

RUTGERS

School of Public Health

Embracing an All-Hazards Approach to Safety and Health



New Jersey / New York
Hazardous Materials Worker
Training Center



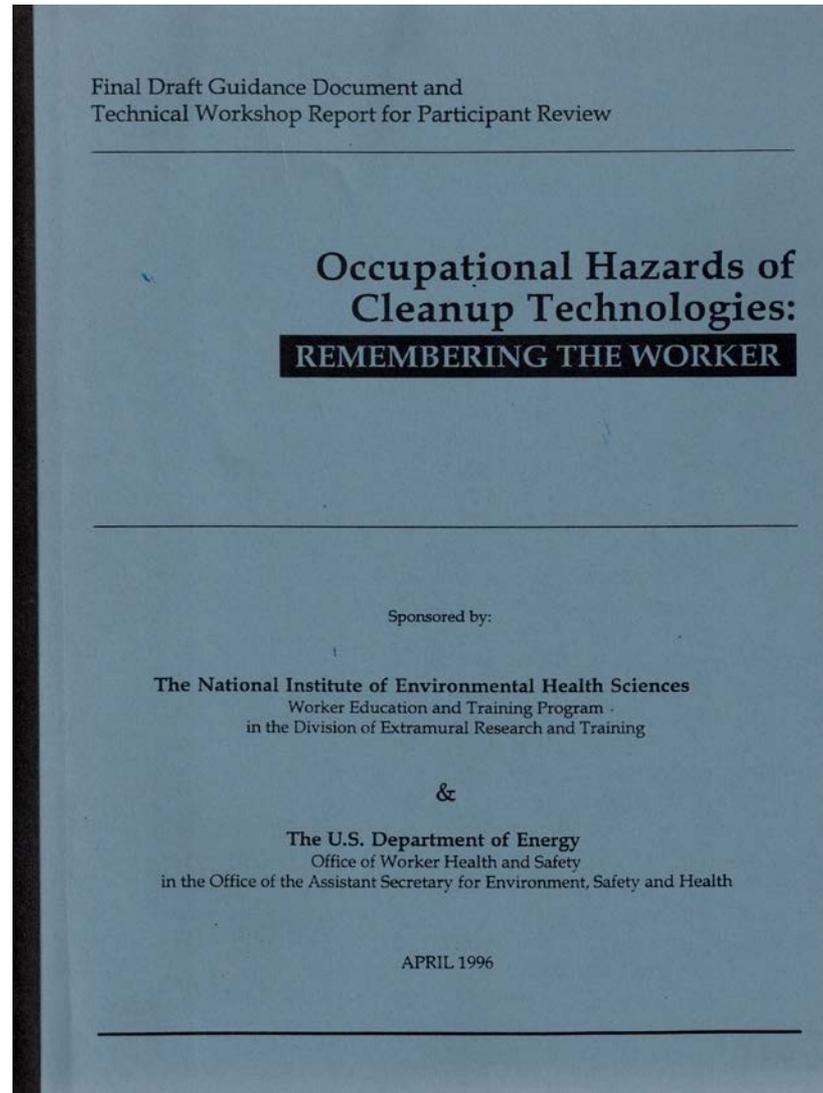
HOW CAN WE EMBRACE AN ALL-HAZARDS APPROACH FOR BIOSAFETY AND INFECTIOUS DISEASE TRAINING?



All Hazards Approach

- Learn from the past (?) !
- Decision making skills
- Risk assessment / hazard control
- Surveillance
- Practice

Learn from the past (?) !





Learn from the past (?) !

- Identifies technology process
- Make workplaces safer
- Review work process from start
- Inject safety and health from the beginning
- Goal of developing Technology Safety Data Sheets (TSDS)

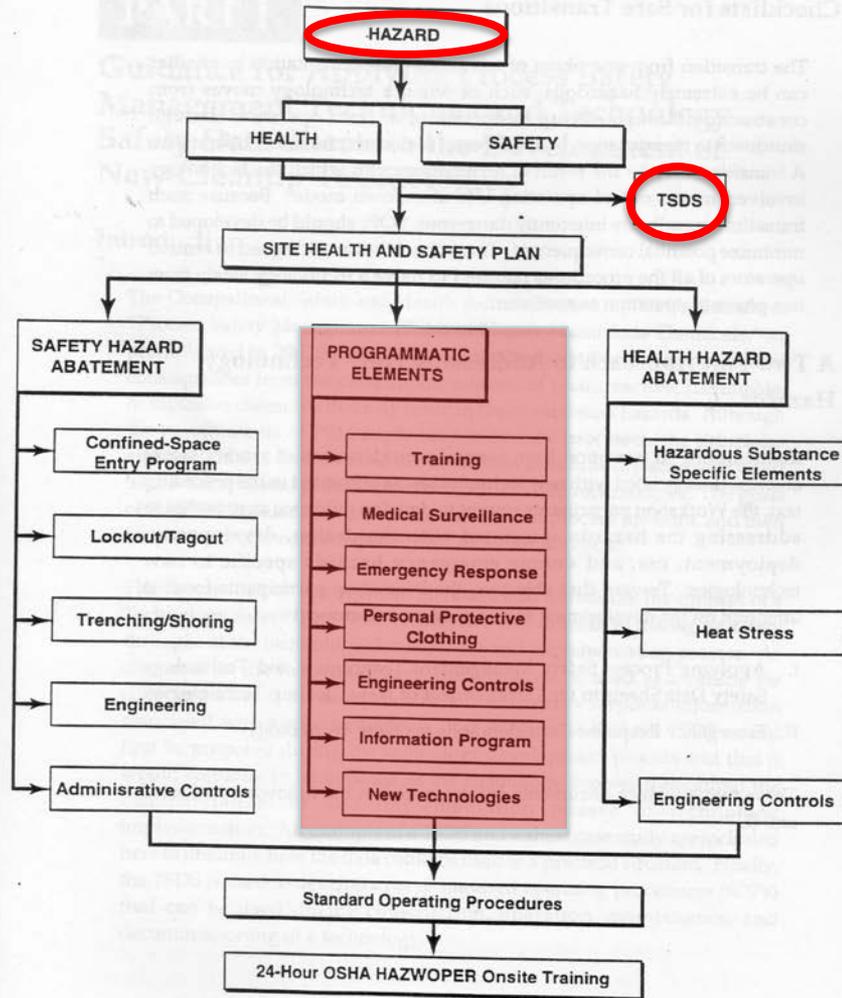


Figure 3. Technology hazard mitigation process.



In addition, employees can provide practical knowledge about their workplaces that is not always obvious to surveyors or inspectors. Employee participation on inspection teams helps employees become more knowledgeable about workplace hazards, prevention, and controls and therefore makes them better able to protect themselves and others. This knowledge is especially important at sites where several contractors' employees of differing expertise may work close to each other. These employees need to know how to protect themselves from hazards associated with the work of nearby colleagues as well as from hazards connected to their own work.

Occupational safety and health professionals should prevent inspections from becoming routine and predictable by performing them periodically and not adhering to a schedule that sites can anticipate. Inspection frequency depends on the size and complexity of the site and its operations. OSHA recommends that medium and large fixed worksites be inspected at least every quarter, with some portions of such inspections being made each month. Non-fixed sites (i.e., construction sites) should be inspected weekly because of their rapidly changing nature and unique hazards. OSHA recommends that even the smallest work sites should be inspected at least quarterly.

Employee Suggestions, Complaints, and Involvement

Because employees have unique and frequently untapped knowledge about work hazards and practical controls, their involvement is critical to a successful hazard analysis. Employees are intimately familiar with work processes, are essential members of the hazard identification team, and can be helpful in conducting inspections, analyzing activities, and designing controls. Their suggestions and complaints provide another route to identifying hazards.

For their involvement in system safety analysis activities to be successful, employees must –

- Be trained in hazard recognition;
- Be provided with appropriate checklists;
- Have ready access to safety and health professionals;
- Have access to reference sources;
- Be able to suggest abatement methods; and
- Be able to track corrective actions.



NIEHS Worker Training Program (WTP) Ebola Biosafety and Infectious Disease Response Training (UH4) RFA-ES-15-018

- It involves training as the practical application of precautionary principles and guidance that protect humans and the environment from exposure to infectious pathogens and materials and how to *prioritize hazard recognition, mitigation, response, and recovery activities*.
- Such training broadens the scope of practice and allows for implementation of a baseline system that encompasses an *all-hazards approach* to estimating risk of infectious disease and health hazard exposures, managing workplace controls, and promotes cross-cutting and coordinated strategies for occupational health and safety.



Pathogen Safety Data Sheets

Management commitment and employee involvement

- Designated plan administrator, accountability
 - Committee process includes organizational stakeholders, workers, and union representatives
- Written exposure control plan

Risk Assessment

- Exposure determination
- Consideration of proximity to the contaminant source, virulence, pathogenicity, severity of potential health effects, environmental factors, effectiveness of controls, etc.

Hazard Control

- Use of engineering & administrative controls
- Selection of PPE & respirators
- Product selection committee includes end users

Decontamination

- Routine & targeted decontamination
- Handling, containerization, transport, or disposal of contaminated materials
- Limit worker exposure to contaminated materials

Reporting & Recordkeeping

- Standard operating procedures

Training

- Standard operating procedures in the written plan
- Donning & doffing PPE
- Frequency tied to competency, at least annually

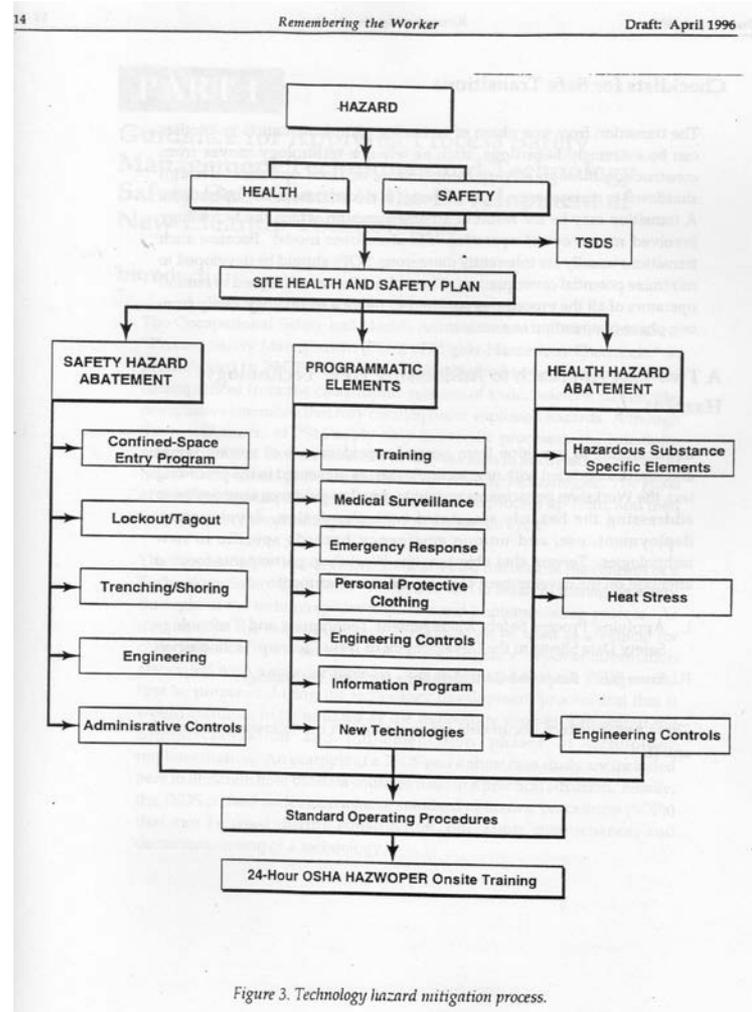
Post exposure and occupational health procedures

- Vaccinations, post exposure procedures, medical removal protection

Plan updates/ evaluation

- At least annually
- New job tasks, new technology, exposures, emerging infections

Technology Safety Data Sheets





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Decision making skills

- Risk assessment
- Anticipation
- Recognition
- Evaluation
- Control



Risk assessment

- Understand risks
- Causes
- Potential impacts
- Likelihood
- Controls

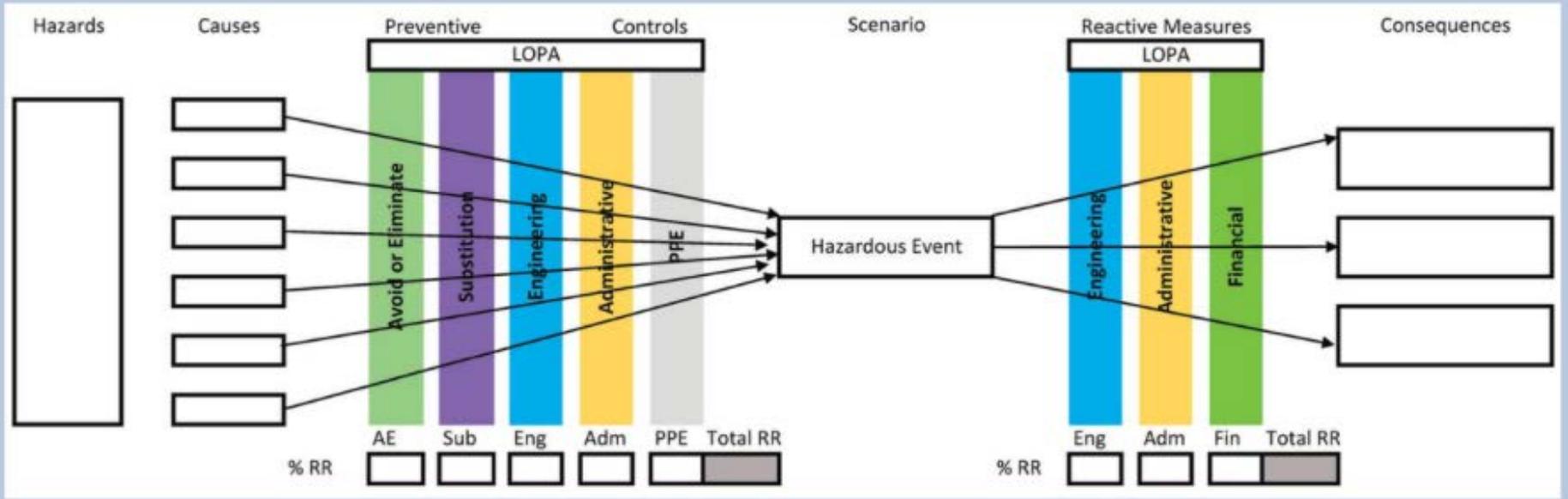
Risk assessment / hazard control

- To what hazards will you be exposed?
- Where will you encounter these hazards?
- How do you protect yourself from those exposures?



Risk assessment

Figure 3
Striped Bow Tie Analysis Model





Risk assessment / hazard control

- Tools
 - Individual
 - Organizational



Surveillance

- Strategies and methods to systematically detect and assess the early signs of adverse effects on the health of workers exposed to certain health hazards
- Surveillance is not a control, but a check to make sure controls are in place.
- Subsequently acting on the results.



Looking ahead

- Surveillance
 - Local health
 - State health
 - Emergency room data
 - CDC
- New hazards
 - Novel diseases
 - We've never seen that before
- What do we do now?
 - Use decision making skills
 - Incorporate Risk Assessment/Hazard Controls



Practice

- Hands-on training
- Feedback

CONCLUSIONS AND RELEVANCE Contamination of the skin and clothing of health care personnel occurs frequently during removal of contaminated gloves or gowns. Educational interventions that include practice with immediate visual feedback on skin and clothing contamination can significantly reduce the risk of contamination during removal of PPE.



All-Hazards Approach to Biosafety Training

- It's not just about.....
- Lesson learned/Learned lessons
- Preparedness is important
- Develop worker competency for decision making
- JIT and Not Just JIT
- 1910.120 is an important model
 - Standard operating procedures within the context of overall worker health and safety
 - PPE to protect workers from the hazards faced
 - Specific procedures that can be incorporated into existing or newly developed protocols for hazard control
 - Places a major emphasis on training to ensure the safety and health workers
 - General vs. specific training



All-Hazards Approach to Biosafety Training

- Focus on hazard recognition and decision making skills
- Communicate risks and science
- Establish appropriate controls
- Develop a proportionate response
- Recognize/enforce worker protection standards
- Expand audience needing training
- Practice
- As strong as the weakest link