

NDIA 17<sup>th</sup> Annual Systems Engineering Conference

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***PROPOSED***

ISO 45001 OCCUPATIONAL HEALTH AND SAFETY  
MANAGEMENT SYSTEM STANDARD

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DEVELOPMENT STATUS AND  
RELATIONSHIP TO  
USDOD MIL-STD 882E

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*“The light at the end of the tunnel has been turned off  
due to budget cuts.”*

*Anonymous*



# Agenda

- The Path to ISO 45001 – Past, Present and (near) Future
- Status of ISO 45001 Development
- ISO 45001 Committee Draft (CD) Highlights
- ISO 45001 and MIL-STD 882
- Q&A

# The Path to ISO 45001 – Past, Present and (near) Future

- World War II and Military Standardization
- Dr. Deming
- U.S. OSH Act – 1970
  - Voluntary Protection Program (VPP) – 1980's
- Total Quality Management and ISO 9001 – 1980's to present
- ISO 14001 – 1997, 2004
- OHSAS 18001, ANSI Z10 and other OHS MS Standards
- Sustainability “movement”/ISO 26000 (CSR; 2000's)
- *Bangladesh clothing factory incident* – 2010
- BSI Proposal – 2013
- ISO Project Committee 283 and proposed ISO 45001 - NOW
- ISO 45001 – 2015 and beyond

# ISO 45001 – Development Status

Activities, *so far...*

- Late 2013 – Proposal and working draft (WD)
- 2014
  - Earlier this year – worked through, resolved comments on the WD
  - Resolution generated the first Committee Draft (CD)
  - Comments to the ISO Secretariat – October 18, 2014
  - ISO PC 283 Meeting – December 2014 (*maybe*)
  - Decisions – CD2 or Draft International Standard (DIS)
    - U.S. Position – Create a CD2; it is not ready for the DIS stage
- 2015-2016
  - Work through CD2 (possible), DIS, FDIS (possible)
  - Release (FIS) expected in Fall 2016, but ...

# ISO 45001 CD Highlights

## ISO/PC283 Mandate

- Objective:

*Develop specifications and requirements to establish a risk-based, OSH MS Standard (MSS) that provides the basis for ongoing, worldwide safety and health management performance improvements, and remains consistent with other, similar and/or related MSS's.*

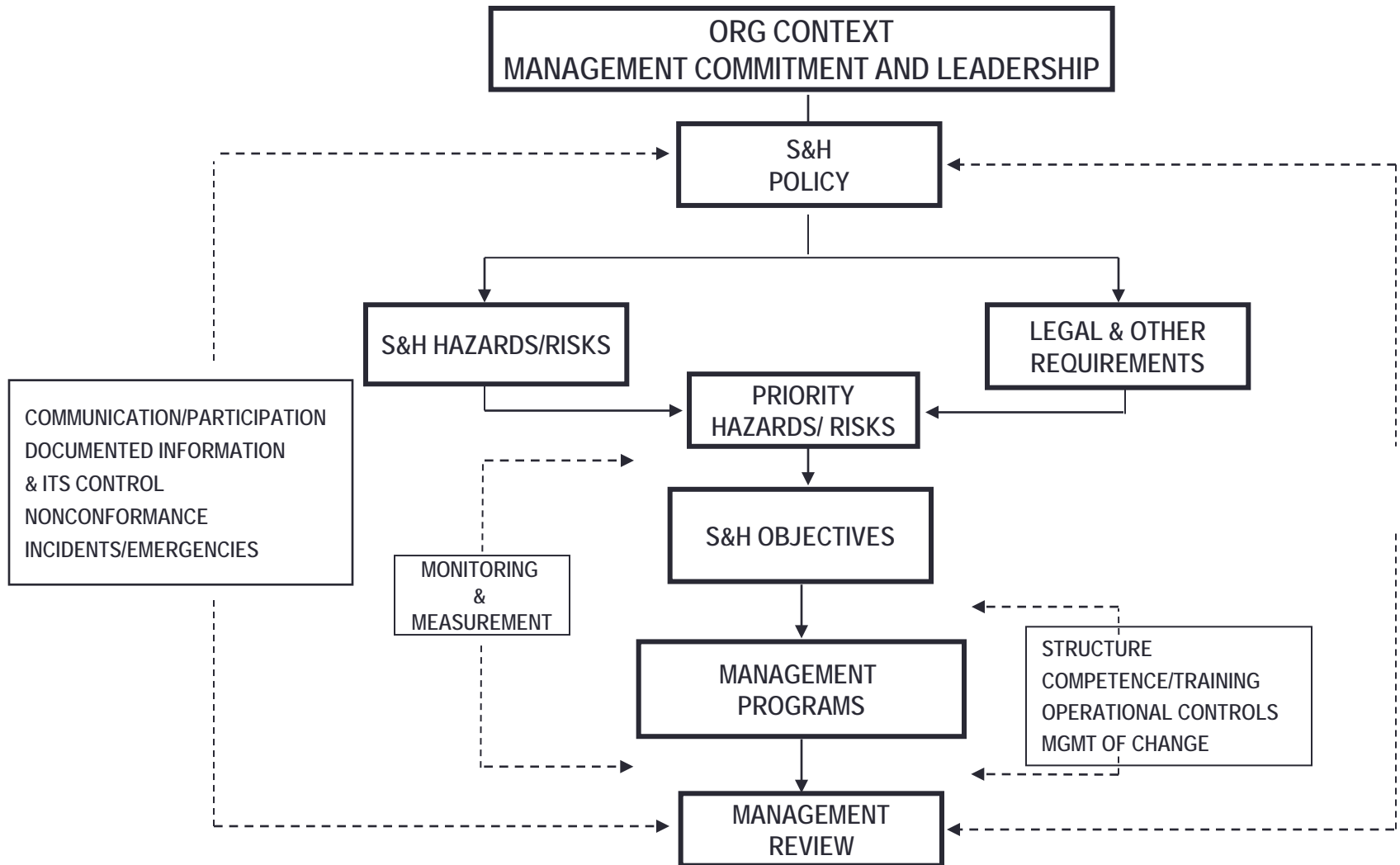
- Mandate:

- **Apply ISO Annex SL:** a common management system structure, requirements, common text, common terms, and core definitions
- Consider global experiences with other OSH consensus standards (e.g., OHSAS 18001, ILO 2000, ANSI Z10, AS/NZ 4801)
- Ensure consistency with other ISO MSS's (ISO 9001, ISO 14001, ISO 50001)

# ISO 45001 CD Highlights

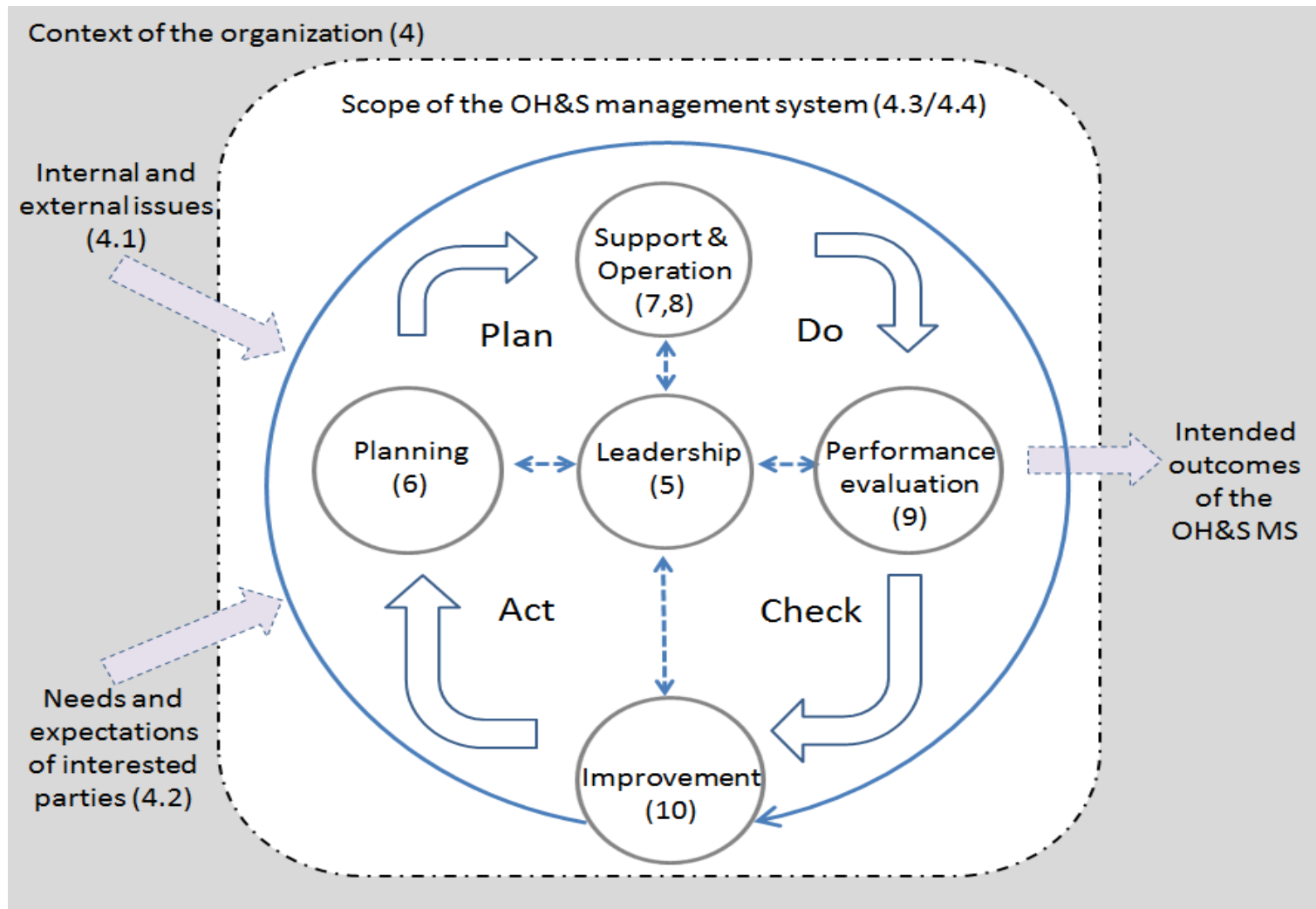
- All ISO Management Systems Standards (MSSs) will be molded to and modeled after a common template and format, commonly called “**Annex SL**” from its designation within another ISO document
- Annex SL dictates all MSSs include the following 10 major Clauses:
  1. Scope
  2. Normative References
  3. Terms and Definitions
  4. Context of the Organization
  5. Leadership
  6. Planning
  7. Support
  8. Operations
  9. Performance Evaluation
  10. Improvement

# ISO 45001 CD Highlights – Proposed General Framework





# ISO 45001 CD Highlights – OHS MS Model



# ISO 45001 CD Highlights – Major Clauses/Sections in the CD

- 1. Scope**
  - 2. Normative references**
  - 3. Terms and definitions**
  - 4. Context of the organization**
  - 5. Leadership & Worker Participation**
  - 6. Planning**
  - 7. Support**
  - 8. Operations**
  - 9. Performance evaluation**
  - 10. Improvement**
- Annex A**

# ISO 45001 CD Highlights – Terms and Definitions

## ISO 45001 CD, Proposed

- **Risk (Annex SL): Effect of uncertainty on objectives**
- **OH&S Risk:** combination of the likelihood of an occurrence of a work-related hazardous event or exposure(s), and the severity of injury or ill health that can be caused by the event or exposures
- **Hazard:** source, situation or act with a potential to cause human injury or ill health
- **Incident:** occurrence arising out of or in the course of work that could or does result in death, injury or ill health

## MIL-STD 882 - Equivalents

- **Risk:** A combination of the severity of the mishap and the probability that the mishap will occur.
- **Hazard:** A real or potential condition that could lead to an unplanned event or series of events (i.e. mishap) resulting in death, injury, occupational illness, damage to or loss of equipment or property, or damage to the environment
- **Mishap:** An event or series of events resulting in unintentional death, injury, occupational illness, damage to or loss of equipment or property, or damage to the environment.

# ISO 45001 CD Highlights – Terms and Definitions

## ISO 45001 CD, Proposed

- **Worker:** person performing work or work-related activities, regularly or temporarily, under the direct or indirect control of the organization
- **Workplace:** place under the direct or indirect control of the organization where a person(s) needs to be or to go by reason of their work

## MIL-STD 882 - Equivalents

- **No equivalent definitions for worker or workplace**

# ISO 45001 CD Highlights – Terms and Definitions

## ISO 45001 CD, Proposed

- **Performance (Annex SL):  
Measurable result**
- **OH&S Performance:**  
*Performance* related to the effectiveness of the prevention of injury and ill health to workers

## MIL-STD 882 - Equivalents

- **No equivalent definitions for worker or workplace**

# ISO 45001 CD Highlights – Terms and Definitions

## ISO 45001 CD, Proposed

- **Management System (Annex SL):** Set of interrelated or interacting elements of an organization to establish policies and objectives and processes to achieve those objectives
- **OH&S Management System:** Part of a management system used to achieve the OH&S policy

## MIL-STD 882 - Equivalents

- **System:** The organization of hardware, software, material, facilities, personnel, data, and services needed to perform a designated function within a stated environment with specified results
- **System-of-systems (SoS):** A set or arrangement of interdependent systems that are related or connected to provide a given capability
- **System safety:** The application of engineering and management principles, criteria, and techniques to achieve acceptable risk within the constraints of operational effectiveness and suitability, time, and cost throughout all phases of the system life-cycle

# ISO 45001 CD Highlights – OHS MS Framework and Initiation

- **Clause 4 Context of the Organization**

- Organizations will be required to determine and define the “context” within which their OHS MS will be developed, implemented, maintained and continually improved
- “Context” includes both internal and external factors, conditions, issues within which the organization is working to achieve its objectives (S&H and otherwise)
- The OHS MS Scope is influenced and informed by the organization’s context, along with its “compliance obligations” (fka “legal and other requirements”) and work activities performed at the organization’s workplace(s)

# ISO 45001 CD Highlights – OHS MS Framework and Initiation

- **Clause 5 Leadership and Worker Participation**
  - ISO 45001 CD, in alignment with proposed updates to ISO 14001 and ISO 9001, includes requirements for an organization's leadership to demonstrate commitment to the OHS MS and engage directly with relevant activities and elements during the stages of development, implementation, maintenance and continual improvement
  - Worker participation requirements are continued from existing baseline standards (OHSAS 18001, ANSI Z10, ILO 2000, etc.) – ensuring worker considerations and engagement with OHS issues management is an integral aspect of the management system



# ISO 45001 CD Highlights – Plan

- **Clause 6 Planning**

- 6.1 Actions to Address OH&S Risks and Opportunities
  - 6.1.1 General
  - 6.1.2 Hazard Identification
  - 6.1.3 Determination of Compliance Obligations
  - 6.1.4 Planning for Changes
  - 6.1.5 Assessment of OH&S Risks and Opportunities
  - 6.1.6 Planning to Take Action
- 6.2 OH&S Objectives and Planning to Achieve Them
  - 6.2.1 OH&S Objectives
  - 6.2.2 Planning to Achieve OH&S Objectives
- MIL-STD 882 would be an implementation element that could guide fulfillment of most of Subclause 6.1
- M-S 882 does NOT include requirements for OH&S objectives

# ISO 45001 CD Highlights – Plan and Do

- **Clause 7 Support**

- 7.1 Resources
- 7.2 Competence
- 7.3 Awareness
- 7.4 Information and Communication
- 7.5 Documented Information
  - 7.5.1 General
  - 7.5.2 Creating and Updating
  - 7.5.3 Control of Documented Information

- Elements of MIL-STD 882 relate to these requirements regarding:

- creation of documented risk information
- communicating risk information and mitigation requirements
- ensuring personnel are aware and adequately trained to perform hazard identification/risk assessment and mitigation tasks
- adequate resources available for completion of the MIL-STD activities

# ISO 45001 CD Highlights – Operations/Implementation (“Do”)

- **Clause 8 Operations**

- 8.1 Operational Planning and Control
    - 8.1.1 General
    - 8.1.2 Hierarchy of Controls
  - 8.2 Management of Change
  - 8.3 Outsourcing
  - 8.4 Procurement
  - 8.5 Multi-Employer Workplaces
  - 8.6 Emergency Preparedness and Response
- MIL-STD 882 includes requirements to determine and implement risk mitigation practices (e.g., controls) that conform at least in part to Clause 8 (primarily 8.1)
  - The DoD’s equivalent to the Hierarchy of Controls (8.1.2) is defined in Section 4.3.4 of M-S 882

# ISO 45001 CD Highlights – “Check” and “Act”

- **Clause 9 Performance Evaluation**
  - Includes commonly known elements to establish monitoring requirements for OHSMS components to ensure conformance with MS requirements and compliance with legal requirements
  - Includes requirement for periodic OHSMS audits
  - Clause 9.3 defines management review requirements
- MIL-STD 882 includes direction to check that processes for hazard identification/risk assessment are established and implemented, as well as ensure effective application of defined mitigation measures
- M-S 882 does NOT include equivalent requirements for internal audits and management reviews, but there are requirements to supply relevant information to leadership periodically

# ISO 45001 CD Highlights – Continual Improvement

- **Clause 10 Improvement**

- Includes requirements to establish a corrective actions process
  - There is no longer a specific requirement for “preventive” action - management systems standards define and resultant systems embody prevention and preventive actions as an inherent characteristic
  - For the first time, includes explicit requirements regarding continual improvement and its demonstration as an output of the management systems approach
- MIL-STD 882 includes requirements to take actions to correct deficiencies detected for any aspect of the hazard identification/risk assessment and risk mitigation processes, and include this information in follow-up reviews to determine if further improvements are necessary (e.g., “lessons learned”)

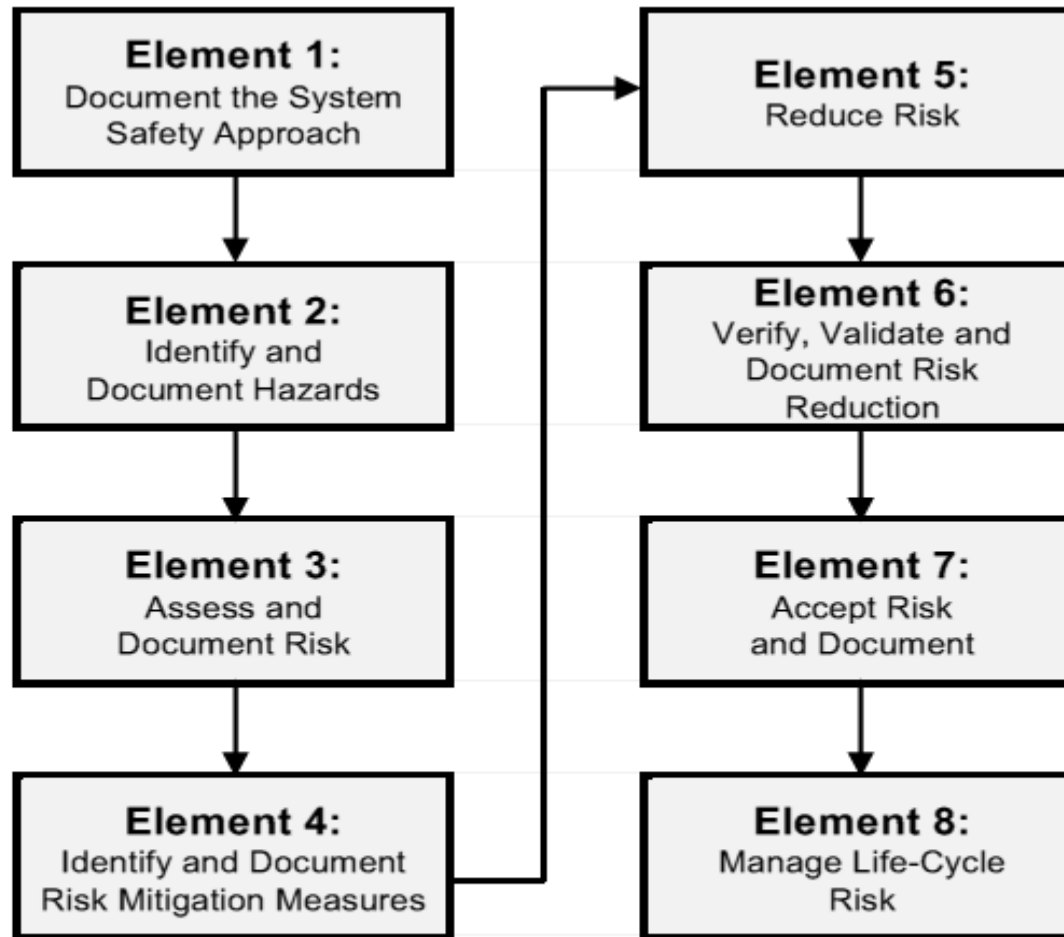
# ISO 45001 and MIL-STD 882E

- While there are elements of M-S 882E that “fit” to the proposed ISO 45001, there is a significant difference between the two documents:

## **MIL-STD 882 is NOT a management system standard**

- M-S 882 is a program description that includes directions to establish a set of interactive processes to address specifically hazards and risks associated with DoD work actions and activities
- It incorporates a “Plan-Do-Check-Act” model
- It would help fulfill several aspects of an OHSMS – but it is not a standard on its own

# ISO 45001 and MIL-STD 882E



**Source:** MIL-STD 882E, Section 4.3

**FIGURE 1. Eight elements of the system safety process**

# ISO 45001 and MIL-STD 882E

- As the flow diagram depicts, the **System Safety Process** is comprehensive and defined as a PDCA-like “loop”
- However, it would not provide for an entire management system if a DoD location used only this program in lieu of a system
- On the other hand, and as noted in previous slides, M-S 882E potentially fulfills many elements of the proposed ISO 45001 – which provides a good start should DoD choose to require or encourage development of OHSMS’



# Final Thoughts...

- **Remember** – all of the ISO 45001 information provided today is still in the proposal stages of development – the final standard version likely will be different, but how substantially different is still very much up in the air
- **BEWARE!** Since ISO 45001 is still at an early development stage – it is not encouraged to use the CD version as a basis to develop a management system since

# Thank You!

