USEC's American Centrifuge

Issues Related to Licensing of New Enrichment Facilities

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Topics

- American Centrifuge Program – Perspective
- Establishing the Foundation for Commercial Plant Licensing
- Commercial Plant Licensing
- Key Success Factors

American Centrifuge Program – Perspective

Our Vision

- Deploy a new, cost-effective advanced enrichment technology to provide a long-term, reliable, competitive fuel source for the world's growing number of nuclear power plants

Lead Cascade
Piketon OH

American Centrifuge Program – Perspective

National Benefits

- Re-vitalize domestic uranium enrichment manufacturing and technology infrastructure
- Re-establish nuclear fuel leadership with world's most efficient uranium enrichment
- Strengthen energy and national security through continued source of domestic enriched uranium

Technology & Manufacturing Center
Oak Ridge TN

American Centrifuge Program – Perspective

Three Distinct and Integrated Phases

Technology Demonstration and Commercial Plant Deployment

Centrifuge Testing

- Individual full-size machines built and tested
- ***Demonstrated machine performance of ~350 SWU/yr in October 2006***
- Optimizing aspects of individual machine performance
- Manufacturers educated on design, assembly and operation
- Ongoing improvement to performance and costs

Demonstration Facility (Lead Cascade Test Program)

- Prototype machines assembled and installed
- ***Closed-loop cascade testing commenced in August 2007***
- Continue testing for extended period at variety of operating conditions and configurations

Commercial Plant

- ***NRC license issued in April and construction began in May 2007***
- Strategic suppliers preparing for ramp-up in manufacturing
- Expected initial capacity of ~3.8 million SWU/year
- Modular deployment approach mitigates technology risk and enables potential cost and performance improvements

USEC Inc.'s American Centrifuge Plant (ACP)

More than 1.7 million square feet under roof
~ 30 football fields

USEC
A Global Energy Company

Establishing the Foundation for Commercial Plant Licensing

Lead Cascade Demonstration Facility

- Lead Cascade was the first application submitted under new 10 *Code of Federal Regulations* (CFR) Part 70, Subpart H requirements
- License issued in February 2004 following 12-month safety, safeguards, and environmental review
- NRC prepared Safety Evaluation Report (SER) and Environmental Assessment
- Provided experience with licensing process for uranium enrichment facility applications
- Provided opportunity to familiarize NRC with the technology, the site, and the facilities

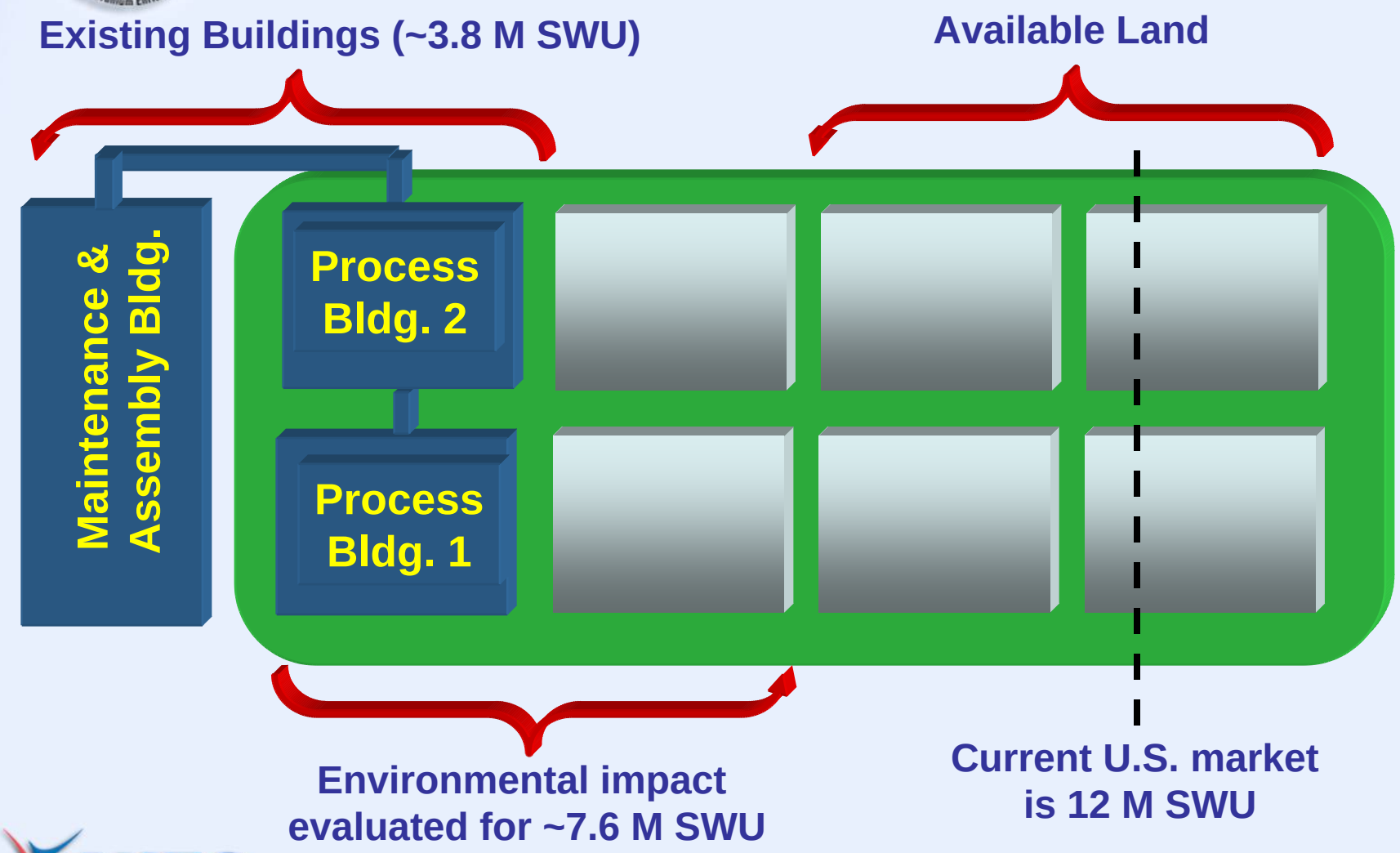
Commercial Plant Licensing

American Centrifuge Plant

- License for construction and operation of a uranium enrichment facility
  - 30 month review schedule established
  - Adjudicatory hearing required
  - Environmental Impact Statement (EIS) required
- License Application submitted August 2004
- EIS issued April 2006
- SER issued September 2006
- Oral limited appearance session conducted January 2007
- Hearing conducted March 2007
- Atomic Safety and Licensing Board decision April 13, 2007

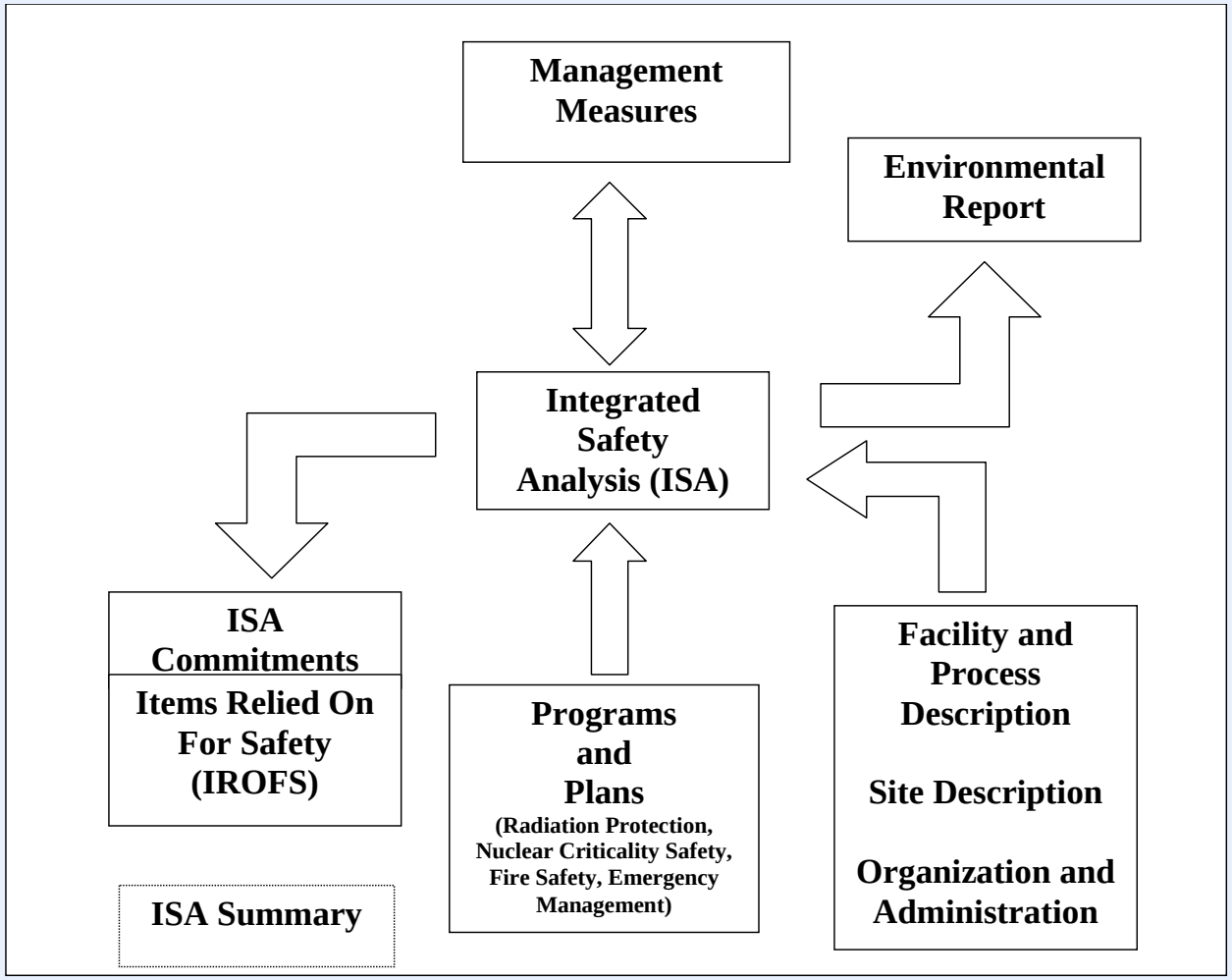
Commercial Plant Licensing

Expansion Potential



Key Success Factors

Understand the Information Requirements and Interrelationships



Key Success Factors

Understand the NRC Review Criteria

- Application followed standard format and content
  - NUREG-1520, *Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility*
  - NUREG-1748, *Environmental Review Guidance for Licensing Actions Associated with NMSS Programs*
  - NUREG-1513, *Integrated Safety Analysis Guidance Document*
  - Other NRC guidance documents and industry standards
- Use of a standard submittal format for new applications facilitates a uniform and clear presentation
- Standard Review Plans:
  - Provide guidance on those areas NRC will review and the acceptance criteria that will be applied, and
  - Provide parameters for NRC's review

Key Success Factors

Understand NRC Review Process

- Acceptance review
- Requests for additional information (RAIs)
  - Typically 30-day response required
  - License Application and supporting documents revised in response to RAIs
- Telephone conference calls and meetings concerning various technical topics
- On-site reviews (e.g., ISA)
- NRC review may involve consultants with specific technical expertise
- Environmental review process very structured
  - Implements National Environmental Policy Act of 1969
  - Environmental Impact Statement required for uranium enrichment facilities
- Mandatory adjudicatory hearing

Key Success Factors

Establish Rigorous Internal Review Process

- Established internal subject matter experts
  - External expertise supported ISA development and preparation of portions of Environmental Report
- Comprehensive multi-discipline review process utilized
  - Included Licensing, Environmental, Finance, Quality Assurance, Operations, Maintenance, Safety Analysis, and Engineering expertise
  - Included in-house and outside counsel
- Review conducted at various milestone points
  - Strategy/Approach Review
  - Technical Review
  - Independent Review
- Prepared “Compliance Matrix”

Key Success Factors

Other Considerations

- Make effective communication a top priority
  - Better to over communicate
  - Listen
  - Reach out to stakeholders
- Get appropriate management involved early
  - Don’t allow technical issues to remain unresolved
- Ensure unique or site specific issues and policy type issues are addressed and settled early in process

Feedback

- Questions?