. <ul style="list-style-type: none"> Use 2 or more people to lift items weighing more than 55 lbs (25 kg). Limit the frequency and duration of manual lifting. Provide adequate recovery time between lifts. Take stretch breaks at least every 30 minutes when tasks require that an awkward posture be maintained, that excessive force (pulling, pushing, lifting, kneeling) be applied, or when using hand tools continuously for greater than 2 hours duration. Clean explosives work areas, equipment, and benchtop work areas at the end of the activity. Wash hands prior to eating, drinking, smoking, or using the restroom facilities. <p>PPE Controls:</p> <ul style="list-style-type: none"> [BMP] Wear nitrile gloves when handling bare explosives. <p>Environmental / Waste Controls:</p> <ul style="list-style-type: none"> None <p>Training Controls:</p> <ul style="list-style-type: none"> WC ERGO AT-RISK WC BACK CARE <hr/> <p>Pre-Approval Actions:</p> <ul style="list-style-type: none"> Contact Explosive Safety Engineer to obtain approval of new hand trucks and carts that will be used to move explosives, and clearly mark equipment as approved. <p>Post-Approval Actions Actions:</p> <ul style="list-style-type: none"> None <p>Ongoing Actions:</p> <ul style="list-style-type: none"> Perform and document annual visual inspection of all hand trucks and carts used to move explosives. <hr/> <p>Pre-Job Talking Points:</p> <ul style="list-style-type: none"> Minimize the handling and drop distance in all manual explosive handling situations. <ul style="list-style-type: none"> Use protective padding around the work area, when feasible, to minimize impact if the item is dropped. Remove trip hazards over the path of travel to minimize impact if the item is dropped. Do not manually handle explosive items that cannot be securely gripped. Use hand trucks or carts when transporting material for long distances, and when the item cannot be securely gripped. Carry explosives up or down stairs only when in protective containers. Verify explosive materials are properly labeled. <ul style="list-style-type: none"> If the explosive material label is missing or unidentifiable, pause work and notify the Supervisor and/or ESE. The explosive material must be identified prior to resuming work. Promptly report any discomfort to your Supervisor. Do not lift if you are experiencing discomfort in your back, neck, arms or legs. Size up the load and make a preliminary lift to ensure it is within your capacity. If the load is beyond your capability, get help or use a mechanical lifting device. Think through the lift before beginning. <ul style="list-style-type: none"> Pre-plan, communicate, and coordinate team lifts. Inspect the load for sharp edges, slivers, and wet or greasy spots. Consider the distance over which the load is to be carried. Inspect the route over which the load is to be carried and remove obstructions and/or clean spills that could cause tripping or slipping. If a number of objects need to be lifted to the same height, use a explosives approved cart to reduce the total distance of each lift. Separate loads into smaller lighter loads and make several trips. Follow proper lifting techniques: <ul style="list-style-type: none"> Lift with large muscles of the legs, not the back. Keep the back straight. Keep the knees approximately shoulder-width apart. Grasp load firmly and hold loads close to the body without extending arms away from the body. Avoid twisting and turning when carrying a load. Set up a cart to reduce the total distance of the lifts for multiple, repetitive lifts.
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[EXPL02] - Handle explosives; excludes large charges and primary explosives

Task Description:

Manually handle contained explosives and/or <55 lbs (25 kg) of bare explosives. Includes lifting and carrying explosives, weighing, measuring, moving with carts or hand trucks, and transfers between containers and processing equipment.

Boundary Conditions, this task does not include:

- Activities requiring respiratory protection (other than voluntary use of an N95).
- Carrying explosives up and down stairs when not in protective containers.
- Working with:
 - Molten explosives,
 - LEI, and
 - Primary explosives.

Related PATs:

The following hazards were not analyzed in this task, but may be commonly encountered when performing this work:

- [AWCEXP1] - Explosives Work Area
- [EXPL06] - Prepare an explosives area for new, non-routine work activities

Task Notes:

This is used to document assumptions made during analysis or other technical details.

"The HE CERT Role must be added to the WCD either as an activity-wide certification or task-level certification before this PAT can be used." "If handling Explosives that are known or suspected to release harmful vapors or particulate (eg. Comp B, TNT, DNT) contact the ES&H team Industrial Hygienist to determine appropriate controls, including the potential need for respiratory protection.

Prerequisites:

- Verify that hand trucks and carts that will be used to move explosives are approved for use with explosives.
 - Tag and remove damaged hand trucks and carts from service.
- Verify that the building weight limit will not be exceeded when explosives are being weighed, packaged, or transferred concurrent with a contact operation in an adjacent cell.

First-Aid & Emergency Information:

- None

Hazard ID / [Risk Level]:

- Assembly/Device/Article - High Energy Initiator
- Bare Explosives - IHE
- Bare Explosives - Liquid
- Bare Explosives - Powder
- Bare Explosives - Secondary
- Bare Explosives - Slurry
- Bare Explosives - Solid
- Bare Explosives >10mg - <25kg
- Class II (Moderate Accident Potential)
- Class III (Low Accident Potential)
- Containerized Explosives
- Ergo - Awkward Positions
- Ergo - Force (Lifting/Pushing/Pulling/Gripping)
- Ergo - Repetition
- Explosives Area
- Pyrotechnic

Hazards & Environments Aspects:

- Explosives are energetic materials that can react violently and cause personal injury or property damage from unintentional or inadequately controlled ignition or explosion.
- Explosives may be toxic, with exposure pathways through inhalation of dust or vapor, ingestion or skin contact. Improper handling can result in systemic poisoning or skin irritation.
- Lifting loads <30 lbs., with occasional lifts up to 50 lbs., several times daily may result in strain/sprain or overexertion injury.
- Handling may require work in awkward or cramped locations.

Engineering Controls:

- None

Administrative Controls:

- Minimize the handling and drop distance in all manual explosive handling situations.
 - Use proper lifting techniques.
 - Use 2 or more people to lift items weighing more than 55 lbs (25 kg).
 - Limit the frequency and duration of manual lifting. Provide adequate recovery time between lifts.
 - Take stretch breaks at least every 30 minutes when tasks require that an awkward posture be maintained, that excessive force (pulling, pushing, lifting, kneeling) be applied, or when using hand tools continuously for greater than 2 hours duration.
 - Clean explosives work areas, equipment, and benchtop work areas at the end of the activity.
 - Wash hands prior to eating, drinking, smoking, or using the restroom facilities.

PPE Controls:

- [BMP] Wear nitrile gloves when handling bare explosives.

Environmental / Waste Controls:

- None

Training Controls:

- WC ERGO AT-RISK
- WC BACK CARE

Pre-Approval Actions:

- Contact Explosive Safety Engineer to obtain approval of new hand trucks and carts that will be used to move explosives, and clearly mark equipment as approved.

Post-Approval Actions Actions:

- None

Ongoing Actions:

- Perform and document annual visual inspection of all hand trucks and carts used to move explosives.

Pre-Job Talking Points:

- Minimize the handling and drop distance in all manual explosive handling situations.
 - Use protective padding around the work area, when feasible, to minimize impact if the item is dropped.
 - Remove trip hazards over the path of travel to minimize impact if the item is dropped.
 - Do not manually handle explosive items that cannot be securely gripped.
 - Use hand trucks or carts when transporting material for long distances, and when the item cannot be securely gripped.
 - Carry explosives up or down stairs only when in protective containers.
- Verify explosive materials are properly labeled.
 - If the explosive material label is missing or unidentifiable, pause work and notify the Supervisor and/or ESE. The explosive material must be identified prior to resuming work.
- Promptly report any discomfort to your Supervisor. Do not lift if you are experiencing discomfort in your back, neck, arms or legs.
- Size up the load and make a preliminary lift to ensure it is within your capacity. If the load is beyond your capability, get help or use a mechanical lifting device.
- Think through the lift before beginning.
 - Pre-plan, communicate, and coordinate team lifts.
 - Inspect the load for sharp edges, slivers, and wet or greasy spots.
 - Consider the distance over which the load is to be carried.
 - Inspect the route over which the load is to be carried and remove obstructions and/or clean spills that could cause tripping or slipping.
 - If a number of objects need to be lifted to the same height, use a explosives approved cart to reduce the total distance of each lift.
 - Separate loads into smaller lighter loads and make several trips.
- Follow proper lifting techniques:
 - Lift with large muscles of the legs, not the back. Keep the back straight.
 - Keep the knees approximately shoulder-width apart.
 - Grasp load firmly and hold loads close to the body without extending arms away from the body.
 - Avoid twisting and turning when carrying a load.
- Set up a cart to reduce the total distance of the lifts for multiple, repetitive lifts.

Pre-Analyzed Tasks (PATs)

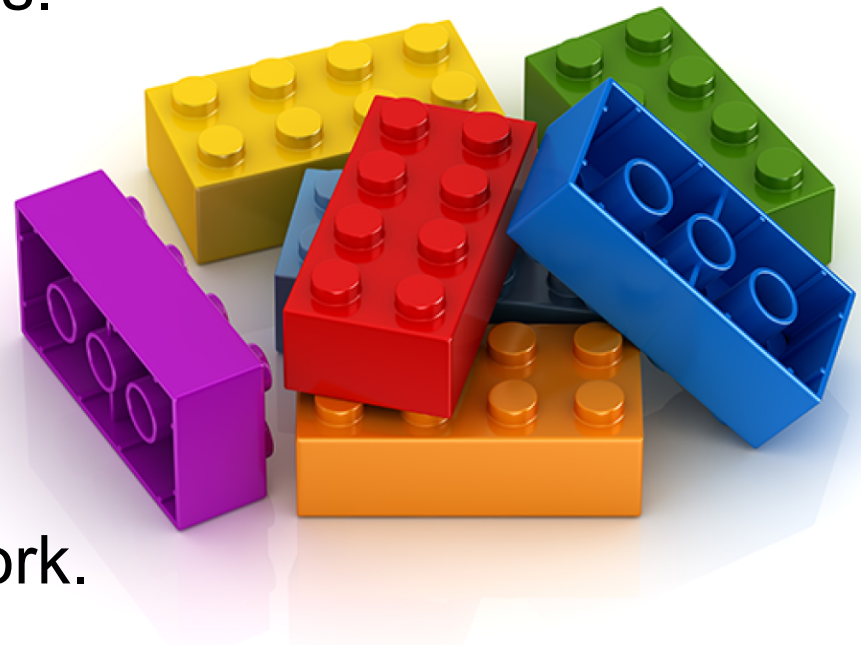


What?

- A well-bounded, ES&H-approved, task-based JHA.
- Includes bounding conditions, prerequisites, hazards, controls, actions, pre-job talking points, task notes.
- 200+ library of approved PATs.

Why?

- The same tasks in different activities did not always have the same controls.
- Significantly improves the efficiency of planning new work.

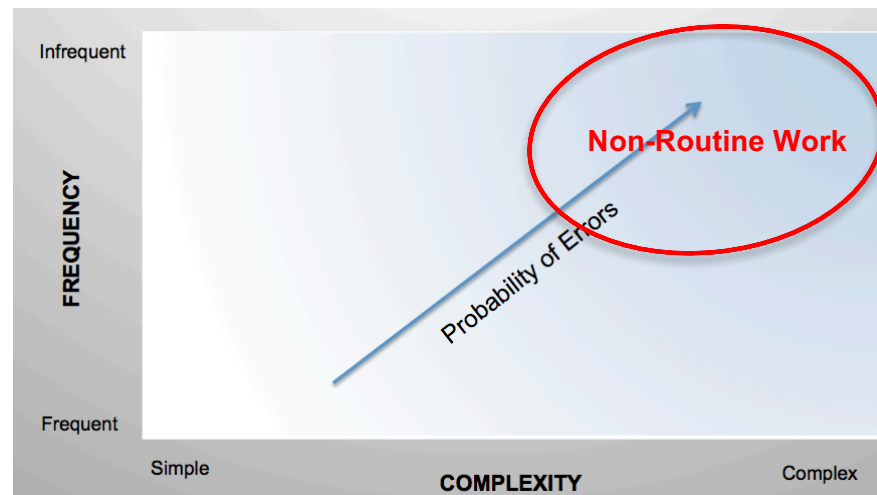


PATs can be used over and over to create new WCDs.

Non-Routine Work

What?

- Work that is unfamiliar to work team, or is performed infrequently, one-time only, or after a significant time-lapse.



Why?

- Planning process inefficiencies drove work supervisors to put on-going and non-routine work into one document.

Non-routine work needs to be planned close in time to execution.

WCD layout needs to support the work



Is the job non-routine or not likely to be performed again?



Work Permit

Is the job on-going, and a bounding WCD is appropriate?



Hazard Control Plan (HCP)

Is the sequence of steps important to safety, quality, or equipment operation?



Work Procedure (WPRO)

Can all work tasks for a work group be bounded completely within a qualification program?



Competent Worker JHA

WCDs are generated in the WP&C Tool via a common planning process.

Approval Levels



What?

- Assigned to each WCD to drive graded review requirements.
- Identifies work activities exempted from the WP&C process.

Why?

- We had no graded approach to reviews.
- Significantly improves the efficiency of planning new work.

Ensures the right reviewers based upon the “uniqueness” of the work activity.

Approval Level	Type of Work	Examples	WCD Required?	Reviewers	Work Release / Pre-Job Brief
4	New or unique Scope/Tasks with highest hazards. Consequence of ineffective performance is significant.	<ul style="list-style-type: none"> -Scale up of chemical reactions to the pilot-plant level -Nuclear facility activities requiring RA/ORR -NIF activities requiring an MPR -New or infrequently used Class IV RGDs -Class IV electrical work -Large-scale D&D projects -Use of laser outdoors 	Yes	Senior Manager w/ Independent Review Team AI RI ESH TL	Required
3	Mix of pre-analyzed and custom tasks, or all custom tasks.	<ul style="list-style-type: none"> -Class 4 laser operations -Use dispersible rad materials in a Type II or III workplace -Performing asbestos remediation -Work with gram quantities of high explosives -High pressure systems or toxic/flammable gas systems 	Yes	AI RI ESH Disciplines SMEs	Required
2	All tasks have been pre-analyzed.	<ul style="list-style-type: none"> -Using solvents and corrosives at the bench-scale -Wipe Cleaning -Machine shop operations with low hazard materials -Use of Class 0, 1 and 2 sealed sources -Class 1 and 2 electrical work -Class I RGD -Low Pressure systems with non-hazardous gases 	Yes	AI RI	Required
1	Work scope and tasks are wholly included within a Competent Worker Qualification.	-Site-Wide Competent Worker Programs (e.g. IT, Material Distribution, Locksmith, Telecom, Custodial, Landscaping)	CW JHA	Payroll Supervisor approves work (through completion of competent worker qualification)	Required
0	Tasks with hazards to which the public is routinely exposed and accepts. Tasks are performed at the same frequencies and durations as would be by a member of the public.	<ul style="list-style-type: none"> -Driving a car or electric cart, bicycling to meetings, walking. -Writing, filing, copying and other office work. -Incidental use of hand tools on non-hazardous materials (hand tools and battery-powered only) -Plugging in commercially-available consumer equipment, such as space heaters, radios, TVs, copiers, scanners. 	N/A	Work is self-authorized, with general knowledge of supervisor.	<p>Workers perform "self-readiness checks"</p> <p>Work is informally released</p>

Planning Teams

What?

- RI and Work Planner form the core.
- A multi-disciplinary approach to developing WCDs, includes the workers, FM, ES&H, and SMEs based upon complexity and hazards.
- Includes job walks to gain an understanding of the work activity, and roundtables to verify adequacy and de-conflict controls.

Why?

- Every ES&H discipline and TL reviewed every work document, regardless.

Ensures the right reviewers based upon the hazards of the work activity.

Worker Task and Training Assignments



What?
















- Workers are assigned to tasks and hazard-based training roles.
- Data interfaces nightly with the LTRAIN system so that the RI can check training status of workers as needed.

Why?

- Work Supervisors need to ensure that workers are current in the training required to perform the work tasks.

Worker training assignments and status are managed in the WP&C Tool.

 Pre-Analyzed Task (PAT)

Worker List	Gen Wrkr	WC HAZ WASTE GEN 	Activity Level CW	Activity Level Qual/Cert	Task 1	Task 2		Task 3	Task 4		Task 5	Task 6					Task 7	Task 8
			CW SITE 300 	HE CERT 		WC ERGO AT-RISK	WC BACK CARE		WC ERGO AT-RISK	WC BACK CARE		WC S300 UNESCORT	WC HE TRANSPORT	WC FIRE EXTINGUISHER	WC ERGO AT-RISK	WC BACK CARE	WC PIT OPR	
CALDEIRA, LEE																		
MERRELL, LEVI																		
VARTANIAN, SPENCER																		
VIRGIN, EDWIN																		

Actions

What?

- Actions the RI must complete to achieve readiness.
- May include procurements, calibrations, postings, AHJ approvals, personnel monitoring, etc.

Why?

- RIs were commencing work prior to being ready.
- Ensures actions are tracked to closure.



Actions aid the Work Supervisor in achieving and maintaining readiness.

Confirming Readiness

What?

- A 22-question checklist that the line manager completes prior to approving a WCD.
- Verifies that planning process was followed, work scope is clear, hazards are identified, controls are in-place, WCD is well written, work area conditions consistent with WCD, and worker and work supervisor readiness.

Why?

- Line managers were not completing a systematic review prior to approving WCDs.

The line manager is the final QC check on the WCD and determines readiness to proceed with work.

AI Activity Approval

AI Approval Checklist

Review the Work Planning Process

Appropriate individuals (RI, representative workers, SMEs, ES&H disciplines, FPOCs) participated in planning.

☐ Yes ☐ No ☐ N/A

A field walk down and/or roundtable was performed to identify tasks, hazards, and environmental aspects.

☐ Yes ☐ No ☐ N/A

Relevant lessons learned were considered.

☐ Yes ☐ No ☐ N/A

All work screening and pre-approval actions are complete. 

☐ Yes ☐ No ☐ N/A


Review the Work Scope

The scope is clear, complete and accurately describes and bounds (equipment, materials, quantities, conditions, locations) the work.

☐ Yes ☐ No ☐ N/A

The tasks are discrete, discernible, sufficient to accomplish the work scope, bounded, and described with sufficient detail and clarity to allow proper identification of hazards.

☐ Yes ☐ No ☐ N/A

The work can be performed within the facility safety envelope, and impacts to configured systems are clearly identified. 

☐ Yes ☐ No ☐ N/A

Acceptance criteria are identified when appropriate. 

☐ Yes ☐ No ☐ N/A

Review the Hazards & Controls

The hazards and environmental aspects have been properly identified, including those resulting from hazard evaluations (e.g. What-If Checklist Analysis), potential error-likely situations, manufacturer's recommendations, and work location. Elimination and/or substitution were considered to reduce the hazards.

☐ Yes ☐ No ☐ N/A

The appropriate controls have been selected for each hazard and environmental aspect, and are in-place and functional. Note: Controls must reflect the results of evaluations of credible unexpected events, potential error-likely situations, manufacturer's recommendations, and work location/facility requirements.

☐ Yes ☐ No ☐ N/A


There is not an over-reliance on administrative controls and PPE, and PPE is specifically described, available in sufficient quantities, serviceable, and properly stored.

☐ Yes ☐ No ☐ N/A

Medical surveillances and certifications are assigned, and workers are current. (Confirm at the following url: [Medical Surveillance](#))

☐ Yes ☐ No ☐ N/A

Review the Work Control Document

Cautions, warnings, notes, hold points, verification points, etc., are properly identified. 

☐ Yes ☐ No ☐ N/A

Required work documents are identified, are included, attached, or referenced, and are current, approved (not in draft), and accessible to workers.

☐ Yes ☐ No ☐ N/A

Approval Level-3 and -4 work control documents are verified to have accurate tasks, hazards, and controls (denoted through SME and ES&H discipline concurrence).

☐ Yes ☐ No ☐ N/A

Set Review Frequency

Review Frequency

☐ 3-Years ☐ 2-Years ☐ 1-Year

 Approved

 Reject

¹ Consider the following when determining whether worker training, qualification, and readiness support the safe performance of work:

- Workers have been assigned to tasks.
- Workers are current in their required training. Note: If workers' training is incomplete or not current, the RI has made provisions to work under direct supervision of a properly trained individual while performing those specific work activities.
- Workers demonstrate knowledge of the configuration and proper operation of equipment.
- Workers demonstrate knowledge of the work scope and hazards, and the controls required to operate safely under normal, abnormal, and emergency conditions.
- Workers understand the set of documents that constitute the work package.
- Workers understand the Safety Pause and Stop Work Policy and exhibit a willingness to pause or stop work if required.
- Workers exhibit a commitment to their own safety and the safety of their work team.
- Workers exhibit a willingness to provide feedback for improvement.
- Workers know who is responsible for managing the work activities both when the RI is present and not present.

² Consider the following when determining whether RI/Alt RI training, qualification, and readiness support the safe performance of work:

- The RI and Alternate RI are qualified to perform their role.
- The RI has designated a qualified work lead to direct the work activity in their absence, and communicated to workers.
- The work lead is qualified for their role and understands their responsibilities when the RI is absent.
- The RI and work lead have a process to identify workers with incomplete or expired training, and ensure that they are not assigned those tasks and/or work under direct supervision of a properly trained individual while performing those tasks.
- The RI has established a mechanism to monitor work to ensure it remains within scope, and that controls, including procedure compliance, remain adequate and implemented.
- The RI facilitates open communication with the work team regarding safety and work concerns, and encourages reporting of errors and good catches to improve safety.
- The RI actively seeks relevant lessons learned to share with the work team.
- The RI has a mechanism in place to track safety-related problems and deficiencies to closure.
- The RI understands how to conduct an effective daily pre-job brief after ensuring that work is released each day.
- For work in which workers join the work activity throughout the day, the RI has established a process to ensure that workers are properly trained and qualified for the work activity.

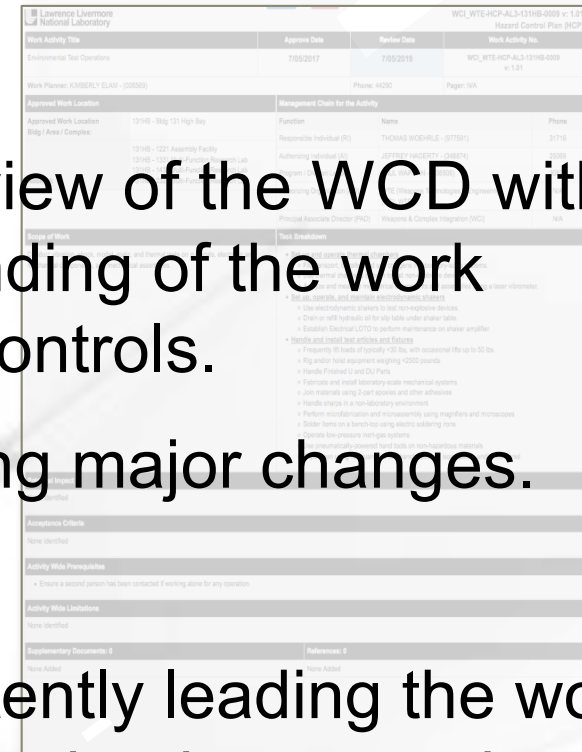
Pre-Start Reviews

What?

- A documented, comprehensive review of the WCD with the work team to ensure understanding of the work scope, boundaries, hazards, and controls.
- Required for new work and following major changes.

Why?

- Work Supervisors were not consistently leading the work team through a discussion of the work prior to starting new work or following major changes.



Pre-start reviews ensure the work team understands the work boundaries.

Scheduling & Releasing Work

What?

- A single, Lab-wide web application, the Facility Activity Schedule (FAS) used by work supervisors to schedule work, and Facility Managers to de-conflict and release work.
- Differentiates non-routine from on-going, work can be released, conditionally released, and unreleased.

Why?

- We had no common process for workers to know whether their work was released, which caused confusion for most site-wide service workers.

Work Scheduling & Release is performed consistently using the Facility Activity Schedule.

Pre-Job Briefs

What?

- Gets workers on the same page, and ensures –
 - The WORK AREA is ready
 - The WORK is ready,
 - And the WORKERS are ready.
- Talking Points are developed during the planning process to aid the RI in their pre-job briefings.

Why?

- Pre-Job Briefs are the primary work team meeting to ensure execution of work goes as planned.

Pre-Job Briefs are one of the key routine work team meetings to ensure execution of work goes as planned.

Talking Points & Notes

General Talking Points

☐

Task Based Talking Points

Prepare explosives or mock explosives for pressing.

- ☐ Follow proper lifting techniques:
 - ☐ Avoid twisting and turning when carrying a load.
 - ☐ Grasp load firmly and hold loads close to the body without extending arms away from the body.
 - ☐ Keep the knees approximately shoulder-width apart.
 - ☐ Lift with large muscles of the legs, not the back. Keep the back straight.
- ☐ Minimize the handling and drop distance in all manual explosive handling situations.
 - ☐ Carry explosives up or down stairs only when in protective containers.
 - ☐ Do not manually handle explosive items that cannot be securely gripped.
 - ☐ Remove trip hazards over the path of travel to minimize impact if the item is dropped.
 - ☐ Use hand trucks or carts when transporting material for long distances, and when the item cannot be securely gripped.
 - ☐ Use protective padding around the work area, when feasible, to minimize impact if the item is dropped.
- ☐ Promptly report any discomfort to your Supervisor. Do not lift if you are experiencing discomfort in your back, neck, arms or legs.
- ☐
- ☐ Set up a cart to reduce the total distance of the lifts for multiple, repetitive lifts.
- ☐ Size up the load and make a preliminary lift to ensure it is within your capacity. If the load is beyond your capability, get help or use a mechanical lifting device.
- ☐ Think through the lift before beginning.
 - ☐ Consider the distance over which the load is to be carried.
 - ☐ If a number of objects need to be lifted to the same height, use a explosives approved cart to reduce the total distance of each lift.
 - ☐ Inspect the load for sharp edges, slivers, and wet or greasy spots.
 - ☐ Inspect the route over which the load is to be carried and remove obstructions and/or clean spills that could cause tripping or slipping.
 - ☐ Pre-plan, communicate, and coordinate team lifts.
 - ☐ Separate loads into smaller lighter loads and make several trips.
- ☐ Verify explosive materials are properly labeled.
 - ☐ If the explosive material label is missing or unidentifiable, pause work and notify the Supervisor and/or ESE. The explosive material must be identified prior to resuming work.

Wipe clean explosives and explosives-contaminated equipment or tools

- ☐ Perform transfers of flammable solvents away from ignition sources.
- ☐ Remember to check solvent compatibility with explosives.

Apply vacuum to bag of explosives or mock explosives.

- ☐ Ensure valve is opened slowly to avoid pulling the filter loose and unintentionally spilling explosives powder.
- ☐ Follow work instructions to pack each bag properly prior to applying vacuum.

Press heated explosives or mock using an isostatic press.

- ☐ Confirm the PRD is within certification. Do not use system if PRD is out of certification.

Attendee List

Role	Employee	Phone
<input type="checkbox"/> WPC_WRKR	HULSEY, DAVID N	43978
<input type="checkbox"/> EXPLSFTY	MERRILL, KEVIN R	30235
<input type="checkbox"/> TECH	RASCH, DIANE M	26119
<input type="checkbox"/> WPC_WRKR	TOON, GERALD L	35266
<input type="checkbox"/> WPC_WRKR	VANDER VEEN, PAUL S	35266
<input type="checkbox"/> WPC_WRKR	WILSON, JERRY D	35266
<input type="checkbox"/> WPC_RI	WILSON, JERRY D	35266



Disciplined Operations

What?

- Performing each task the right way every, time within the WCD boundaries, and stopping or pausing when work can't be performed as planned.

Why?

- The Lab's culture of disciplined operations needed improvement.



Disciplined operations is a key to ensuring safe operations.

Feedback & Improvement

What?

- A process to obtain and manage feedback from work team and planning team members as work progresses.
- Maintains a history of all feedback for the life of the WCD.

Why?

- We had no easy process for work team members to provide feedback for an activity.



Formalizing the feedback process builds accountability.

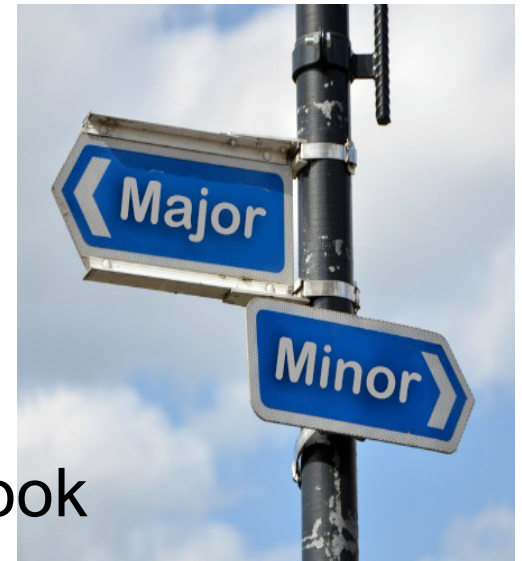
Change Control

What?

- Proposed changes receive the necessary level of review, but not more -
 - Some changes can be done directly by the Work Supervisor,
 - others require Work Planner concurrence,
 - others require Line Manager approval, and
 - some require reconvening the Planning Team.

Why?

- We had no graded approach, so many simple changes were over-reviewed and took much too long.



Reasons for change are tracked to measure proactive versus reactive changes, indicators of how well WCDs are being maintained.

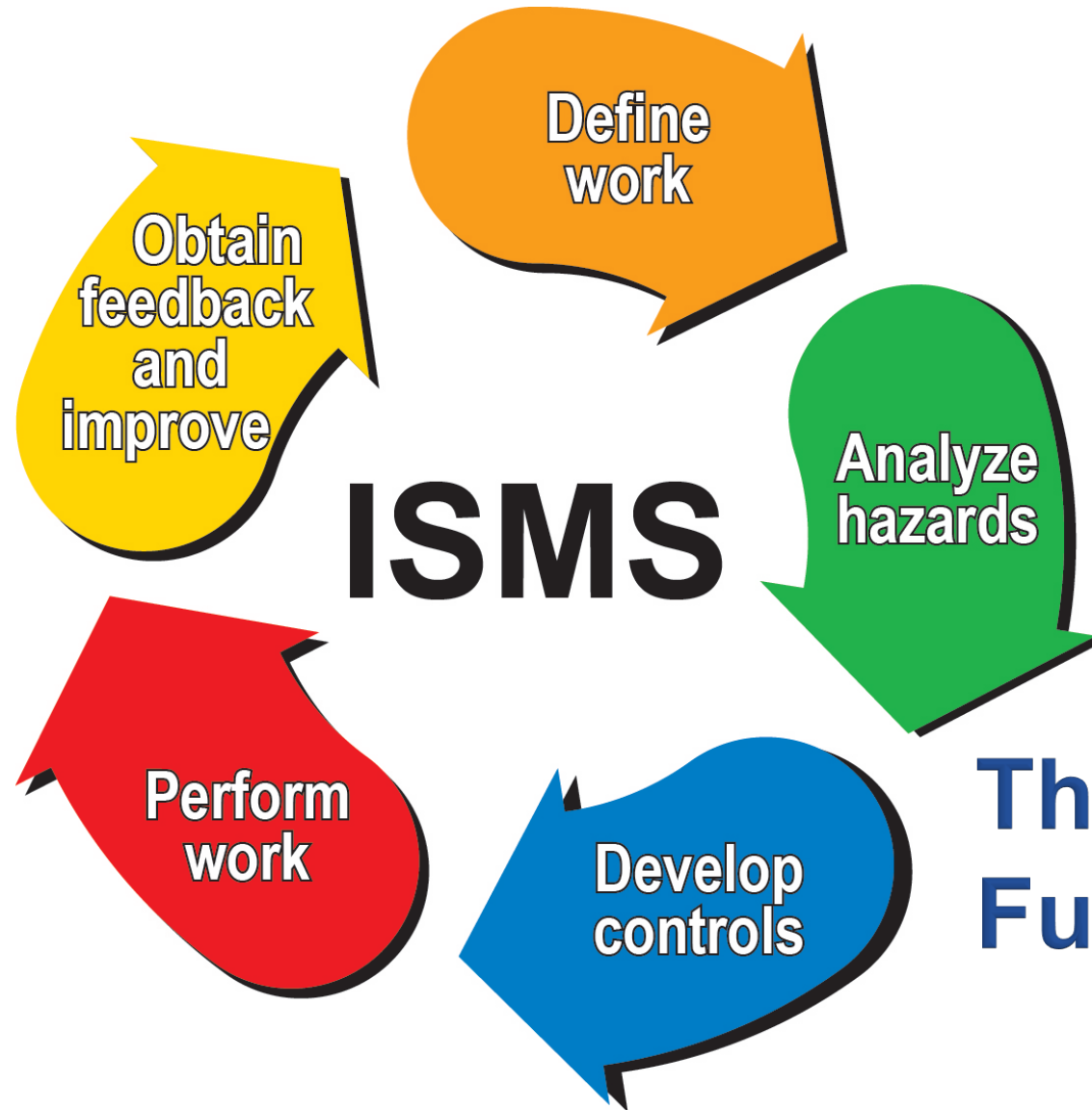
Document Change



Identify Reason for Change - (Check all that apply)

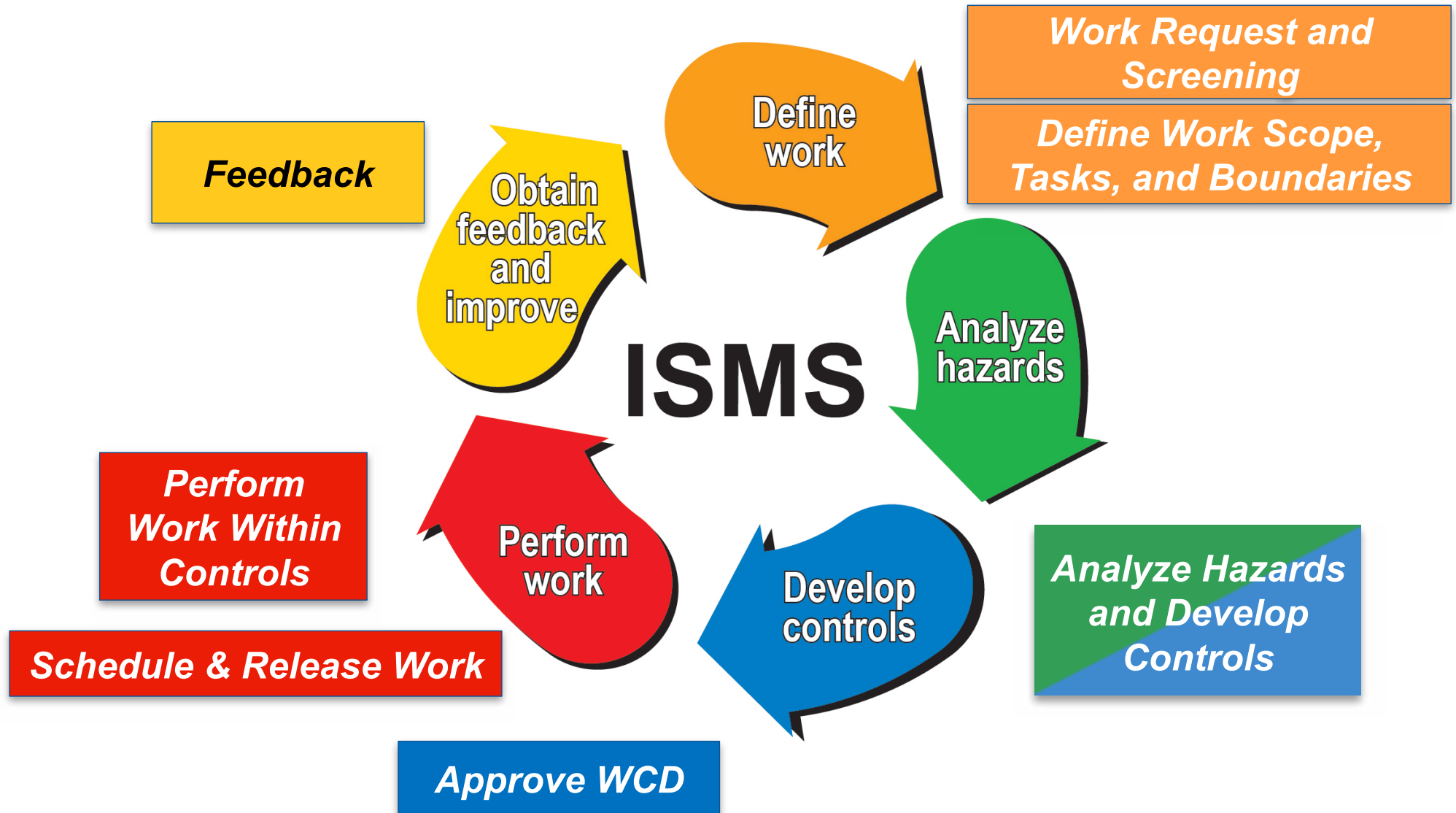
- ☐ Management Change
- ☐ Adding or Removing a Location
- ☐ New or Reduced Scope
- ☐ Work not completed within approved timeframe
- ☐ Scope not correctly identified
- ☐ Tasks not correctly identified
- ☐ Hazard not correctly identified
- ☐ Control not correctly identified
- ☐ Updating Attachments
- ☐ Worker Feedback
- ☐ Post-Job Review
- ☐ Lessons Learned from similar activity
- ☐ Off-Normal Event
- ☐ Work Pause / Stop Work
- ☐ Policy / Requirements Change
- ☐ Poorly written controls
- ☐ Poorly written prerequisites
- ☐ Procedure or instruction cannot be performed as written

WP&C is the implementation of ISM at the activity-level

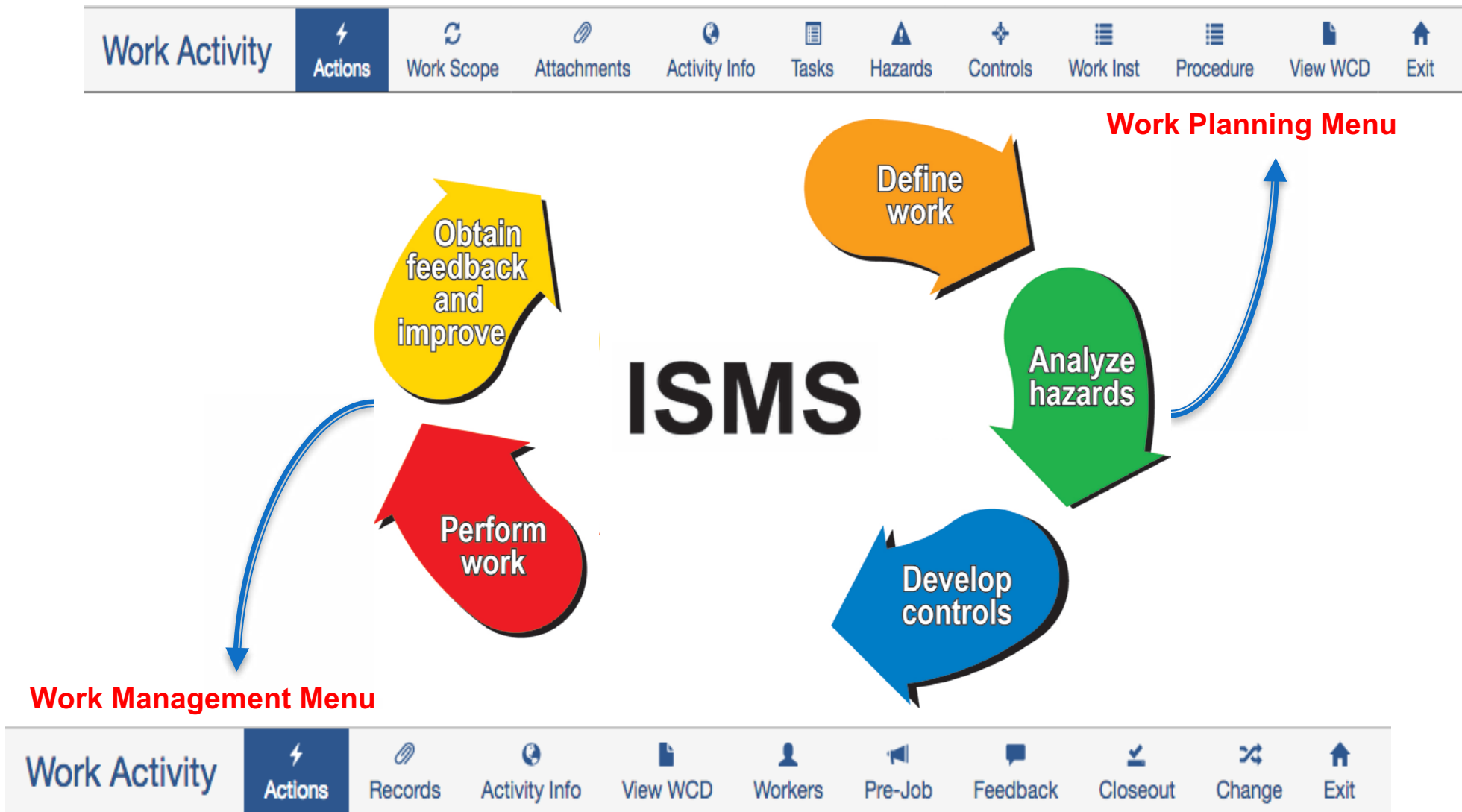


The 5 ISM Core Functions...

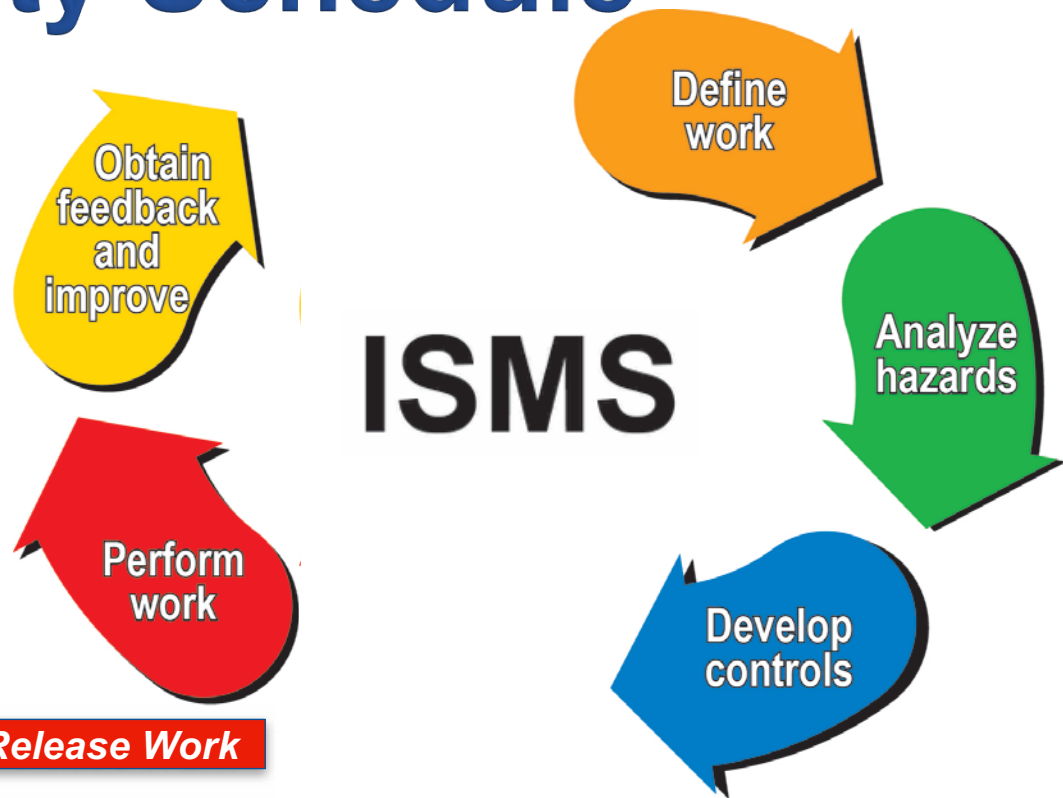
...map to these steps in the WP&C Process...



...which are integrated in the WP&C Tool...



...and the Facility Activity Schedule



Schedule & Release Work

Facility Activity Schedule

Filter

FM Prefs

Legend

User Guide

FM Banner

WP&C Tool

Logout

Filter: Select a Saved or Preset Filter

Clear Filter

Help - ServiceNow

Welcome Lisa M. Woodrow

< Oct 30, 2017 thru Nov 08, 2017 >

Non-Routine Activities FILTER: Site: S300 | Area: Engineering Test Area

Export

Release Non-Routine Work

Ongoing Activities FILTER: Site: S300 | Area: Engineering Test Area

Export

Release Ongoing Work

Facility Activity Schedule

Filter FM Prefs Legend User Guide FM Banner WP&C Tool Logout

Filter: Select a Saved or Preset Filter

Clear Filter

Help - ServiceNow
Welcome Lisa M. Woodrow

< Oct 30, 2017 thru Nov 08, 2017 >

Non-Routine Activities FILTER: Site: S300 | Area: Engineering Test Area

Export

Release Non-Routine Work

Show 10 entries Display: All

Search:

	Mon 30 Oct	Tue 31 Oct	Wed 01 Nov	Thu 02 Nov	Fri 03 Nov	Sat 04 Nov	Sun 05 Nov	Mon 06 Nov	Tue 07 Nov	Wed 08 Nov	RI / PIC	Doc Type	Work No	Activity Title	Expire Date (YYYY-MM-DD)	Facility	Rooms / RRP	WS	Comments
		X									cornell5	IWS_S300	16656.03	Science & Technology IT Support (S&T) and Network Daily Activities	2015-11-08	836A			Walk area with Scott Dossey / ...
		X									court1	FI_SW	PW00669307-(EN)	HAVE S300 ELECTRICIANS LOOK AT THE GROUNDING SYSTEM AT 836 AND FIGURE OUT THE SINGLE POINT GROUNDING.	N/A	836A	NA / N/A		
	X	X	X	X	X	X	X	X	X	X	cunningham6	FI_SW	PW00522235-(MM)	DRAIN COMPRESSOR CONDENSATE AT ERD TREATMENT UNITS.	N/A	832A	o/s / N/A		
		X	X	X				X			garcia29	FI_SW	PW00786032-(AL)	SECURITY ALARM INSTALL	N/A	834E	100 / wassenberg1		
	X	X	X	X		X	X	X	X	X	hachmann1	IWS_S300	11297.05	Ship, receive, store, and transport of Controlled Materials	2018-06-24	832A			
				X							kiefer5	AD_HOC	AH-1509041406	RAMP Roof Design Walk	N/A	832A	832A_OUTSIDE / N/A;832A_ROOF / ...		Technical Assurance design sit...
			X	X							pires1	AD_HOC	AH-1509031414	DELIVER PANEL SCHEDULES	N/A	834A			
		X									pittson1	AD_HOC	AH-1509409298	Fix bad network circuit	N/A	834A	103 / wassenberg1		
		X									shearer9	IWS_S300	18822.01	PMEC Project Managers & Engineers Onsite Visits of Facility Systems/Components	2017-10-19	834E			Covolo to inspect security ala...
	X	X	X	X				X	X	X	vartanian1	WP	WCI_WTE-WP-AL3-834CPX-0001	Operate New Thermal Conditioning Units and Environmental Chambers for Testing	2018-09-18	834E	100 / wassenberg1		

Showing 1 to 10 of 20 entries

Previous 1 2 Next

Ongoing Activities FILTER: Site: S300 | Area: Engineering Test Area

Export

Release Ongoing Work

Show 10 entries Display: All

Search:

	Mon 30 Oct	Tue 31 Oct	Wed 01 Nov	Thu 02 Nov	Fri 03 Nov	Sat 04 Nov	Sun 05 Nov	Mon 06 Nov	Tue 07 Nov	Wed 08 Nov	RI / PIC	Doc Type	Work No	Activity Title	Review Date (YYYY-MM-DD)	Facility	Rooms / RRP	WS	Comments
	X	X	X	X				X	X	X	faria8	IWS	11340.06	ERD B843 Machine Shop and Equipment Decontamination Operations at Site 300	2018-06-05	843A			
	X	X	X	X				X	X	X	faria8	IWS	11340.06	ERD B843 Machine Shop and Equipment Decontamination Operations at Site 300	2018-06-05	843B	100 / wassenberg1		
	X	X	X	X				X	X	X	trammell1	IWS	11346.05	ERD Site 300 Removal/Replacement of Spent Aqueous and Vapor-Phase Granular Activated Carbon (GAC)	2018-06-16	835			
	X	X	X	X				X	X	X	trammell1	IWS	11346.05	ERD Site 300 Removal/Replacement of Spent Aqueous and Vapor-Phase Granular Activated Carbon (GAC)	2018-06-16	843A			
	X	X	X	X				X	X	X	jensen28	IWS	15395.05	DTED Operations at Site-300 for Explosive and Non-Explosive Testing	2018-09-07	834A			

What will success look like?

- WCDs have clear scopes of work and task boundaries
- WCDs clearly and concisely communicate hazards, prerequisites, and controls
- Controls are consistent for similar tasks
- A consistent method of work release is used site-wide
- Personnel are efficiently and effectively planning and performing work
 - RIs spend their time managing work and creating a disciplined culture
 - Workers pause/stop work when necessary
 - ES&H resources spend their time reviewing higher risk work, and helping get the work done safely

**WP&C is viewed as supporting the safe performance of work,
rather than a hoop to jump through**

What's our overall status?

- The Site-Wide Service Provider WP&C process is developed and implemented.
 - All Competent Worker Qualifications for service providers are complete and workers are qualified.
- Work is now scheduled and released on the Facility Activity Schedule.
- All LLNL PADs/ADs are now transitioning IWSs into the new process and Tool
 - Some directorates have only transitioned a handful of documents.
 - Several small directorates will have completely transitioned into the new process by the end of the calendar year.
 - No new IWSs will be generated as of October 1st (excludes procured services work).

It will take ~3 years to fully transition all existing WCDs for mission work.

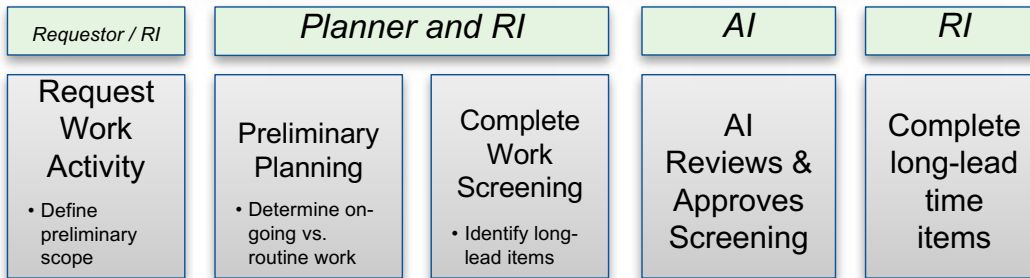


THE TOOL

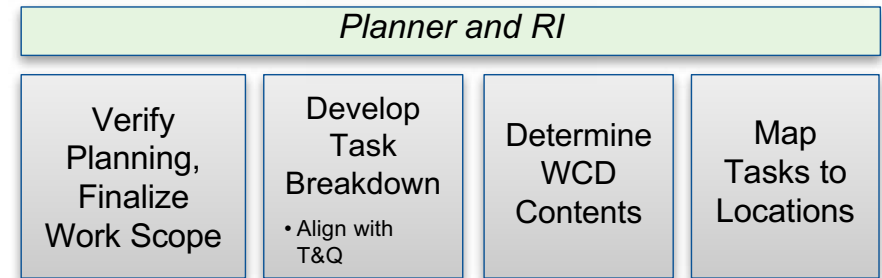
THE TOOL

The WP&C Process

Work Request and Screening

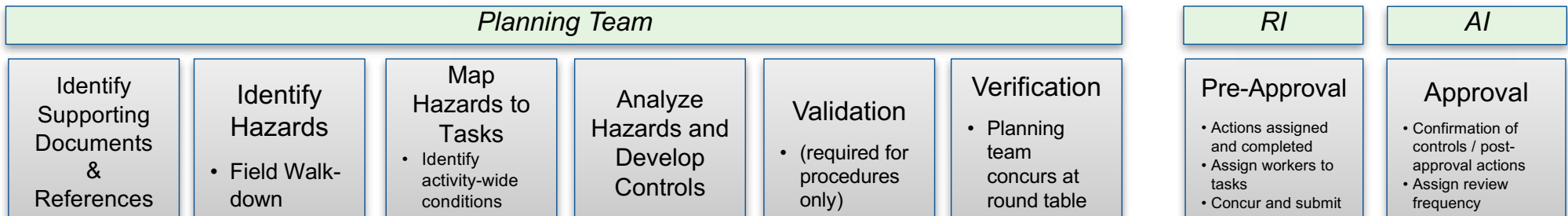


Define Work Scope, Tasks, and Boundaries



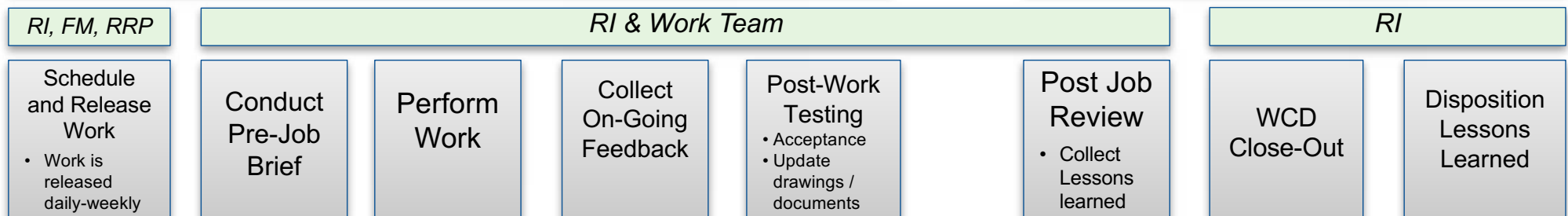
Analyze Hazards and Develop Controls

Approve Work Control Doc.



Perform Work Within Controls

Feedback



Tool Dashboard



My Pending Actions

No actions pending

WP&C Roles

WPC Role	Org	
WPC AI (WPC_AI)	LLNL Institution	
WPC Super Administrator (WPC_SA)	LLNL Institution	

My WP&C Training

No Training Listed

My Documents

My Work Folders

All Documents

Comp Wrkr JHAs

Show 10 entries

Search: [Export to Excel](#)

		WCD#	Doc Status	Version	Work Title	Authorizing Org	Site	Work Area/Bldg	Review/Expires	RI	AI	Planner
		NIF_DODT-HCP-AL3-391-0012	Approval	1.00	Advanced Diode Application Lab	NIF_DODT	SITE 200	391	N/A	boisselle1	campbell34	geraci1
		NIF_DOPS-HCP-AL2-NIFSCICPX-0001	Approval	1.00	Directorate Logistics Support in the NIF&PS Complex	NIF_DOPS	SITE 200	NIFSCICPX	N/A	johnson57	quivey1	geraci1
		NIF_NIFF-HCP-AL3-391-0010	Approval	1.00	NIF Target Diagnostics Laser Lab	NIF_NIFF	SITE 200	391	N/A	piston1	datte1	geraci1
		OB_FICEN-HCP-AL2-519-0002	Approval	1.00	Heavy Equipment Mechanic's Shop Helper	OB_FICEN	SITE 200	519	N/A	hirschhorn1	bailey14	diniz1
		OB_FIDEPL-WP-AL3-314-0001	Approval	1.00	[PW00762039] - REPAIR STEAM PIPING LEAK RM. 2010.	OB_FIDEPL	SITE 200	314	N/A	pino5	adams7	briggs9
		PLS_NACS-HCP-AL3-282-0002	Approval	1.00	B282 SEM with EDS and Optical Sample analysis .	PLS_NACS	SITE 200	282	N/A	dai1	sutton18	holte1
		WCI_WTE-HCP-AL3-131HB-0004	Approval	1.00	Pressure Test Vessel Operations	WCI_WTE	SITE 200	131HB	N/A	hood10	rocha5	elam5
		WCI_WTE-WP-AL2-131HB-0007	Approval	1.00	Test and Monitor Widetronix Betavoltaic-Enabled Sensor Test Platform	WCI_WTE	SITE 200	131HB	N/A	luedtka2	rocha5	elam5
		ENG_CED-HCP-AL3-141-0001	Approved	1.00	Optical ptychography experimental data acquisition	ENG_CED	SITE 200	141	2020-07-21	kallman1	chang16	tarte1
		ENG_MED-HCP-AL3-231-0001	Approved	1.00	Gearbox Torque Measurement Apparatus	ENG_MED	SITE 200	231	2020-05-31	jensen16	haslam2	tarte1

Showing 1 to 10 of 314 entries

Request ✓

Screening - Not Active ✓

Planning ✓

Review

Pre-Approval

Approval

Title: RHWB Field Technician Services - S200

Pending Items 7

📄 Submit for Pre-Approval

WCD#: WCI_RHWB-HCP-AL3-S200-0010 v. 1.00

⚡ Actions ?

Review 7

Pre-Approval 0

Post-Approval 0

Ongoing 0

Review Actions

➕ Add New Action

Status	Title (400 Character Limit)	Action Role	Assigned To	Date Assigned	Assigned By	Notes (1000 Character Limit)
Version: 1.00						
🔁	Review of Work Activity Request	ENVIR	bekele1	11/02/2017	sylva3	
🔁	Review of Work Activity Request	FIREPRO	deleyos2	11/02/2017	sylva3	
🔁	Review of Work Activity Request	HLTHPHYS	galicia2	11/02/2017	sylva3	
🔁	Review of Work Activity Request	INDHYG	west45	11/02/2017	sylva3	
🔁	Review of Work Activity Request	INDSFTY	cooper85	11/02/2017	sylva3	
🕒	Review of Work Activity Request	HLTHPHYS	hopponen1	11/02/2017	sylva3	Included "containerized" as a form of nondispersible radioactive material. Attempted to remove "Fixed contamination", this would refer to objects and items which are contained within containers (parcels). This fixed may be a carryover from s300, specifically CFF Chamber which is a fixed contamination area. Please remove "Fixed contamination".
🕒	Review of Work Activity Request	WPC_PLANNER	sylva3	11/02/2017	sylva3	
✓	Review of Work Activity Request	BIOSFTY	warner20	11/02/2017	sylva3	
✓	Review of Work Activity Request	ELECSFTY	green7	11/02/2017	sylva3	
✓	New Work Activity for Planning	WPC_PLANNER	sylva3	7/20/2017	sylva3	

Request ✓

Screening - Not Active ✓

Planning ✓

Review

Pre-Approval

Approval

Title: RHWM Field Technician Services - S200

Pending Items 7

Submit for Pre-Approval

WCD#: WCI_RHWM-HCP-AL3-S200-0010 v. 1.00

Work Scope

General Information

Planning Team








Approval Level



General Work Activity Information ?

Work Activity Title * Required (250 character limit)

RHWM Field Technician Services - S200

Work Scope * Required

Save  **B** *I* U Ω      

Inspect, handle, package, and transport non-hazardous, hazardous, radioactive, and mixed waste streams in support of site-wide programmatic work. Includes performing routine maintenance on equipment (e.g., pumps, vacuum tankers).

This activity has Restricted Access * Required

☐ Yes ☒ No

Is This Ongoing Work?

☒ Yes ☐ No

Est. Start Date

mm/dd/yyyy



Will this activity be a Procedure?

☐ Yes ☒ No

Will this activity require a Work Instruction?

☐ Yes ☒ No

Responsible Individual (RI) * Required

gaston2 - CHARLES GASTON (007874)



Alternate RI (ALT_RI)

Search for Alt RI by our...

Click to Add

Authorizing Individual (AI)

wolf2 - JOHN WOLF (005237)



Program / Division Leader

pellette2 - PHILIP PELLETTE (006565)



Authorizing Organization (AO) * Required

WCI OPS => RHWM - (WCI_RHWM)

Site-Wide Locations

☐ LLNL☒ Site 200☐ Site 300

Request ✓

Screening - Not Active ✓

Planning ✓

Review

Pre-Approval

Approval

Title: RHWM Field Technician Services - S200

Pending Items 7

📄 Submit for Pre-Approval

WCD#: WCI_RHWM-HCP-AL3-S200-0010 v. 1.00

🔄 Work Scope

General Information

Planning Team

Approval Level

Planning Team ?

Work Concur	Add to Pre-Job	Location	Role Description	Role Code	Employee	
	<div><div>+</div><div>-</div></div>					
<input type="checkbox"/>	<input type="checkbox"/>	N/A	Biological Safety Officer	BIOSFTY	WARNER, JOHN - (warner20)	✕
<input type="checkbox"/>	<input type="checkbox"/>	N/A	Electrical Safety	ELECSFTY	GREEN, RICHARD - (green7)	✕
<input type="checkbox"/>	<input type="checkbox"/>	N/A	Environmental	ENVIR	BEKELE, YONAS - (bekele1)	✕
<input type="checkbox"/>	<input type="checkbox"/>	N/A	Fire Protection	FIREPRO	DELEYOS, ROBERT - (deleyos2)	✕
<input type="checkbox"/>	<input type="checkbox"/>	N/A	Health Physics	HLTHPHYS	GALICIA, ERIC - (galicia2)	✕
<input type="checkbox"/>	<input type="checkbox"/>	N/A	Health Physics	HLTHPHYS	HOPPONEN, CHAD - (hopponen1)	✕
<input type="checkbox"/>	<input type="checkbox"/>	N/A	Industrial Hygienist	INDHYG	WEST, ELAINE - (west45)	✕
<input type="checkbox"/>	<input type="checkbox"/>	N/A	Industrial Safety	INDSFTY	COOPER, SCOTT - (cooper85)	✕
<input type="checkbox"/>	<input type="checkbox"/>	N/A	WPC Planner	WPC_PLANNER	SYLVA, LEAH - (sylva3)	✕
<input type="checkbox"/>	<input type="checkbox"/>	N/A	WPC Responsible Individual	WPC_RI	GASTON, CHARLES - (gaston2)	✕
<input type="checkbox"/>	<input type="checkbox"/>	N/A	WPC Worker	WPC_WKR	SIFUENTES, EFREN - (sifuentes2)	✕

Sitewide location roles are not available.
Please select personnel, assign role, and press "Add Person & Role".

Select Role

Select Role...

Add Personnel Not Listed in Facility Roles

Search for employee by oun...

➕ Add Person & Role

Planning Notes

➕ Add New Row

Request ✓

Screening - Not Active ✓

Planning ✓

Review

Pre-Approval

Approval

Title: RHWM Field Technician Services - S200

Pending Items

7

Submit for Pre-Approval

WCD#: WCL_RHWM-HCP-AL3-S200-0010 v. 1.00

Work Scope

General Information

Planning Team

Approval Level

Approval Level

This Work Activity will not be used!

Archive Work Activity

Activity Approval Level	Description	Examples	WCD Required?	Reviewers
AL4	New or unique Scope/Tasks with highest hazards. Consequence of ineffective performance is significant.	<ul style="list-style-type: none">Scale up of chemical reactions to the pilot plant levelNuclear facility activities requiring RA/ORRNIF activities requiring an MPRNew or infrequently used Class IV RGDsClass 4 electrical workLarge scale D&D projectsUse of a laser outdoors	Yes	<ul style="list-style-type: none">Senior Manager w/Independent Review TeamAIRIES&H TL
AL3	Mix of pre-analyzed and custom tasks, or all custom tasks.	<ul style="list-style-type: none">Working in permit required confined spacesUsing dispersible radioactive materials in a Type II or III workplacePerforming asbestos remediationWorking with large charges of explosivesOperating high pressure systems or toxic/flammable gas systems	Yes	<ul style="list-style-type: none">AIRIES&H Disciplines
AL2	All tasks have been pre-analyzed	<ul style="list-style-type: none">Wipe cleaning with ethanol, methanol, acetone, and isopropanol.Machine shop operations with low hazard materialsUse of Class 0, I and II sealed sourcesClass 1 and 2 electrical work performed by programmatic personnelIdentifying materials with a tube-based Class II radiation generating deviceUsing low pressure systems with nonhazardous gases	Yes	<ul style="list-style-type: none">AIRI
AL1	Work scope and tasks are wholly included within a Competent Worker Qualification.	<ul style="list-style-type: none">Site Wide Competent Worker Programs (e.g. IT, Material Distribution, Locksmith, Telecom, Custodial, Landscaping)/li>Class 1, 2, and 3 electrical work performed by electricians qualified as Trade Competent Workers/li>Field electronics technician support wholly within the Competent Electrical Worker program	Qualification package per worker	Competent worker qualification is developed by a preparer, and approved by a Cognizant Approval Authority, both knowledgeable of the activities of the work group.

Request ✓

Screening - Not Active ✓

Planning ✓

Review

Pre-Approval

Approval

Title: RHWM Field Technician Services - S200

Pending Items 7

Submit for Pre-Approval

WCD#: WCI_RHWM-HCP-AL3-S200-0010 v. 1.00

📎 Attachments

Records 1

Supplementary Documents 1

Reference Documents 3

+

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Records ?

📎 Uploads

File Name	Add Date	Added By
 HCD-T1-10-353	6/06/2017	elam5

Request ✓

Screening - Not Active ✓

Planning ✓

Review

Pre-Approval

Approval


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Activity Level Information

- Notes
- Limitations
- Potential Impacts
- Prerequisites
- Acceptance Criteria
-  Activity Level Quals & Certs

Activity Level Roles ?

 Competent Worker JHAs ?

Choose CW...

 Qualifications & Certifications

Choose Qual...

 Organizational Roles

Choose Org Role...

 Facility Roles

Choose Facility Role...

Request ✓

Screening - Not Active ✓

Planning ✓

Review

Pre-Approval

Approval

Title: RHWM Field Technician Services - S200

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📄 Submit for Pre-Approval

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📋 Tasks

🏠 Activity-Wide Conditions

⚠ Tasks by Hazard 12

👤 Tasks by Selected Comp Wkr Roles

👤 General Worker Activity

📋 Task Breakdown 14

📍 Task Locations

Pre-Analyzed Tasks by General Hazards ⓘ

Aviation

**[AVIATION01]** - TASK TEMPLATE: Operate Unmanned Aircraft System (UAS or drone) in Public Air Space**[AVIATION02]** - TASK TEMPLATE: Operate Unmanned Aircraft System (UAS or drone) in Restricted Air Space

Biological Materials

No Tasks

Chemicals

**[CHEM01]** - Wipe clean using mL quantities of ethanol, acetone, isopropanol, and/or methanol**[CHEM02]** - Join materials using 2-part epoxies and other adhesives**[CHEM03]** - Use hand-held disposable cans of aerosol spray coating products**[CHEM04]** - Use HF at the bench-scale**[CHEM05]** - Use solvents at the bench-scale**[CHEM06]** - Use peroxidizable and autopolymerizable chemicals at a bench-scale.**[CHEM07]** - Use corrosives at the bench-scale**[CHEM08]** - Use powders at a bench-scale**[CHEM09]** - Clean glassware and containers using corrosives**[CHEM10]** - Package and transport small volumes of hazardous chemicals and chemical samples**[CHEM11]** - Heat samples, reagents, solutions, parts, and materials in a lab using bench-top heating devices

Electrical

No Tasks

Elevated Work

**[HEIGHT01]** - Use extension ladders to access guarded work platforms or as an elevated work location**[HEIGHT02]** - Use fixed facility ladders for access to guarded work platforms or as an elevated work location**[HEIGHT03]** - Use A-frame ladders >8' for access to guarded work platforms or

Non-ionizing Radiation

**[ELEC09]** - Perform electronic equipment and systems maintenance on lasers and in laser areas.**[LASER01]** - Operate Class 1, 2, and 3a/R lasers with no intentional viewing.**[LASER02]** - Operate Class 3B/4 lasers in an engineered embedded enclosure (Class 1 mode).**[LASER03]** - Align optical systems using a <15mW visible laser.**[LASER04]** - Operate Class 3B and Class 4 visible lasers in an embedded mode (not intended to be open)**[LASER05]** - Operate a laser of any class under DIRECT supervision in a CONFIGURED state.**[LASER06]** - Perform laser interlock testing with the laser turned off.**[LASER07]** - Troubleshoot and replace laser system subcomponents with similar equipment.**[LASER08]** - Handle, wipe clean, and replace optical components in laser systems**[LASER09]** - Assemble and connect laser mechanical and optical components and cables.**[LASER10]** - Prepare fiber optic cables**[LASER11]** - TASK TEMPLATE: Operate Class 3B and Class 4 visible lasers**[NIR1]** - Use equipment generating magnetic fields <30 Gauss**[NIR2]** - Use commercially-available UV light sources**[NIR3]** - Use NIR-generating analytical instruments**[NIR4]** - Degauss magnetic storage media using commercially-available degausser

Other Hazard

No Tasks

Packaging & Transportation

No Tasks

Pressure & Vacuum

**[PV1]** - Operate low-pressure inert-gas systems**[PV2]** - TASK TEMPLATE: Operate intermediate-pressure inert gas systems

WCD#: WCI_RHWM-HCP-AL3-S200-0010 v. 1.00

Task Locations

Task Group Header

Create Task Group

↑		Inspect, handle, sample, sort, transfer, and package waste			×
+	Visually inspect, handle, sample, sort, segregate, and containerize unpackaged waste	<input type="checkbox"/>	<input type="checkbox"/>		
+	Clean out vacuum cleaners and GAC containers	<input type="checkbox"/>	<input type="checkbox"/>		
+	Vent pressurized waste containers by loosening the bung, drum lid ring or puncturing w	<input type="checkbox"/>	<input type="checkbox"/>		
+	Use A-frame ladders >8' for access to guarded work platforms or as an elevated work l	<input type="checkbox"/>	<input type="checkbox"/>		
+	Use fixed facility ladders for access to guarded work platforms or as an elevated work l	<input type="checkbox"/>	<input type="checkbox"/>		
+	Use extension ladders to access guarded work platforms or as an elevated work locati	<input type="checkbox"/>	<input type="checkbox"/>		
+	Perform incidental decontamination and non-emergency spill clean-up as an RHW	<input type="checkbox"/>	<input type="checkbox"/>		
+	Wipe clean using mL quantities of ethanol, acetone, isopropanol, and/or methanol	<input type="checkbox"/>	<input type="checkbox"/>		
+	Use electrical hand tools on non-hazardous materials	<input type="checkbox"/>	<input type="checkbox"/>		

↑		Managed packaged waste			×
+	Inspect closed waste containers in designated waste storage areas	<input type="checkbox"/>	<input type="checkbox"/>		
+	Visually inspect, handle, sort, segregate packaged waste	<input type="checkbox"/>	<input type="checkbox"/>		
+	Manually handle waste containers up to 80 lbs	<input type="checkbox"/>	<input type="checkbox"/>		
+	Use a PIT for ordinary lifts, with manufacturer-provided or ESN approved attachments	<input type="checkbox"/>	<input type="checkbox"/>		
+	Load vehicles and transport packaged waste materials and containers on-site	<input type="checkbox"/>	<input type="checkbox"/>		

Request ✓

Screening - Not Active ✓

Planning ✓

Review

Pre-Approval

Approval

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⚠ Hazards & Environmental Aspects

Identify Hazards

Map Hazards to Tasks

Task Hazard Risk Levels

Hazards by Location

Identify Task & Location Hazards

Print Friendly Hazards

Aviation [INDSFTY]

☐ Non-commercial airliner ☐ Unmanned Aircraft Systems

Biological Materials [BIOSFTY]

Biological Material: ☐ RG1 ☐ RG2, non-Select Agent ☐ RG2, Select Agent ☐ RG3, Select Agent ☐ Biological Toxins ☐ Human Source Materials ☐ Regulated Soils/Vegetation ☐ Insects ☐ Research Animals ☐ Recombinant/Synthetic Nucleic Acids ☒ Other

Containment Level: ☐ BSL-1 ☐ BSL-2, non-Select Agent ☐ BSL-2, Select Agent ☐ ABSL-2 ☐ ABSL-3

Chemicals [ENVIR, FIREPRO, INDSFTY]

Corrosives: ☒ Liquids ☒ Solids ☐ Gases ☐ Powders

Flammables: ☒ Liquids ☒ Solids ☐ Gases ☐ Powders

Reactive: ☒ Liquids ☒ Solids ☐ Gases ☐ Powders

Specifically Regulated: ☐ Liquids ☐ Solids ☐ Gases ☐ Powders

Irritants/Sensitizers: ☒ Liquids ☒ Solids ☐ Gases ☐ Powders

Toxins: ☒ Liquids ☒ Solids ☐ Gases ☐ Powders

Other: ☐ Liquids ☐ Solids ☐ Gases ☐ Powders

☐ Materials synthesized 1st time or by novel techniques ☐ Pesticides ☐ Pyrophoric Materials

Electrical

☒ Electrical Equipment ☒ Batteries ☒ Capacitors ☐ Static Electricity

Elevated Work [INDSFTY]

☐ Aerial Lifts ☐ Bucket Trucks ☐ Scissor Lift ☒ Ladder ☐ Roof ☐ Scaffolding ☐ Towers

Energetic Materials [ENVIR, EXPLSFTY, INDSFTY]

Activity Category: ☐ Class 0 (Intentional Initiation) ☐ Class I (High Accident Potential) ☐ Class II (Moderate Accident Potential) ☐ Class III (Low Accident Potential) ☐ Class IV (Insensitive High Explosive Activities)

Bare Explosives

Quantity: ☐ ≤10mg ☐ >10mg - <25kg ☐ Large Charge

Type: ☐ Primary ☐ Secondary ☐ Insensitive HE ☐ Group L ☐ Other

Form: ☐ Powder ☐ Solid ☐ Liquid ☐ Slurry

Propellants:

☐ Powder ☐ Solid ☐ Liquid ☐ Slurry

Mock / Simulants:

☒ Powder ☒ Solid ☒ Liquid ☒ Slurry

Assembly / Device / Article:

☐ High Energy Initiator ☐ Low Energy Initiator ☐ Large Charge ☐ Containerized Explosives ☐ Other

Environmental [ENVIR]

Discharges: ☒ to Air ☒ to Ground, Soil, Storm Drain ☐ of Category of Waste ☐ of Process Water to Sanitary Sewer

Disturbances: ☐ to Soil ☐ to Biological Resources ☐ to Cultural, Paleontology

Waste:

☒ Hazardous ☒ Radiological LLW ☐ Radiological TRU ☒ Mixed ☒ Biohazardous ☐ Pathology - Human ☐ Pathology - Animal

Ergonomics [INDSFTY]

☒ Awkward Positions ☒ Repetition ☒ Contact Stress ☒ Force (Lifting/Pushing/Pulling/Gripping) ☐ Vibration

Fire [FIREPRO]

Ignition Sources: ☐ Open Flames ☒ Sparks ☒ Heat Source ☒ Chemical Reaction ☒ Combustible Dusts/Powders/Fines

☐ Combustible Loading ☐ Impairment of Building Fire Suppression/Alarm System

Firearms [EXPLSFTY, INDSFTY]

Hazardous Energy Source [INDSFTY]

Exposed Conductors: ☐ Class 1 ☐ Class 2 ☐ Class 3 ☐ Class 4

☐ Hydraulic ☐ Mechanical ☐ Pneumatic ☐ Chemical ☐ Thermal ☐ Gravity

Control: ☐ De-energized, Cord/Plug ☐ De-energized, Simple LOTO ☐ De-energized, CLOUT ☐ Class 2, 3, 4, EEWP

Hazardous Environments [INDHYG]

Confined Space: ☐ NPRCS ☐ PRCS (C-5) ☐ PRCS (C-7) ☐ PRCS (Full Permit)

☐ Oxygen Deficiency / Asphyxiants

Hazardous Materials [ENVIR, INDSFTY]

☒ Asbestos ☐ Refractory Ceramic Fibers ☒ Nanomaterials ☐ Refrigerants ☐ Silica ☐ Welding Fumes

Hot/Cold Surfaces [INDSFTY]

☐ Hot Surfaces ☐ Cold Surfaces

Mechanical [INDSFTY]

☐ Crush ☒ Flying Objects/Debris ☐ Pinch Points ☒ Sharp Tools/Edges ☐ Rotating Equipment ☐ Powder Act

Metals [ENVIR, INDSFTY]

☒ Beryllium ☒ Cadmium ☐ Hexavalent Chromium ☒ Lead ☒ Mercury

Noise [INDHYG]

Non-ionizing Radiation [LSO]

Lasers: ☐ Class 1 ☐ Class 2 ☐ Class 3a/3R ☐ Class 3B ☐ Class 4 ☐ Embedded

☐ Static Magnetic Fields ☐ RF / Microwaves ☐ UV / Visible ☐ High Intensity UV/Visible/IR Illumination

Packaging & Transportation

Transport Materials Off-Site (includes transferring items between S200 and S300):

Method: ☐ Ground Transport ☐ Air Transport ☐ Vessel Transport ☐ Rail Transport ☐ Personal Transport

Material: ☐ Hazardous Materials ☐ Radioactive Materials ☐ Biological Materials ☐ Explosives ☐ Compressed Gases ☐ Hazardous/Radioactive Waste ☐ Large Items requiring two individuals or mechanical methods to load

Transport Materials On-Site

(includes transferring items between S200 and S300): ☐ Hazardous Materials ☐ Radioactive Materials ☐ Biological Materials ☐ Explosives ☐ Compressed Gases ☒ Haz/Rad Waste ☒ Large Items requiring two individuals or mechanical methods to load

Pressure & Vacuum [INDSFTY]

☐ Low Pressure ☐ Intermediate Pressure ☐ High Pressure ☐ Vacuum ☐ Compressed Air ☒ Other Pressure Systems

Radiation & Radioactive Materials [HLTHPHY9]

Radiation Generating Devices (RGDs): ☐ Class I, II ☐ Class III, IV

Radioactive Material

Sealed Radioactive Sources: ☐ Class 0, I, II ☐ Class III, IVNondispersible Radioactive Material: ☒ Fixed Contamination ☒ Containerized ☐ Items (e.g. finished U parts, activated metal)

Dispersible Radioactive Material

Material Type: ☐ Weapons Grade Pu ☐ Fuels Grade Pu ☐ Pu-238 ☒ Uranium ☒ Tritium☒ Other TRU ☒ Beta/Gamma ☒ OtherWorkplace Type: ☒ Type 0 (storage) ☒ Type I (benchtop) ☒ Type II (hood) ☐ Type III (glovebox) ☐ Other ☐ N/AOperation: ☐ Breaching Containment/Structural Barrier ☐ Accessing Previously Inaccessible AreasExpected Individual Dose: ☒ <100 mrem/yr ☐ >100 mrem/yrCriticality Potential: ☐ YesAccessing Radiological Areas: ☐ CA ☐ HRA ☐ ARA ☒ RA ☐ HCA ☐ VHRA

Suspended Loads [INDSFTY]

☐ Crane / Hoist ☐ Jacks ☒ Pile

Temperature Extremes [INDHYG]

☐ Heat Stress - Normal Work Clothing ☐ Heat Stress - Encapsulating PPE ☐ Cold Stress

Trenching & Excavation [INDSFTY]

Work Area Hazards

☐ Head Bump ☐ Poor Visibility / Lighting ☐ Slip / Trip / Fall ☐ Cramped Space ☐ Wall / Floor Openings ☒ Work Area Noise

☐ Overhead Utilities ☐ Unguarded Utilities ☐ Hidden Utilities ☒ Vehicular Traffic ☐ Driving off-road or on rough terrain

☐ Remote Location / Delayed Emergency Response ☐ Inclement Weather / Lightning ☐ Wildlife Encounters

☐ Bird / Rodent Feces ☐ Nuisance Dust ☐ Mold / Spores ☐ Valley Fever

☐ Regional Endemic Infectious Diseases ☐ Beryllium Area ☐ Biological Lab ☐ Chemical Lab ☐ Explosives Area

☐ Mechanical Room ☐ Mechanical/Machine Shop ☒ Radiation Area ☒ Rad Contamination Area

☐ Environmental Cleanup Site ☒ TSCA ☐ WAA ☐ Work Over / In Water ☐ Other

Request ✓

Screening - Not Active ✓

Planning ✓

Review

Pre-Approval

Approval

Title: RHWM Field Technician Services - S200

Pending Items 7

Submit for Pre-Approval

WCD#: WCI_RHWM-HCP-AL3-S200-0010 v. 1.00

Analyze Task / Hazard Controls

Develop / Deconflict Controls ?

Task Title: (100 character limit)

Visually inspect, handle, sample, sort, segregate, and containerize unpackaged waste

Task Description:

Save B I U Ω ☰ <>

Visually inspect, handle, sample, sort, segregate, and containerize unpackaged hazardous or radioactive waste. Includes opening and closing waste containers, inspection and visual verification of waste and waste items, field verification sampling, performing field tests using hand-held meter or strip-type test kits, transferring liquid non-hazardous or hazardous waste for sewer release or disposal using pumps, and repackaging or consolidating waste.

☐ ✓ Mark task as "Reviewed"☐ ✱ Assign Task to a Qual or Cert Worker(s) ?

Task Notes 0 ?

Boundary Conditions

Hazard Desc

Prerequisites

First-Aid

Controls

Pre/Post Approval

Ongoing

Pre-Job

View Task JHA

Engineering ?

Search Pre-defined Engineering

+ Add

Chemical fume hood

+ ✉ ⓘ ✕

Local exhaust ventilation

+ ✉ ⓘ ✕

Administrative ?

Search Pre-defined Administrative

+ Add

Follow RHWM Waste Acceptance Criteria and procedures for waste handling, packaging, transfers, and sewer release, as applicable, located on the RHWM P&DC Server.

+ ✉ ⓘ ✕

Operate equipment, tools, and field test kits in accordance with the manufacturer's operating and safety instructions.

+ ✉ ⓘ ✕

Maintain contact, visible or audible, with another individual when handling/sampling hazardous, radioactive, or mixed waste.

+ ✉ ⓘ ✕

Keep containers closed except when performing a visual inspection or directly adding or removing waste.

+ ✉ ⓘ

Use caution when removing drum rings or opening sealed boxes, and allow pressure to escape slowly.

+ ✉ ⓘ ✕

Use inerting materials (e.g., water, oil, inhibitors, stabilizers) to mitigate/prevent expected reactions, as necessary.

+ ✉ ⓘ ✕

If integrity of the container or item is in question (i.e., unexpected crystallization, discoloration, or layering), PAUSE WORK, cordon off the area, and notify the RRP, supervisor, Facility Manager (or designee), or ES&H Team.

+ ✉ ⓘ ✕

If an unexpected condition is noted while opening a container (e.g., fuming, bubbling, vapors, odors, etc.), immediately close the container, PAUSE WORK, cordon off the area, and notify the RRP, supervisor, Facility Manager

+ ✉ ⓘ ✕

Request ✓

Screening - Not Active ✓

Planning ✓

Review

Pre-Approval

Approval

Title: RHWM Field Technician Services - S200

Pending Items 7

📄 Submit for Pre-Approval

WCD#: WCI_RHWM-HCP-AL3-S200-0010 v. 1.00

📄 View Work Control Document

Coversheet

Attachments

Selected Hazards

Job Hazard Analysis

Task Locations

Planning Team

Notes

View Work Activity Coversheet

🖨 Print Friendly Coversheet

WCI_RHWM-HCP-AL3-S200-0010 v: 1.00
Hazard Control Plan (HCP)

Work Activity Title	Approve Date	Review Date	Work Activity No.
RHWM Field Technician Services - S200	N/A	N/A	WCI_RHWM-HCP-AL3-S200-0010 v: 1.00
Work Planner: LEAH SYLVA - (012757)		Phone: 20413	Pager: N/A
Approved Work Location		Management Chain for the Activity	
Approved Work Location Bldg / Area / Complex:	S200 -	Function	Name Phone
		Responsible Individual (RI)	CHARLES GASTON - (007874) 34179
		Authorizing Individual (AI)	JOHN WOLF - (005237) 20425
		Program / Division Leader	PHILIP PELLETTE - (006565) 42079
		Authorizing Organization (AO)	Radioactive & Hazardous Waste Management (RHWM) [WCI_RHWM] N/A
		Principal Associate Director (PAD)	Weapons & Complex Integration [WCI] N/A
Scope of Work		Task Breakdown	
Inspect, handle, package, and transport non-hazardous, hazardous, radioactive, and mixed waste streams in support of site-wide programmatic work. Includes performing routine maintenance on equipment (e.g., pumps, vacuum tankers).		<ul style="list-style-type: none">• Inspect, handle, sample, sort, transfer, and package waste<ul style="list-style-type: none">• Visually inspect, handle, sample, sort, segregate, and containerize unpackaged waste• Clean out vacuum cleaners and GAC containers• Vent pressurized waste containers by loosening the bung, drum lid ring or puncturing with a tool• Use A-frame ladders >8' for access to guarded work platforms or as an elevated work location• Use fixed facility ladders for access to guarded work platforms or as an elevated work location• Use extension ladders to access guarded work platforms or as an elevated work location• Perform incidental decontamination and non-emergency spill clean-up as an RHWM technician• Wipe clean using mL quantities of ethanol, acetone, isopropanol, and/or methanol• Use electrical hand tools on non-hazardous materials• Managed packaged waste<ul style="list-style-type: none">• Inspect closed waste containers in designated waste storage areas• Visually inspect, handle, sort, segregate packaged waste• Manually handle waste containers up to 80 lbs• Use a PIT for ordinary lifts, with manufacturer-provided or ESN approved attachments• Load vehicles and transport packaged waste materials and containers on-site	

📄 View Work Control Document

JHA Table				Print Friendly JHA
<div>Inspect, handle, sample, sort, transfer, and package waste</div> <div>Inspect, handle, sample, sort, transfer, and package nonhazardous, hazardous, and/or radioactive waste streams in support of programmatic activities. Includes decontamination activities, using powered hand tools for cutting items to fit into containers for repackaging, and using ladders.</div>				
<div>Task Title:</div> <div>Visually inspect, handle, sample, sort, segregate, and containerize unpackaged waste</div>	<div>Task Description:</div> <div>Visually inspect, handle, sample, sort, segregate, and containerize unpackaged hazardous or radioactive waste. Includes opening and closing waste containers, inspection and visual verification of waste and waste items, field verification sampling, performing field tests using hand-held meter or strip-type test kits, transferring liquid non-hazardous or hazardous waste for sewer release or disposal using pumps, and repackaging or consolidating waste.</div>	<div>JHA Qualifications:</div> <div><ul style="list-style-type: none">No JHA Qualifications</div>		
<div>Boundary Conditions, this task does not include:</div> <div><ul style="list-style-type: none">Work in Biosafety Level 3 Facilities, High Contamination Areas, Neutron Radiation Areas, High Radiation Areas, or Airborne Radioactivity Areas.Decontamination and clean-up of areas beyond wiping the work area with water- or Radiowash-dampened wipes.Handling the following materials/items:<ul style="list-style-type: none">Unknown materialsBiosafety Level 3 or infectious materialsSharps waste from infectious materialsHighly toxic materialsExplosives >10mgBatteries and battery systems >100A-Hr (in their maximally paralleled configuration) and with maximum system voltage > 50V or removing batteries from systemsCapacitors and capacitor systems that have not been properly shortedShorting of capacitorsSampling of:<ul style="list-style-type: none">Solids, unless the waste stream is listed in the attached Exempt Waste Streams supplementary document.AsbestosTRU wasteLiquid waste containing 1% or more beryllium or waste containing beryllium greater than 0.1% powder or finely divided solid formWaste that contains greater than 5.5% HFUsing reagents with a concentration greater than 50 percent sodium hydroxide or sulfuric acid or 100 percent phosphoric acid or solid sodium hydroxide.Pumping out liquid waste containing greater than 10% volatile organic compounds (VOCs) or liquid radioactive waste.</div>	<div>Hazards & Environmental Aspects:</div> <div><ul style="list-style-type: none">Handling/sampling waste materials may expose workers to a variety of chemical, physical, and radiological hazards.Noise from misc. equipment (e.g. pumps and equipment rooms) may exceed 85 dB, which can damage hearing.Open containers can lead to contact with or inhalation of hazardous materials and may cause skin injuries, internal organ damage, poisoning, or cancer.Capacitors and capacitor banks can store lethal energy. Unintentional contact could result in electrical shock and arc flash burns.Liquid wastes may contain hazardous or radioactive materials. Accidental release during operations may expose personnel and/or the environment to the waste material being handled and pose a health risk.Waste containers or materials may pose an external exposure hazard (e.g., chemical, radiological). Work may be performed in posted contamination or radiation areas (Type 0, 1, and 2 work places).Open waste containers (e.g., during sampling, consolidation, etc.) may emit regulated air pollutants to the atmosphere.Batteries are considered Universal Waste.</div>	<div>Prerequisites:</div> <div><ul style="list-style-type: none">Ensure appropriate radiation detection meters (survey meters, dose rate meters, and/or tritium sniffer, or combination) are available in the work area when opening waste drums identified as containing radioactive material.<ul style="list-style-type: none">Perform meter checks prior to and after use.Contact area IH or HP, as applicable, to confirm respiratory protection defined in the PPE controls is appropriate for the specific handling/sampling campaign, if required.Contact IH to coordinate and assess the need for air monitoring when handling OSHA carcinogens greater than 0.1%.Obtain permission from the FPCC or RRP prior to entry.Ensure a second person is available when handling/sampling hazardous, radioactive, or mixed waste.Verify the eyewash has been checked weekly and emergency shower has been checked monthly.When using a fume hood, verify the fume hood is working and within the annual testing date prior to operation.Prior to working with HF or other fluoride compounds, confirm the availability and location of calcium gluconate and verify it is within its expiration date.Prior to working with mock explosives, verify certification is available or contact an Explosives Safety Engineer to confirm and document the material is mock explosives.Prior to working with capacitors, verify evidence of appropriate shorting is available (e.g., visual verification, documentation, etc.) or contact a qualified electrician to confirm and document the capacitor has been shorted.Contact a Characterization Chemist or EFA to obtain the calculation of the appropriate</div>	<div>Engineering Controls:</div> <div><ul style="list-style-type: none">Chemical fume hoodLocal exhaust ventilation</div>	<div>Administrative Controls:</div> <div><ul style="list-style-type: none">Follow RHWM Waste Acceptance Criteria and procedures for waste handling, packaging, transfers, and sewer release, as applicable, located on the RHWM P&DC Server.Operate equipment, tools, and field test kits in accordance with the manufacturer's operating and safety instructions.Maintain contact, visible or audible, with another individual when handling/sampling hazardous, radioactive, or mixed waste.Keep containers closed except when performing a visual inspection or directly adding or removing waste.<ul style="list-style-type: none">Use caution when removing drum rings or opening sealed boxes, and allow pressure to escape slowly.Use inerting materials (e.g., water, oil, inhibitors, stabilizers) to mitigate/prevent expected reactions, as necessary.HOLD POINT: If integrity of the container or item is in question (i.e., unexpected crystallization, discoloration, or layering), PAUSE WORK, cordon off the area, and notify the RRP supervisor, Facility Manager (or designee), or ES&H Team.HOLD POINT: If an unexpected condition is noted while opening a container (e.g., fuming, bubbling, vapors, odors, etc.), immediately close the container, PAUSE WORK, cordon off the area, and notify the RRP supervisor, Facility Manager (or designee), and ES&H Team.Handle/sample liquid waste with greater than 39% nitric acid in a chemical fume hood.Handle/sample wastes in a well ventilated area or in proximity to a local ventilation system when working with solid waste samples that are finely divided (i.e., powders) or do not meet the definition of benign waste, or liquid wastes with carcinogens greater than 0.1%, HF greater than 5%, or hydrochloric acid greater than 18%.<ul style="list-style-type: none">If handling/sampling of these waste streams outside a well ventilated area or local ventilation system is required, then wear respiratory protection as specified in the PPE section.When handling/sampling radioactive wastestreams, open containers of radioactive waste in posted RMAs or RBAs.<ul style="list-style-type: none">Sample solid radioactive material or any radioactive liquid containing greater than 1 microcurie per ml in a fume hood.<ul style="list-style-type: none">If sampling of these radioactive waste streams outside a fume hood is required, then wear respiratory protection as specified in the PPE section.Monitor hands for beta-gamma and alpha contamination while working with radioactive materials or reaching into waste drums identified as containing radioactive material.Follow exit monitoring requirements on all postings.</div>

Request ✓

Screening - Not Active ✓

Planning ✓

Review ✓

Pre-Approval ✓

Approval

Title: Pressure Test Vessel Operations

WCD#: WCI_WTE-HCP-AL3-131HB-0004 v. 1.00

Pre-Job

Pre-Job

Pre-Start

Pre-Start

A pre-start review is a detailed discussion of the approved work control document and worker task assignments to ensure that workers understand the expectations for safely conducting the work activity.

The pre-start review discussion includes:

- Line management chain,
- Work scope and boundary conditions, including activity-level qualifications,
- Task list and task to location matrix,
- Job Hazards Analysis, including a highlight of any hold points,
- Associated Work Procedures or other Supplementary Documents, and
- Worker task assignments and worker training status

When the pre-start review is for a major change, the discussion is about the major change. Though all changes to the JHA are considered major changes requiring a pre-start review, some JHA changes may be of lesser significance, and may be handled by other than a discussion. For example, a change to add medical surveillance or a new training role could be communicated through an email, or a change to clarify or remove an over-prescribed control may be addressed in the pre-job brief. If an alternative method is used to communicate the change to the JHA, the RI documents the form of communication in comments and credits the workers as attending the pre-start review.

Attendance List

Employee	Role	Phone	Attend	Updated
BECKELMAN, ROCKY	WPC_WRKR	20835	<input type="checkbox"/>	
EHRENBURG, KURT	WPC_WRKR	30151	<input type="checkbox"/>	
GOVERNO, GEORGE	WPC_WRKR	28716	<input type="checkbox"/>	
HOOD, KEVIN	WPC_WRKR	34493	<input type="checkbox"/>	
MOORE, RICHARD	WPC_WRKR	30367	<input type="checkbox"/>	
PETERSON, SHAWN	WPC_WRKR	27520	<input type="checkbox"/>	
TORRES, SAMUEL	WPC_WRKR	45048	<input type="checkbox"/>	
VIRGA, MATTHEW	WPC_WRKR	31541	<input type="checkbox"/>	
WOEHRLE, THOMAS	WPC_WRKR	31716	<input type="checkbox"/>	

[+ Add New Attendee](#)

Pre-Start Completed ✓

Pre-Start Notes

[Generate PDF and Save to Rec](#)

Request ✓

Screening - Not Active ✓

Planning ✓

Review

Pre-Approval

Approval

Title: RHWM Field Technician Services - S200

Pending Items 7

Submit for Pre-Approval

WCD#: WCI_RHWM-HCP-AL3-S200-0010 v. 1.00

📢 Pre-Job

Pre-Job

Pre-Start

Pre-Job

Talking Points & Notes

Print Friendly Report

General Talking Points

+ Add Note + -

Task Based Talking Points

Visually inspect, handle, sample, sort, segregate, and containerize unpackaged waste

+ Add Note + -

- + Contact ES&H Team or 911 if oxygen monitor/alarm is sounding or other uncontrolled event (e.g., chemical reaction or fire) occurs. Evacuate the area and Do NOT enter the area. + -
- + Containers can pressurize: Use caution when removing drum rings or opening sealed boxes, and allow pressure to escape slowly. + -
- + If you find unexpected radiological conditions, warn everyone in the work area. + -
- + Insert tritium sniffer probe into container (e.g., drum, cargo, box), back away for at least 30 seconds, then check monitor for reading. + -
- + Minimize time spent near radioactive waste containers, practice As Low As Reasonably Achievable (ALARA). + -
- + Monitor for contamination frequently when opening drums containing radioactive waste. + -

Clean out vacuum cleaners and GAC containers

+ Add Note + -

- + Containers can pressurize: Use caution when removing drum rings or opening sealed boxes, and allow pressure to escape slowly. + -
- + If you find unexpected radiological conditions, warn everyone in the work area. + -
- + Minimize time spent near radioactive waste containers, practice As Low As Reasonably Achievable (ALARA). + -

Attendance list

No Workers or Attendees Selected