Measurement of Radiation Level and Surface Contamination for Packages and Conveyances

Development of New ANSI Standard-N14.36

Ashok Kapoor
U.S. Department of Energy
N14.36 Subcommittee
PATRAM 2010
October 4-8, 2010

EM Environmental Management
safety ❖ performance ❖ cleanup ❖ closure

Agenda

- American National Standards Institute (ANSI) N14 Standards Committee
- N14 Structure, Roles and Responsibilities
- Establishment of Subcommittee N14.36- Purpose and Scope
- Development of N14.36 Standard
- Status and Path Forward

ANSI Accredited Committee N14-Packaging and Transportation of Radioactive and Hazardous Material

Responsibilities of N14 Consensus Body

- Proposing American National Standards within the scope of N14
- Voting on approval of proposed American National Standards within the scope of N14
- Maintaining the standards developed by N14
- Providing interpretations of the standard(s) developed by N14
- Adopting N14 procedures and revisions
- Other matters requiring consensus body action

N14 Membership Categories

Category	Balloting Member	Types of Affiliations Included
Carrier	1	For hire carriers
Consultant	14	Consulting organizations and individuals
Government Agency	10	Government agencies
Nuclear Industry	7	Nuclear fuel cycle, medical, industrial and academic organizations
Other Standards Development Bodies	1	Coordinators with other standards development bodies
Packaging Manufacturers	5	Packaging manufacturers and providers
Research/Government Contractor	12	Research laboratories and government contractors
Transportation Industry	2	Logistics providers, forwarders, etc.

N14.36 Purpose

- Minimize variability
- Ensure uniform demonstration of radiation and contamination compliance with the regulatory limits
- Promote public and occupational health and safety associated with transportation of radioactive material

N14.36 Scope

The standard sets forth methods for radiation and contamination measurement for packaging and transportation of radioactive material by all modes and during all phases of transportation activities.

N14.36 Subcommittee

The subcommittee consists of experts from the radioactive material packaging and transportation industry in the United States and Canada, non governmental organizations, United States regulatory and government agencies (both federal and state governments)

- **Chair:** **Ashok Kapoor, DOE**
- **Vice Chair:** **Jim Williams, DOT**

N14.36 Membership Categories

Category	Balloting Member	Types of Affiliations Included
Carrier	1	For hire carriers
Consultant	2	Consulting organizations and individuals
Government Agency	9	Government agencies
Nuclear Industry	6	Nuclear fuel cycle, medical, industrial and academic organizations
Other Standards Development Bodies	3	Coordinators with other standards development bodies
Research/Government Contractor	6	Research laboratories and government contractors
Transportation Industry	1	Logistics providers, forwarders, etc.

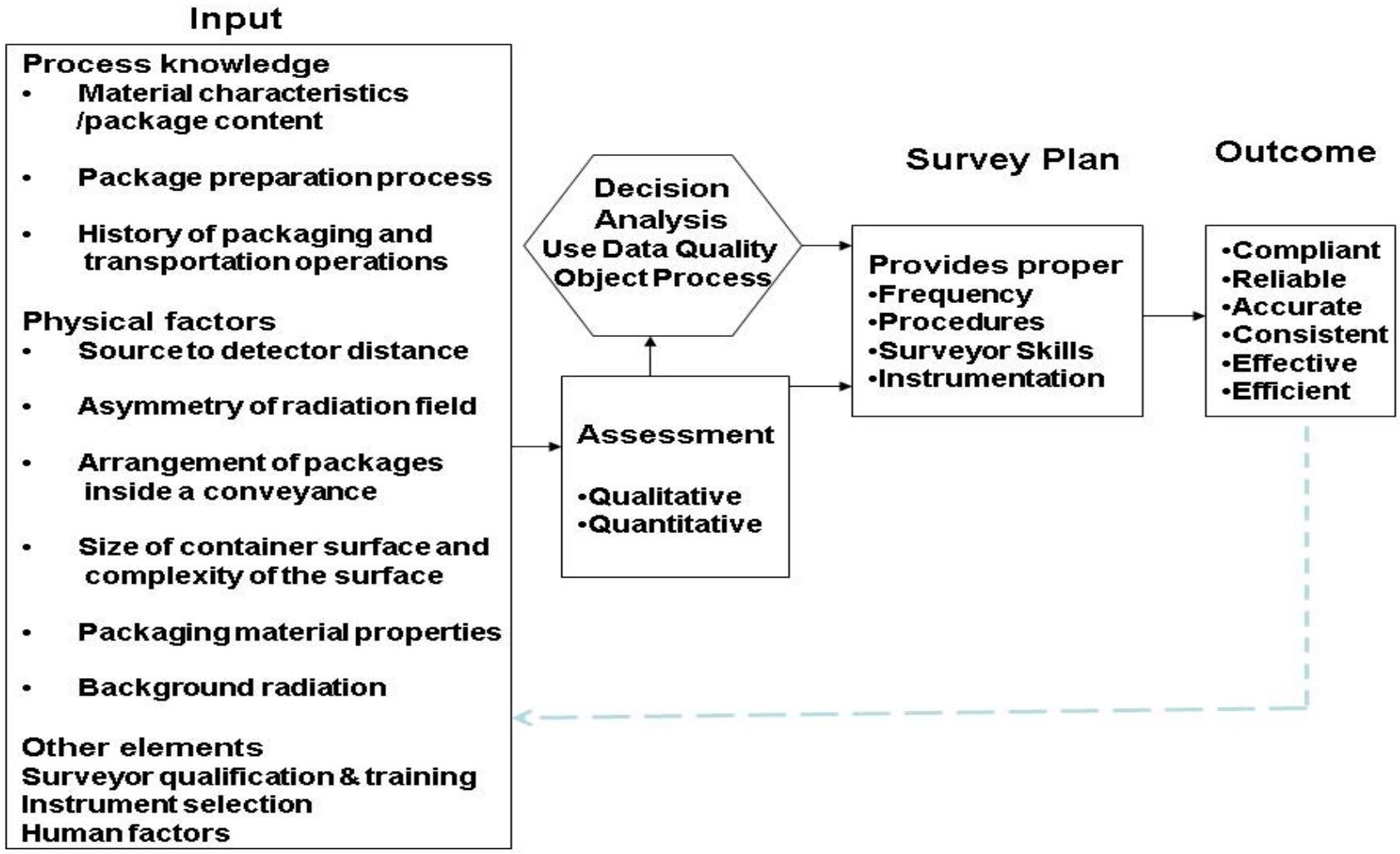
N14.36 Draft

- Foreword
- Definition
- Regulations for Packages and Conveyances
- Survey Program Design Elements
- Conducting Survey Activities
- Documentation of Radiological Survey Activities
- Appendix 1: Radiation Detection Equipment
- Appendix 2: Factors to be Considered in Survey Design
- References

Survey Program Design

- Incorporation of graded approach concept
- Factors to be considered in survey design
  - Process knowledge
  - Physical factors
  - Any other relevant factors
- Incorporation of ALARA (As Low As Reasonably Achievable) principle
- Optimization

Conceptual Approach to Optimum Survey Plan for Packages and Conveyances



N14.36 Timeline

- Subcommittee approval/formed with five members 2004/2005
- Members recruitment/web site/industry survey 2005-2008
- ANSI Project Initiation Notification system (PINS) approved 2007
- Writing assignments/reviews/monthly teleconference calls and annual meetings 2006-present
- Draft Standard to N14 October 30, 2010
- Anticipate approval by December 2011

N14.36 Contact Information

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THANK YOU!

QUESTIONS ?