Domestic Nuclear Detection Office

Rad/Nuc Detection Standards Program

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Standards Program

- Based in the Systems Engineering & Evaluation Directorate
- Support the development and maintenance of National consensus standards
- Support US participation in the development and maintenance of International consensus standards
- Develop and maintain government-unique, threat informed Technical Capability Standards
- Perform validation of Rad/Nuc Detection Standards
- Conduct modeling and analysis to develop requirements and verify test methods established by standards
- Provide open access to standards for the preventative rad/nuc detection community

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Goals

- To establish the basic performance requirements as they relate to radiological functions and expected operating environments
- To provide a means for controlled and repeatable testing and analysis of a system's ability to function as defined by the standard
  - Identify functional limitations
  - Ensure that a radiation detection system meets the needs of the user community
  - Ensure that radiation detection standards are not only effective, but efficient.

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Organizations

- ANSI N42 Homeland Security Instruments (HSI)
- IEC SC45B - Radiation Protection Instrumentation
- IEC TC - 104; Environmental Conditions, Classification, and Methods of Test
- ISO TC85
- European Committee for Electrotechnical Standardization (CENELEC)
- International Atomic Energy Agency (IAEA)
- ASTM E54.01

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Process

- Need
  - Users
  - Equipment development
  - Test observations
- Draft Phase
  - Leader identified
    - Develops a Scope and Purpose
    - Establishes a writing committee
    - Drafts the standard
- Coordinate Phase
  - Review/revision from writing committee
- Validation
  - Technical or walk-through
- Publish
  - SDO for consensus
  - DNDO for Technical Capability Standards

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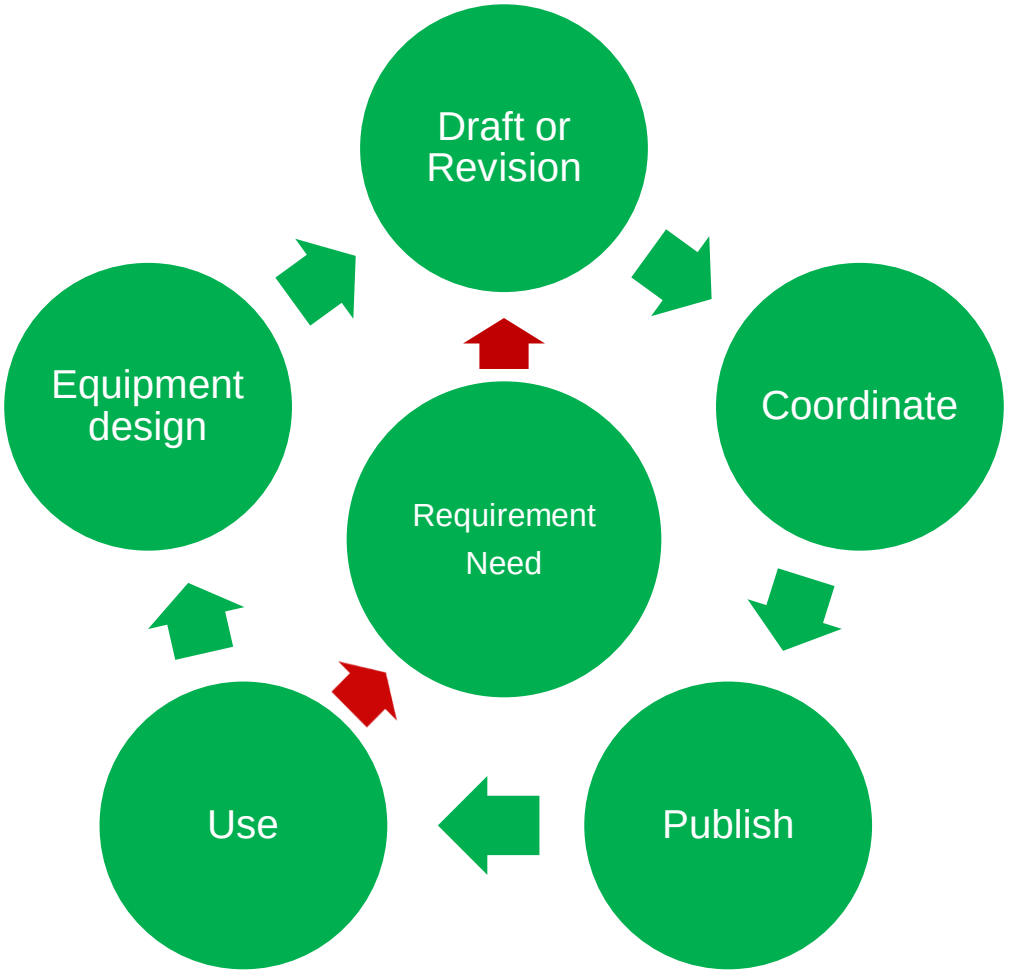
Standards Process - Simplified



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Critical for Successful Standards-Based T&E

- Valid Requirements and Applicable Test Methods
- Detailed Test Methods
  - Ensure reproducibility and consistency
- Independent Validation
  - Vertical vs. Horizontal standards
- Accepted and Implemented by the Community
  - DNDO and the IEEE
  - http://standards.ieee.org/about/get/

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ANSI Use Status

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
N42.32-2006.pdf	17	13	11	16	13	7	8	11	16				**112**
N42.33-2006.pdf	14	8	6	16	16	5	9	12	11				**97**
N42.34-2006.pdf	11	10	8	13	13	3	8	8	7				**81**
N42.35-2006.pdf	17	14	13	14	13	7	9	6	9				**102**
N42.37-2006.pdf	12	7	4	11	10	4	8	8	9				**73**
N42.38-2006.pdf	13	11	6	13	10	5	10	4	7				**79**
N42.41-2007.pdf	11	7	5	11	7	4	10	5	8				**68**
N42.42-2012.pdf				19	14	14	16	14	17				**94**
N42.43-2006.pdf	20	15	11	12	14	4	9	7	9				**101**
N42.48-2008.pdf	17	9	8	18	10	5	12	7	9				**95**
N42.53-2013								1	20				**21**
Total	**132**	**94**	**72**	**143**	**120**	**58**	**99**	**83**	**122**	**0**	**0**	**0**	**923**

User ID													
Private	45	38	56	67	49	4	48	31	74				**412**
Other	17	23	7	13	17	21	26	18	5				**147**
Federal	85	25	15	59	34	18	5	28	16				**285**
Public	13	24	16	47	33	15	20	6	27				**201**
System Administrator													
Select One													**1**
	160	**110**	**94**	**186**	**133**	**58**	**99**	**83**	**122**	**0**	**0**	**0**	**1045**

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Summary

- Ongoing effort
- Results from procurement or testing efforts provide important information during development and revision process
- Controlled, standards-based, technically-valid testing and analysis improves and helps ensure user confidence
- Consensus and Technical Capability Standards should be used as basis for development and procurement efforts

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Additional Information

- General
  - http://www.dhs.gov/supporting-radiological-and-nuclear-detection-standards
- Technical Capability Standards
  - http://www.dhs.gov/publication/dndo-technical-capability-standards
- Standards Program Email
  - DNDOStandards@hq.dhs.gov

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Thank you!

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Backup Slides

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Technical Capability Standards

- Government-unique
  - Establish targeted performance requirements for radiation detection and non-intrusive imaging systems
  - Required by the SAFE Port Act of 2006
- Formed the TCS Work Group (TCSWG)
  - Interagency group with members from DHS, DOE, National Laboratories, and other organizations based on expertise

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TCS Process

- Per instrument type, establish functional requirements and associated test parameters
  - Informed by threat considerations (“threat-informed”)
  - Draw upon existing consensus standards for definition of test parameters
  - Define the detection target(s)
- Draft
- Coordinate
- Publish
  - 3-year use cycle

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TCS Status

- Published
  - Handheld Instruments Used for the Detection and Identification of Radionuclides
  - Backpack Based Radiation Detection Systems
  - Vehicle Mounted Mobile Systems
- Initiated development – Draft stage
  - Advanced Radiography

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