



Applying Safe System Work Control Processes to Integrate Safety Management Achieve Target Zero

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Introduction

AMWTP has established a work control process combining the five core functions of the Integrated Safety Management System (ISMS).





Work Control Systems and Processes

- AMWTP uses a proceduralized graded approach to ensure hazard controls are tailored to the work performed
 - Hazard assessments are performed for each operational area and as part of all operational procedure development
 - Just-in-time hazard assessments are performed for all nonroutine and maintenance tasks
 - Includes representatives from all work groups involved in the activity
 - Process driven and verified daily as part of the work authorization process

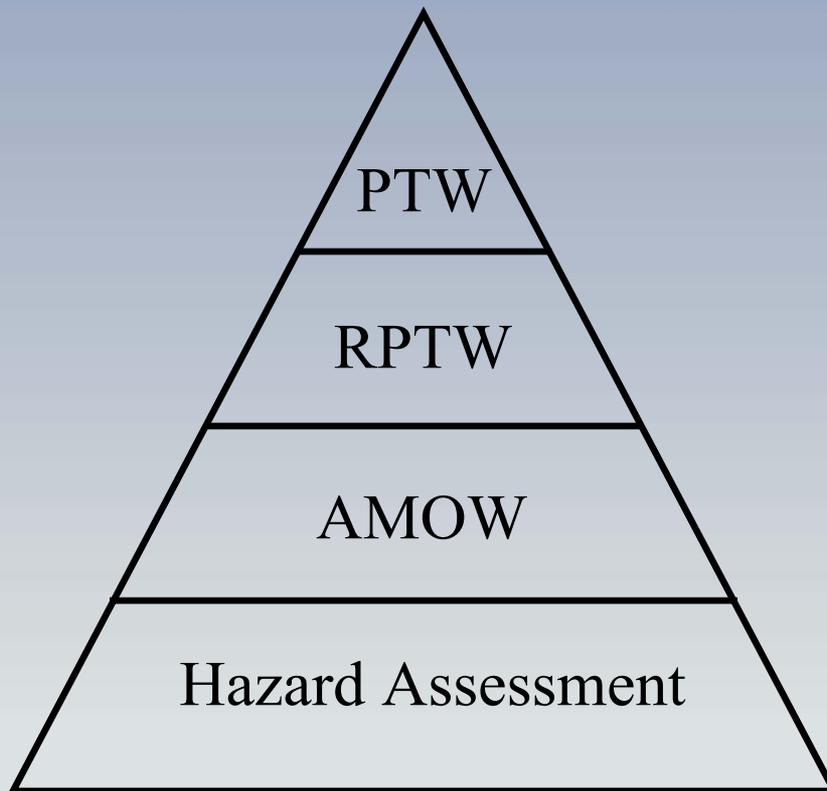


Work Control Systems and Processes (Cont'd.)

- There are four levels of work control depending on the complexity and scope of the work:
 - Operations exempt
 - Approved Method of Work (AMOW)
 - Request for permit to work (RPTW)
 - Permit to work (PTW)



Work Control Systems and Processes (Cont'd.)



Each part of the process supports development of the next process as work becomes less routine and more complex.



Work Control Systems and Processes (Cont'd.)

- Operations exempt
 - Activities safely performed by a qualified person that does not create a hazard to others where the operation is being performed.



Administrative duties



Visual fire protection inspections



Work Control Systems and Processes (Cont'd.)

- Approved Method of Work
 - Safely control routine and proceduralized operational tasks when it is known that conditions are predictable and will remain constant over a long period of time.



Open area snow removal



Routine operations



Work Control Systems and Processes (Cont'd.)

- Request for Permit to Work
 - Safely control minor maintenance



Replacing breathing air manifold



Changing vacuum filters



Work Control Systems and Processes (Cont'd.)

- Permit to Work
 - Safely control more complex and high-risk tasks



Gantry Robot Blade Change



Boxline Cell Entry



Work Control Systems and Processes (Cont'd.)

- All work performed at AMWTP is covered by a Work Control Process
- Work control applies equally to BBWI, subcontractors, and visitors





Example: ISMS Core Functions Striving Toward Achieving Target Zero

Large Item Size Reduction Project: Clean pre-production, waste processing area in an AMWTP contamination containment cell





ISMS Core Function Integration

Define the Work

Boxline Size Reduction Example - In cell “manual” processing of large metal objects not suitable for mechanical size reduction



Large steel I-beams



Large steel plate



Boxline Large Item Size Reduction Unique Conditions and Requirements

- Large heavy objects
- High-radiological airborne and surface contamination levels
- High-hazardous waste constituent levels
- Elaborate Personal Protective Equipment (PPE) requirements
- Nonstandard work area
- Operation of power and hand tools while in extreme PPE
- Potential heat stress





Analyze Hazards and Develop Controls

Hazards identified

- Lifting heavy objects
- Falling objects
- Ergonomic positioning
- Sharp edges
- Power tool and hand tools
- Radiological/chemical elements
- Tripping hazards
- Possible heat stress



Mitigations

- Mockup and training with task specific hand and power tools
- Overhead crane
- Use of metal tables and securing clamps
- Covering sharp edges and points
- New robust level B suits and supplied air ensemble
- Leather aprons, kevlar gloves and knee pads
- Pre- and post-physiological monitoring
- Continuous communications
- Incorporate lessons learned



Boxline Large Item Size Reduction Worker Involvement

Integrated with all disciplines and work groups

- Initial and subsequent task walkdowns
- Project and task specific mock-ups
- Hazard identification and analysis
- Pre-job briefs
- Performance of the work
- Post-job briefs



Pre-job brief



Boxline Large Item Size Reduction Perform Work

- Worker training and proficiency verification
- Pre-job physiological monitoring
- Personal protective equipment ensemble
- Breathing zone monitoring
- Special procedures
- Tools
- Support personnel and equipment
- Task performance
- Post-job physiological monitoring



Boxline Large Item Size Reduction Provide Feedback

- Worker, supervisor and support personnel post-job feedback daily to work control and others
- Keeping Everyone and Yourself Safe (KEYS)
- Management oversight comments
- Surveillances and assessments



Large Item Size Reduction

A Win – Win: Safe, Compliant Project

- 36 cell entries for large item size reduction activities – 2 entrants per cell entry
- No injuries, no spread of contamination, no heat stress concerns and no PPE failures
- Successful reduction of the large metal object backlog
- Target Zero can be achieved when ISMS Principles and Core Functions are fully integrated into the work control process!