NRC Workshop on 10 CFR Part 61

Phoenix Hyatt Regency Hotel

March 4, 2011

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Afternoon Agenda

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1:10 - 1:20p	**Introductory Remarks (L. Camper)**
1:20 - 1:40	**NRC Keynote Speaker (Charlie Miller)**
	"An Overview of the FSME LLW Program & Public Outreach"
1:40 - 3:10p	**NRC Presentations on the Status & Update of 10CFR Part 61**
1:40 - 1:55p	**Historical Development of NRC's 10 CFR Part 61 (J. Kennedy)**
1:55 - 2:05p	**Recent Developments in the LLW Arena & SECY10-0165 Options (L. Camper)**
2:05 - 2:15p	**Risk-Inform 10CFR Part 61 Waste Classification Framework (D. Esh)**
2:15 - 2:25p	**Comprehensive Revision to 10 CFR Part 61 (M. Lee)**
2:25 - 2:40p	**Alignment & Harmonization of 10 CFR Part 61 with IAEA Standards (B. Eid)**
2:40 - 2:50p	**Use of Site-Specific Waste Acceptance Criteria—DOE Approach (G. Suber)**
2:50 - 3:00p	**Status Quo & Path-forward (G. Suber)**
3:00 - 3:10p	**Closing Remarks (L. Camper)**
3:10p - 3:55p	**Public Feedback (Session II)**
3:55p - 4:15p	**Coffee Break**

Introductory Remarks and Welcome

Larry Camper, Director
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Goals for Today's Workshop

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- Introduce SECY-10-0165
- Elaborate on Options Described in Commission Paper
- Solicit Initial Feedback from Stakeholders
- Describe Future Opportunities for Public Comment

Questions for Stakeholders

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- Should the staff revise the existing Part 61 or should it be left as is?
- What recommendations do you have for specific changes to the current rule?
- What are your suggestions for possible new approaches to commercial LLW management?

An Overview of the FSME LLW Program & Public Outreach

Dr. Charles Miller, Director
Office of Federal and State Materials and Environmental Programs

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Historical Development of NRC's 10 CFR Part 61

James E. Kennedy
Sr. Project Manager
Low-Level Waste Branch
Division of Waste Management and Environmental Protection
U.S. Nuclear Regulatory Commission
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Purpose

- Describe events that created need for Part 61
- Describe process used to develop 10CFR Part 61
- Understand some assumptions that underlie Part 61
- Help inform current efforts – learn from history

NUREG-1853, "History and Framework of Commercial Low-Level Waste Management in the United States"

- Prepared by NRC's Advisory Committee on Nuclear Waste
- Published January 2007

Early practices – Commercial LLW

- Ocean disposal (~ 60 sites)
  - 1946 – 1970
  - Adverse public reaction
  - Economics -- $48.75/drum vs. $5.15/drum (land)

- Shallow landfills (~ 16 AEC sites)
  - Interim measure

Early commercial disposal sites

- Licensed by AEC under Part 20
  - Beatty (NV) 1962-92
  - Richland (WA) 1965 – present
  - Barnwell (SC) 1969 – present
  - Maxey Flats (KY) 1963-77
  - West Valley (NY) 1963-75
  - Sheffield (IL) 1968-78

The 1970's – Performance Issues

- Three sites
  - Maxey Flats
  - West Valley
  - Sheffield
- Issues
  - Insufficient investigation of geologic features
  - Loose packing of wastes
  - Liquids in waste
  - Poor design of caps
  - Lack of specificity in regulations

NRC 1977 LLW Task Force Report

- In response to GAO reports and Congressional hearings
- “Urgent need to establish comprehensive set of standards….”
- “…..accelerate development of the regulatory program for the disposal of LLW

Congressional Actions

- LLWPA 1980
  - States responsible for providing disposal capacity either within or outside the State
  - States authorized to form Compacts and to exclude out-of-compact waste
  - Compacts could exclude waste after January 1, 1986
- LLRWPA A of 1985
  - Extended LLWPA timetable by 7 years – operating sites could deny access after 1992
  - GTCC, emergency access, BRC among new topics

Part 61 Development Process

- ANPR -1978
- 4 regional workshops – 1980
- Proposed rule – July 1981
- DEIS – September 1981
- FEIS – November 1982
- Final rule – December 1982

Part 61

- Any near-surface or above ground disposal technology
- Commercial LLW disposal
- Integrated systems approach
  - Site selection
  - Site design and operation
  - Waste classification
  - Waste form
  - Closure

NRC Regulatory Philosophy

- Protect the public*
- Protect workers*
- Redundant systems*
- Achieve long-term waste isolation
- Protect the intruder

NRC DEIS, NUREG-0782

- Purpose – provide bases and record for decision on requirements adopted
- Scope
  - Health impacts of LLW disposal
  - Means for limiting impacts
  - Benefits achieved
  - Alternatives in facility environments, waste characteristics, designs, operating practices

NRC DEIS (cont)

- Waste streams – commercial generators
  - Constructed a LLW profile
  - Identified dominant radionuclides
  - Defined a likely inventory for disposal
    - 36 waste streams among 4 classes
    - 24 radionuclides of interest
- Exposure pathways considered – activity and concentration-limited

Potential Mitigation Actions

- Control waste stream concentrations
- Specify waste form/packaging configurations
- Rely on ‘limited’ engineering features
- Adopt institutional controls

DEIS/Proposed Rule Dose Standards

- 25/75/25 mrem coupled w/4 mrem at the nearest public water supply source
- 3-tier waste classification system
  - 500 mr/yr limit for A, B, C, LLW
  - >500 mr/yr waste generally not acceptable for near-surface disposal

FEIS - NUREG-0945

- Not an updated version of draft EIS
- References earlier document
- Presents decision bases and conclusions for final regulations

Part 61 Summary

Table 2 **Overview of 10 CFR Part 61 LLW Classes and Waste Characteristics.** Adopted from NRC (1989, p. 9a) and OTA (1989, pp. 83–84). Section 7.4.3 of this report describes the overall 10 CFR Part 61 waste classification process in more detail.

	Radionuclide Concentration	Waste Form	Examples	Intruder Protection*	Waste Segregation
Class A	low concentrations	minimum waste form requirements no stabilization requirements	contaminated protective clothing, paper, trash	no measures to protect intruder waste decays to acceptable levels to intruder after 100 yr	unstable Class A waste must be segregated from Class B and C wastes
Class B	higher concentrations activity generally 10 – 40 times greater than Class A	minimum waste form requirements 300-yr stabilization requirement	resins and filters from nuclear power plants, wastes encapsulated or stabilized in concrete	requires stabilization of waste form to protect intruder waste decays to acceptable levels to intruder after 100 yr, provided that waste form is recognizable	need not be segregated from Class C wastes
Class C	highest concentrations activity generally 10 – 100 times greater than Class B	minimum waste form requirements 300-yr stabilization requirement	nuclear power plant reactor components, sealed sources, high-activity industrial waste	requires stabilization of waste form and deeper disposal (or barriers) to protect intruder waste decays to acceptable levels to intruder after 500 yr	need not be segregated from Class B wastes

* The 10 CFR Part 61 regulation assumes a 100-yr caretaker period.

What about other radioactive waste?

- GTCC
- "Below Regulatory Concern"
  - NRC proposed (1986 and 1990)
  - Congress revoked (1992)
- Disposition of Solid Materials rulemaking (2005) -- on hold
- Low-activity waste (20.2012, NORM waste)

Resources

- "History and Framework of Commercial Low-Level Radioactive Waste Management in the United States." NUREG-1853, January 2007 http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/

- "Directions in Low-Level Radioactive Waste Management: A Brief History of Commercial Low-Level Radioactive Waste Disposal" DOE/LLW-103, Rev 1. August 1994. http://www.osti.gov/bridge/product.biblio.jsp?osti_id=10191219

Recent Developments in the LLW Arena & SECY-10-0165

Larry Camper, Director
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Environmental Protection

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Recent Developments

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- 2007 LLW Strategic Assessment (SECY-07-0180)
  - Recommended update to concentration averaging BTP
- Disposition of Depleted Uranium
  - Staff analysis in SECY-08-0147
  - 2010 public workshops
  - Commission direction
    - Limited Part 61 rulemaking
    - Introduce an explicit performance assessment requirement
    - Deterministic human intrusion calculation
    - Risk-inform waste classification scheme

Developments
continued

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- Update NRC Concentration Averaging BTP
  - Includes LLW blending
  - Commission direction: SECY-10-0043
  - January 2010 public workshop
  - June 2010 Commission briefing

- NRC Reprocessing Initiative
  - Commercial spent nuclear fuel
  - New LLW streams (and isotopes)
  - New regulatory framework proposed
    - Staff analysis in SECY-09-0082

Developments
continued

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- SECY-10-0165 (Dated December 2010)
  - Identifies options to revising Part 61
  - Focus on approaches that are risk-informed and performance-based
  - Staff Recommendation
    - Meet with stakeholders
    - Float some ideas/options

- Update to DOE Order 435.1

SECY-10-0165

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- Identified Five Options
  1. Risk-Inform Part 61 Waste Classification Framework
  2. Comprehensive Revision Option
  3. International Alignment Option
  4. Site-Specific Waste Acceptance Criteria Option
  5. Maintain *Status Quo* Option

- Seek Stakeholder Feedback

Risk-Informing the 10 CFR Part 61 Waste Classification Framework Option

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Background

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- NRC's waste classification system is prescriptive
- Approach was based on the assumption that many low-level waste facilities would be licensed
- NRC performed 'inverse calculations'
- Approach resulted in waste classification tables (i.e. Tables 1 and 2 of 61.55)
- Approach constrains all sites to NRC's set of assumptions and parameter values

Background

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Inverse Calculation:

- Estimate doses for unit concentrations:
  - Residential construction scenario
  - Humid site
- Consider dilution factors and distribution of waste
- Calculate the concentration that will result in 5 mSv (500 mrem)
- Develop tables that are consistent with institutional controls, intruder barriers, and waste segregation requirements

Risk Informed?

Approaches to Risk-Inform

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Flexibility Increasing

Effort Increasing

- Revise tables to add new radionuclides with 'old' generic modeling (Sandia National Laboratory – OCR of old codes)
- Revise tables to add new radionuclides with new generic modeling
  - Updated parameter values
  - Updated dosimetry
- Revise tables to add new radionuclides with new generic modeling and consider receptor scenario and design (3D table)
- Site-specific waste classification (e.g. WAC approach)

Pros and Cons of Increasing Site-Specificity For Waste Classification

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Pros

- Risk-informed
- Greater flexibility
- Aligns site actions directly with decreasing stakeholder risk
- More consistent with international community

Cons

- More effort to complete analysis
- Greater regulatory oversight needed
- Possible increased stakeholder confusion
  - Site- to-site variability
  - Revisions

Comprehensive Revision to 10 CFR Part 61

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SECY-10-0165 Option #2

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- *Question ….*
  - Starting from scratch, how would one design regulations for the management of commercial LLW in the U.S.?

- *Answer …*
  - Depends upon which elements of the commercial LLW stream the regulations are to apply

Recall That ….

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- Commercial LLW is defined by what it is not

- Commercial LLW is not …
  - Spent nuclear fuel
  - High-level radioactive waste
  - Transuranic radioactive wastes (or GTCC)
  - NORM

- Commercial LLW is …
  - Part 61-like wastes
  - Depleted uranium
  - Low-activity waste
  - Certain reprocessing waste streams (?)

Comprehensive Part 61 Revision

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- How is the LLW hazard to be managed ?
  - Near-surface
  - Intermediate depth
- Will there be a *de minimis* provision ?
  - If so, what should it be?
- How much specificity should there be in the regulations?
  - Focus on performance objectives
  - Balance between regulations and guidance
  - RI/PB approach argues for fewer details in regulation

RI/PB Approach Likely to include

- Updated waste generator survey
- Generic performance assessment
- Updated environmental analysis
- Review of best practices in engineering
- Revise and update guidance

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Option of Alignment & Harmonization of 10CFR Part 61 with IAEA Safety Standards

Joint DOE/NRC Public Meeting

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Topics

- Radioactive waste classification systems in the US with emphasis on 10 CFR Part 61 LLW
- IAEA waste classification system
- Comparative analysis of IAEA *vs.* US waste classes
- Comparison of IAEA vs. 10CFR Part 61 safety criteria
- International alignment & harmonization issues
- Recommendations & Conclusions

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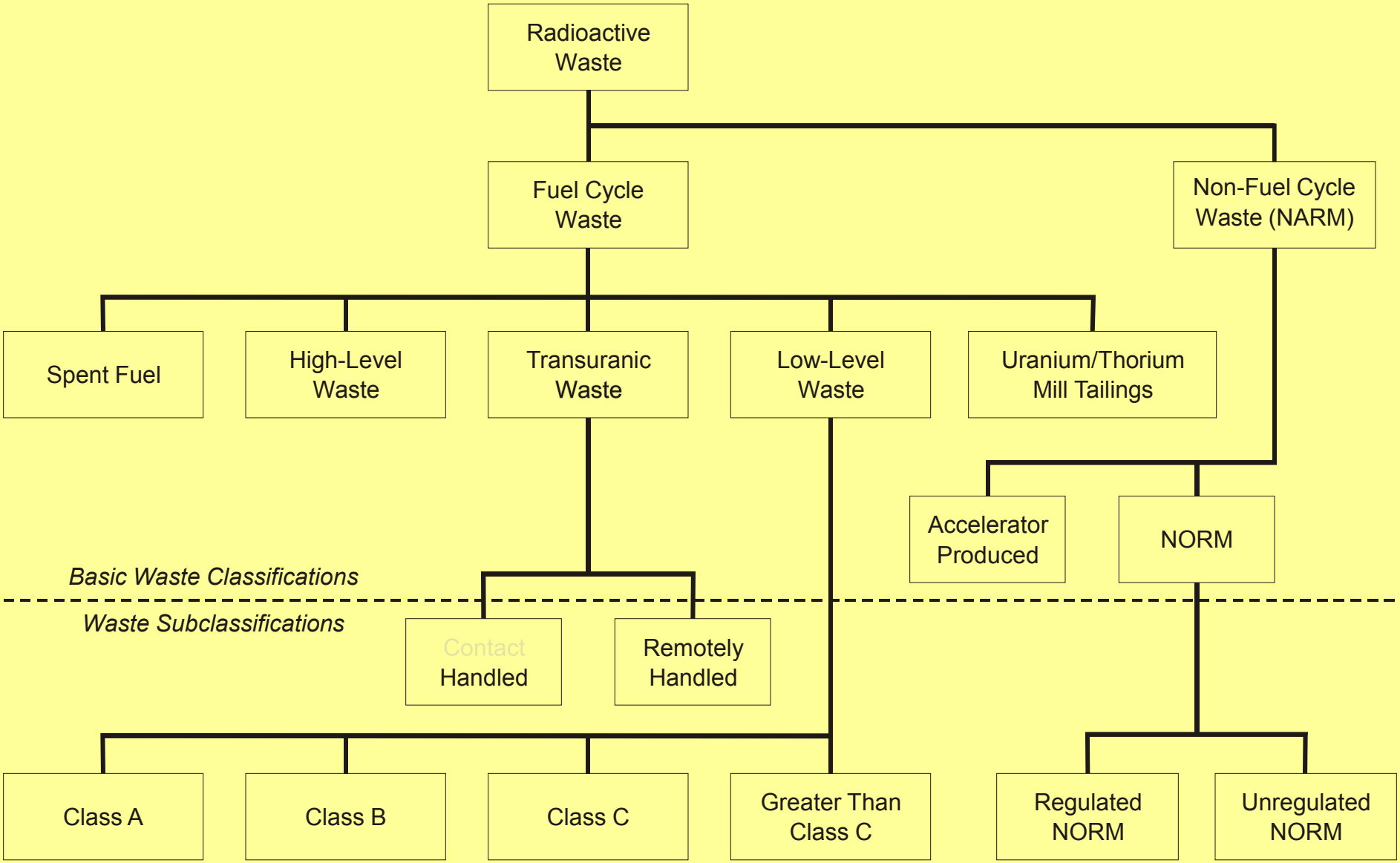
US Waste Classification



10 CFR Part 61 – Waste Classification

- Consideration is given to both short half-life and long-lived radionuclides as provided in 61.55 Tables 1 and 2 respectively
- Class A waste is usually segregated from other waste classes
- Class B waste must meet more rigorous requirements on waste form to ensure stability
- Class C waste must meet more rigorous requirements to ensure stability and requires additional measures to protect against inadvertent intrusion
- Class A, B, C, and "Greater Than Class C" are established
- Indirect determination of concentration is acceptable when correlation with actual measurements exists
- Acceptable to average concentration over volume of waste

NRC Waste Classification Table 1 for Long-Lived Nuclides

Radionuclide	Concentration
C-14	296,000 MBq/m^3
C-14 in activated metal	2,960,000 MBq/m^3
Ni-59 in activated metal	8,140,000 MBq/m^3
Nb-94 in activated metal	7400 MBq/m^3
Tc-99	111,000 MBq/m^3
I-129	29.6 MBq/m^3
Alpha emitting transuranics with ½ lives > 5 years	3700 Bq/gram
Pu-241	129,500 Bq/gram
Cm-242	740,000 Bq/gram

If concentration is < .1 Table value, waste is Class A. If concentration is > 0.1 but less than or equal to Table value, waste is Class C. If concentration is > Table value, waste is greater than class C.

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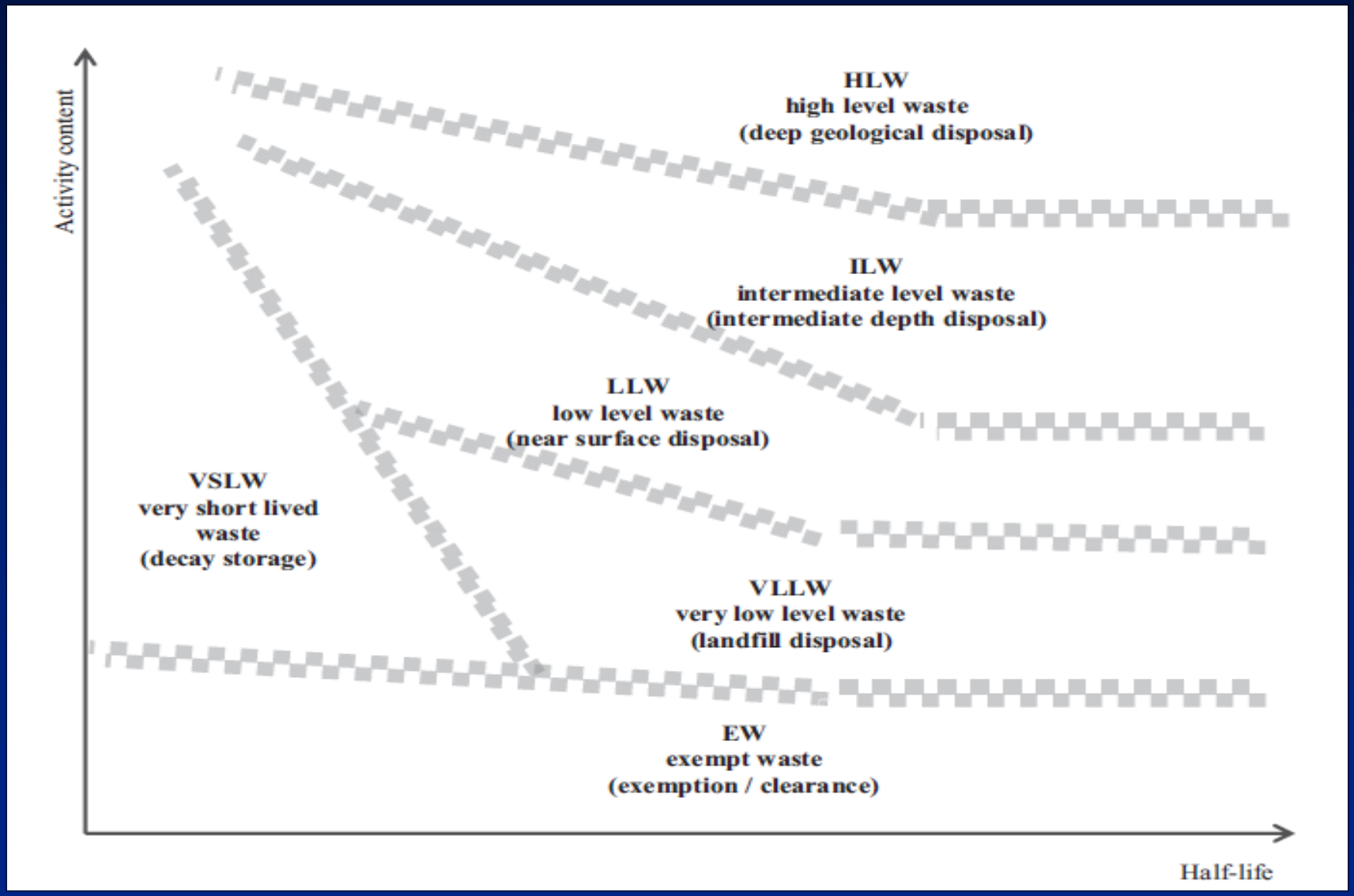
NRC Waste Classification Table 2 for Short-Lived Radionuclides

Radionuclide	Concentration, MBq/m^3		
	Col. 1	Col. 2	Col. 3
Total of all radionuclides with < 5 yr half-life	25.9 X 10^6	n/a	n/a
H-3	1.48 X 10^6	n/a	n/a
Co-60	25.9 X 10^6	n/a	n/a
Ni-63	129,500	2.59 X 10^6	25.9 X 10^6
Ni-63 in activated metal	1.30 X 10^6	25.9 X 10^6	259 X 10^6
Sr-90	1480	5.55 X 10^6	259 X 10^6
Cs-137	37,000	1.63 X 10^6	170 X 10^6

If concentration does not exceed column 1, waste is Class A. If concentration is > col. 1 and < col. 2, waste is Class B. If concentration is > col. 2 and < col. 3, waste is Class C. If > col. 3, waste is not acceptable for near-surface disposal

Conceptual Illustration of IAEA Waste Classification Scheme



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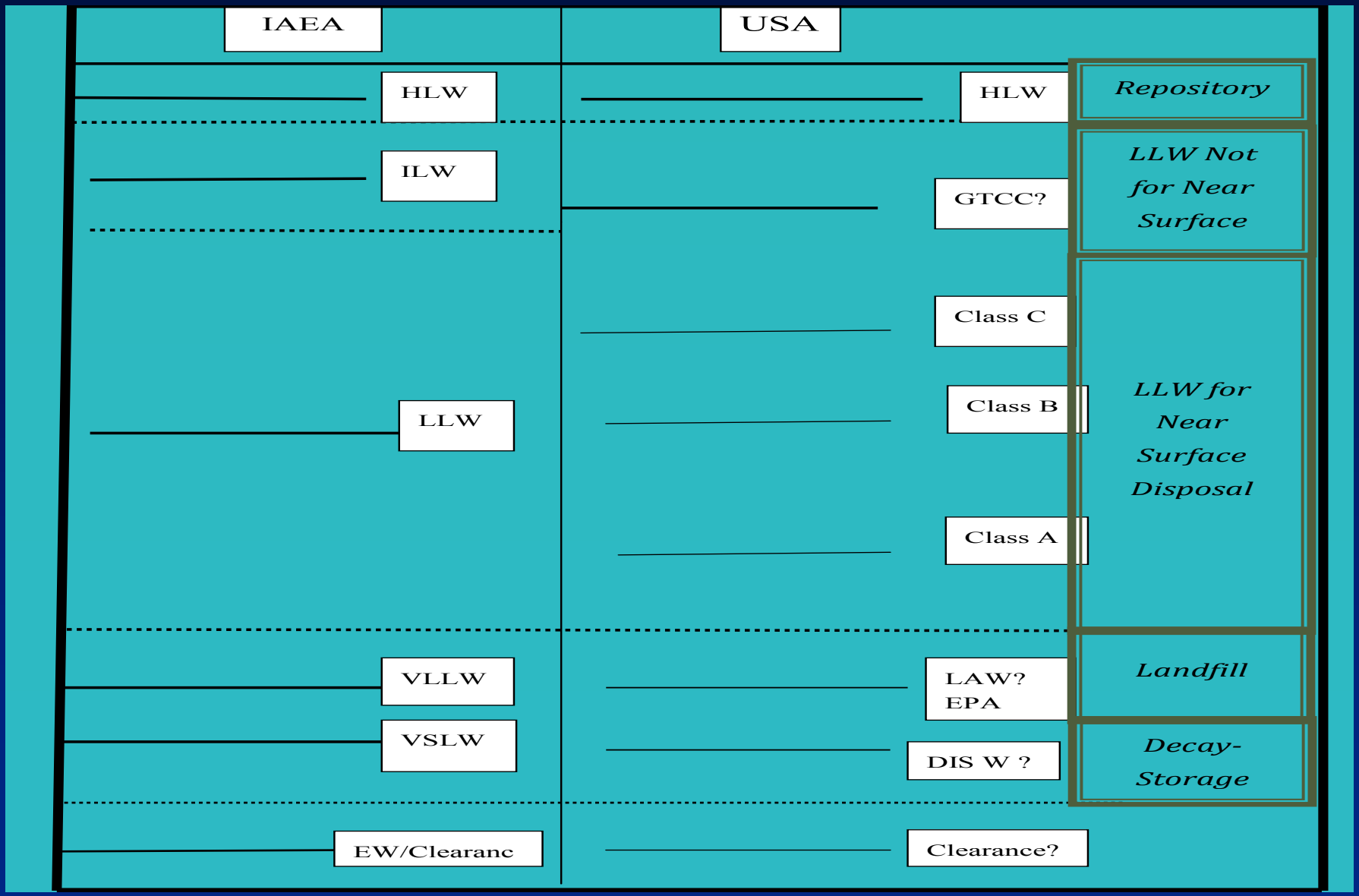
Comparative Analysis of IAEA *vs.* USA Waste Classes



10 CFR Part 61 Safety Requirements

- Protection of the general population from releases of radioactivity (annual doses to any member of the public should not exceed 0.25 mSV/yr to the whole body, 0.75 mSv/yr to the thyroid, and 0.25 mSv/yr to any other organ and maintain effluent releases ALARA)

- Protection of individuals from inadvertent intrusion (protection of any individual inadvertently intruding and occupying the site at any time after active institutional controls over the site are removed)

- Protection of individuals during operations (operation of the LLW facility must be conducted in compliance with the radiation protection standards set out in Part 20 (e.g.; 1 mSv/yr TEDE) and effluent releases under 10 CFR 61.41 & 61.43
- Stability of disposal site after closure (The LLW facility must be sited, designed, operated, and closed to achieve long-term stability to eliminate the need for active maintenance following closure. Only surveillance, monitoring, or minor custodial care are required)

10 CFR Part 61 Safety Requirements (Cont'd)

- Inadvertent intruder protection through requirements of 100 year institutional controls and use of intruder barriers (e.g., use of depth criteria and engineered structures) for wastes with long-term risk. Dose limit for intruder is 5 mSv/yr
- Greater than class C wastes are generally unsuitable for near-surface disposal and require disposal in a geologic repository unless alternative methods are approved by NRC
- Site closure and stabilization actions by the licensee after cessation of operation followed by a 5-year post-closure period for observation, monitoring, and maintenance
- The license is transferred to the State or Federal agency for 100 year institutional control period. Monitoring, access restrictions, and minor custodial activities are conducted during this period
- State or federal government ownership of land to assure custodial care during institutional control period

IAEA LLW Safety Requirements

Public Dose Limit:

- The dose limit for members of the public does not exceed a dose constraint of 0.3 mSv in a year, or a risk constraint on the order of 10^{-5} per year

Intruder Dose Limit:

- Inadvertent human intrusion after closure:
  - if such intrusion is expected to lead to an annual dose of less than 1 mSv to those living around the site, then efforts to reduce the probability of intrusion or to limit its consequences are not warranted.
  - If annual doses in the range 1–20 mSv are indicated, then reasonable efforts are warranted at the stage of development of the facility to reduce the probability of intrusion or to limit its consequences by means of optimization of the facility's design.
  - If human intrusion were expected to lead to a possible annual dose of more than 20 mSv per year to those living around the site, then alternative options for waste disposal are to be considered

IAEA Safety Criteria Requirements Uncertainties and Period of Performance

- Uncertainties associated with these (e.g., dose criteria) estimates will increase for times farther into the future. Caution needs to be exercised in applying criteria for periods far into the future. Beyond such timescales, the uncertainties associated with dose estimates become so large that the criteria might no longer serve as a reasonable basis for decision making

- The disposal facility shall be sited, designed and operated to provide features that are aimed at isolation of the radioactive waste from people and from the accessible biosphere. The features shall aim to provide isolation for several hundreds of years for short lived waste and at least several thousand years for intermediate and high level waste

Issues Pertaining to International Alignment & Harmonization

- In the United States, intermediate level waste is not defined and intermediate depth disposal requirements do not exist
- Under the IAEA system GTCC waste might be classified as ILW. In the US it is classified as LLW unsuitable for near surface disposal
- IAEA has only one LLW class for near surface disposal whereas NRC has three classes A, B, and C. The issue of one LLW class may need to be explored
- IAEA VLLW category is comparable to EPA ANPR on LAW (Nov. 2003). Harmonization of VLLW with LAW may need to be explored further
- IAEA VSLW can be compared with LLW stored for decay onsite (e.g.; decay-in-storage, DIS). This category of waste is dealt with on a case-by-case basis using staff guidance. VSLW may not be suitable as a category of waste
- IAEA EW waste can be comparable with waste categorized under disposition of solid material (commonly known as clearance)
- Clearance is conducted on a case-by-case basis. If regulations are developed, it can be compared with EW

Other International Issues

- Retrievability & Reversibility Issues
- Performance period and safety case
- Recycling and categorization of certain RW as a resource
- How to address climate change
- Decision-making and uncertainties
- Stakeholders inputs
- Institutional controls
- safety criteria for intruder protection
- Graded approach & safety goals

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Backup Slides

References

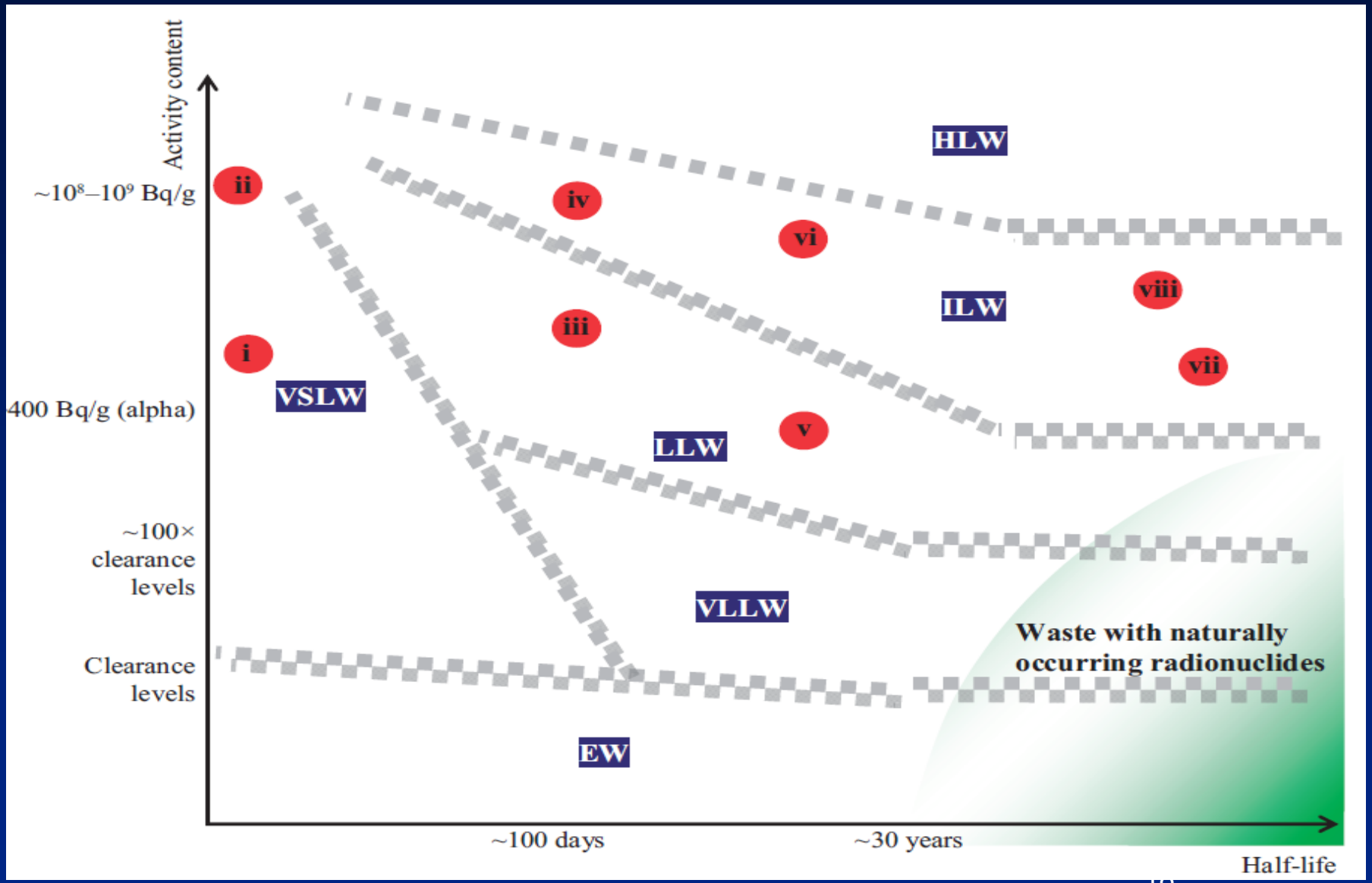
- U.S. Code of Federal Regulations 10 CFR Part 61: *Licensing Requirements for Land Disposal of Radioactive Waste (1982)*
- U.S. Code of Federal Regulations 10 CFR Part 20*: Standards for Protection Against Radiation (1991)*
- U.S. NRC NUREG-1573: *A Performance Assessment Methodology for Low-Level Radioactive Waste Disposal Facilities (2000)*
- IAEA Specific Safety Requirement SSR-5: *Disposal of Radioactive Waste (2010)*
- IAEA General Safety Requirement Part-5: *Predisposal Management of Radioactive Waste (2009)*
- IAEA General Safety Guide GSG-1*: Classification of Radioactive Waste (2009)*

Example of Use of IAEA Waste Classification Scheme

TABLE III–1. DISUSED SEALED RADIOACTIVE SOURCES

Example in Fig. III–1	Half-life	Activity	Volume	Example
i	<100 d	100 MBq	Small	Y-90, Au-198 (brachytherapy)
ii	<100 d	5 TBq	Small	Ir-192 (brachytherapy)
iii	<15 a	<10 MBq	Small	Co-60, H-3 (tritium targets), Kr-85
iv	<15 a	<100 TBq	Small	Co-60 (irradiators)
v	<30 a	<1 MBq	Small	Cs-137 (brachytherapy, moisture density detectors)
vi	<30 a	<1 PBq	Small	Cs-137 (irradiators) Sr-90 (thickness gauges, radioisotope thermoelectric generators (RTGs))
vii	>30 a	<40 MBq	Small, but may be large numbers of sources (up to tens of thousands)	Pu, Am, Ra (static eliminators)
viii	>30 a	<10 GBq		Am-241, Ra-226 (gauges)

IAEA Waste Classification Scheme



Definitions of IAEA Waste Classes

(1) Exempt waste[4] (EW): Waste that meets the criteria for clearance, exemption or exclusion from regulatory control for radiation protection purposes as described in Ref. [6].

(2) Very short lived waste (VSLW): Waste that can be stored for decay over a limited period of up to a few years and subsequently cleared from regulatory control according to arrangements approved by the regulatory body, for uncontrolled disposal, use or discharge. This class includes waste containing primarily radionuclides with very short half-lives often used for research and medical purposes.

(3) Very low level waste (VLLW): Waste that does not necessarily meet the criteria of EW, but that does not need a high level of containment and isolation and, therefore, is suitable for disposal in near surface landfill type facilities with limited regulatory control. Such landfill type facilities may also contain other hazardous waste. Typical waste in this class includes soil and rubble with low levels of activity concentration. Concentrations of longer lived radionuclides in VLLW are generally very limited.

(4) Low level waste (LLW): Waste that is above clearance levels, but with limited amounts of long lived radionuclides. Such waste requires robust isolation and containment for periods of up to a few hundred years and is suitable for disposal in engineered near surface facilities. This class covers a very broad range of waste. LLW may include short lived radionuclides at higher levels of activity concentration, and also long lived radionuclides, but only at relatively low levels of activity concentration.

(5) Intermediate level waste (ILW): Waste that, because of its content, particularly of long lived radionuclides, requires a greater degree of containment and isolation than that provided by near surface disposal. However, ILW needs no provision, or only limited provision, for heat dissipation during its storage and disposal. ILW may contain long lived radionuclides, in particular, alpha emitting radionuclides that will not decay to a level of activity concentration acceptable for near surface disposal during the time for which institutional controls can be relied upon. Therefore, waste in this class requires disposal at greater depths, of the order of tens of metres to a few hundred metres.

(6) High level waste (HLW): Waste with levels of activity concentration high enough to generate significant quantities of heat by the radioactive decay process or waste with large amounts of long lived radionuclides that need to be considered in the design of a disposal facility for such waste. Disposal in deep, stable geological formations usually several hundred metres or more below the surface is the generally recognized option for disposal of HLW.

Use of Site-Specific Waste Acceptance Criteria

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Low-Level Waste Branch

Division of Waste Management and

Environmental Protection

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Background

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- Part 61 Includes Generic Waste Classification Tables
  - Assumptions concerning likely waste streams
  - Assumptions concerning disposal practices
  - Differentiate between short-term vs. long-term isotopes
    - Three waste classes (A, B, & C)
- Limitations of Approach…
  - Generic waste acceptance criteria
  - Based on most limiting site performance
  - Static
    - Does not account for improvements in technology
    - Based on assumed waste streams

SECY-10-0165 … Option #3

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- Eliminate waste classification tables at §61.55

- Each disposal site develops site-specific WAC
  - Concentration limits
  - Inventory limits (if necessary) … *general or waste stream-specific*
  - Waste Form requirements

- Site-specific WAC consistent with
  - Part 61 performance assessment/intruder analysis
  - Subpart C performance objectives
  - Periodic update

Option #3
Benefits

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- Increased Flexibility…
  - Site characteristics
  - Engineered features
  - Operational approaches/practices
- Reflects a More Risk-Informed, Performance-Based Regulatory Approach
  - Performance Assessment informs acceptability of Waste Stream
  - Focus on management of radiological hazard
  - Clearer linkage between WAC and risk assessment
- A compact could design a site for the waste needed to be rather disposed than for all wastes

Option #3 *Challenges*

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- Part 61 Waste Classification System Well-Institutionalized
  - Low-Level Radioactive Waste Policy Act
  - Other Federal/State laws citing A/B/C/GTTC LLW subdivisions
  - State regulations for LLW disposal (WA, UT, TX, SC esp.)
  - Thousands of generators' processes/procedures for waste classification
- Potential for Orphaned Waste Streams
  - WACs vary for each disposal site
  - Some waste streams may need additional processing/treatment
  - Need for more deliberate planning by waste generators
  - WACs may not be finalized until a site is actually licensed

Maintain *Status Quo*

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Environmental Protection

NRC Workshop on 10 CFR Part 61
Phoenix Hyatt Regency Hotel
March 4, 2011

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SECY-10-0165
Option #5

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- Maintain Part 61, as is
- Complete on-going performance assessment rulemaking
  - Consistent with SECY-08-0147
- Would not update Tables 1 and 2 in §61.55(a)

Closing Remarks

Larry Camper, Director
Division of Waste Management and
Environmental Protection

NRC Workshop on 10 CFR Part 61
Phoenix Hyatt Regency Hotel
March 4, 2011

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Summary

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- Meeting Record
  - Transcript
  - Internet Webinar Connection
  - Telephone Call-in

- Additional Information
  - *http://webwork.nrc.gov:300/about-nrc/regulatory/rulemaking/potential-rulemaking/potential-part61-revision.html*

- NRC Staff Seeks Public Feedback
  - www.regulation.com
    - Docket ID **NRC-2011-0043**

ACRONMS

U.S.NRC
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AEC	Atomic Energy Commission
ALARA	As low as reasonable achievable
BTP	Branch Technical Position
DOE	US Department of Energy
DU	Depleted uranium
IAEA	International Atomic Energy Agency
ICRP	International Commission on Radiation Protection
GAO	General Accounting Office
LES	Louisiana Energy Services
LLW	Low-level radioactive waste
NEPA	National Environmental Policy Act of 1969
RI/PB	Risk-informed/performance-based