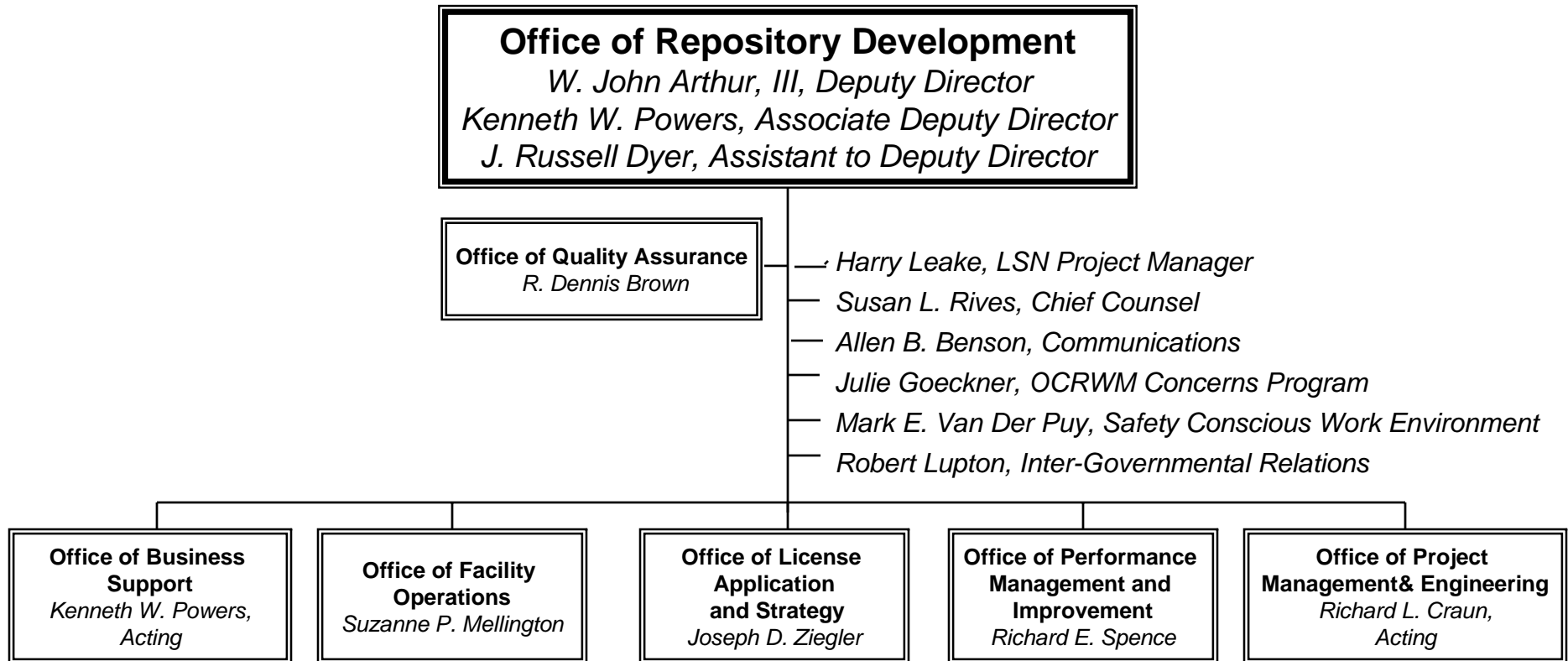# Office of Repository Development Project Update
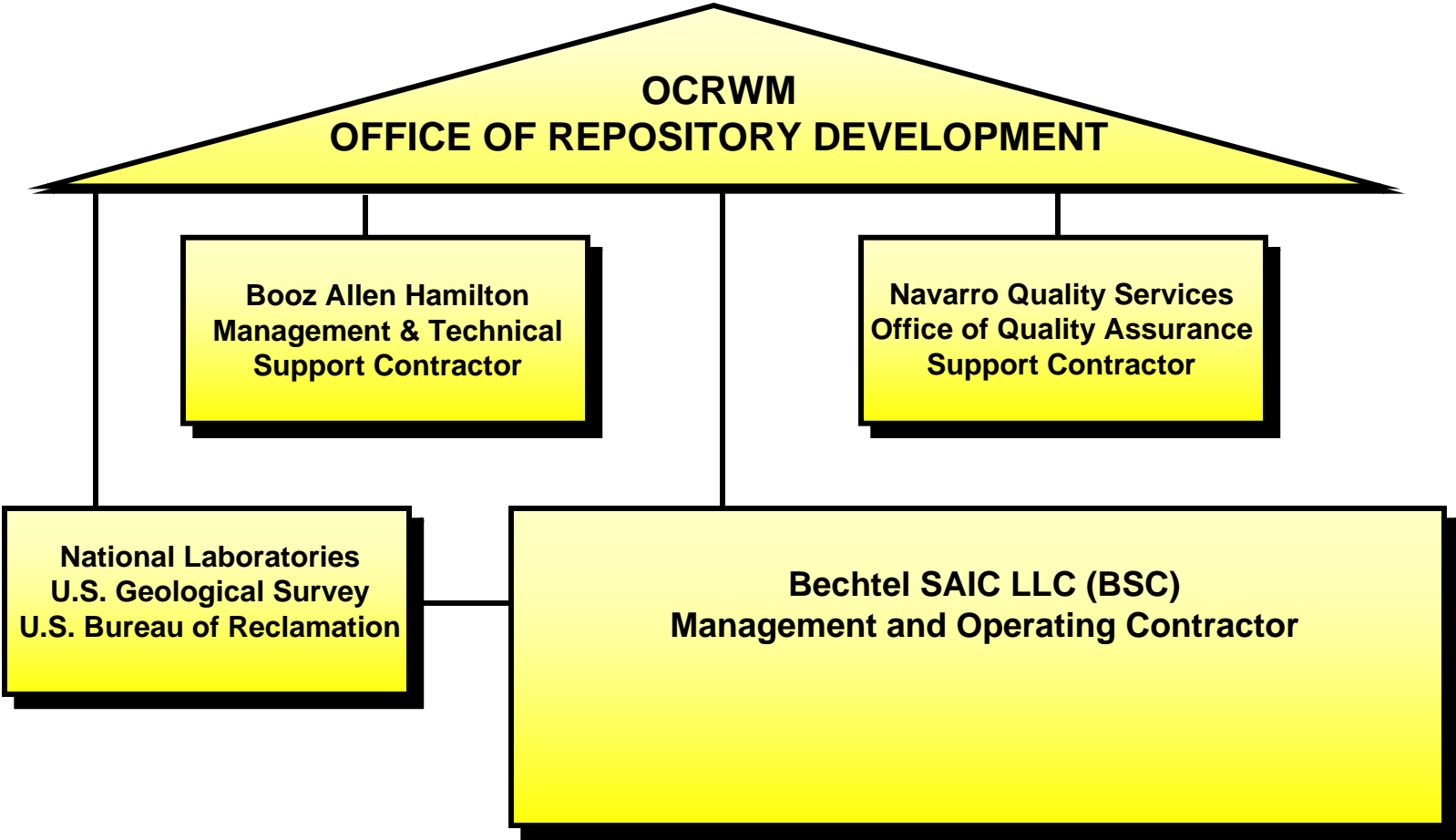
Presented by:
W. John Arthur, III
Deputy Director, Office of Repository Development
U.S. Department of Energy

September 20, 2004
Las Vegas, Nevada

Office of Repository Development

Office of Repository Development
W. John Arthur, III, Deputy Director
Kenneth W. Powers, Associate Deputy Director
J. Russell Dyer, Assistant to Deputy Director

Office of Quality Assurance
R. Dennis Brown

- *Harry Leake, LSN Project Manager*
- *Susan L. Rives, Chief Counsel*
- *Allen B. Benson, Communications*
- *Julie Goeckner, OCRWM Concerns Program*
- *Mark E. Van Der Puy, Safety Conscious Work Environment*
- *Robert Lupton, Inter-Governmental Relations*

Office of Business Support
Kenneth W. Powers, Acting

Office of Facility Operations
Suzanne P. Mellington

Office of License Application and Strategy
Joseph D. Ziegler

Office of Performance Management and Improvement
Richard E. Spence

Office of Project Management & Engineering
Richard L. Craun, Acting

Office of Repository Development and its Technical Participants

OCRWM
OFFICE OF REPOSITORY DEVELOPMENT

Booz Allen Hamilton
Management & Technical
Support Contractor

Navarro Quality Services
Office of Quality Assurance
Support Contractor

National Laboratories
U.S. Geological Survey
U.S. Bureau of Reclamation

Bechtel SAIC LLC (BSC)
Management and Operating Contractor

Progress Toward License Application

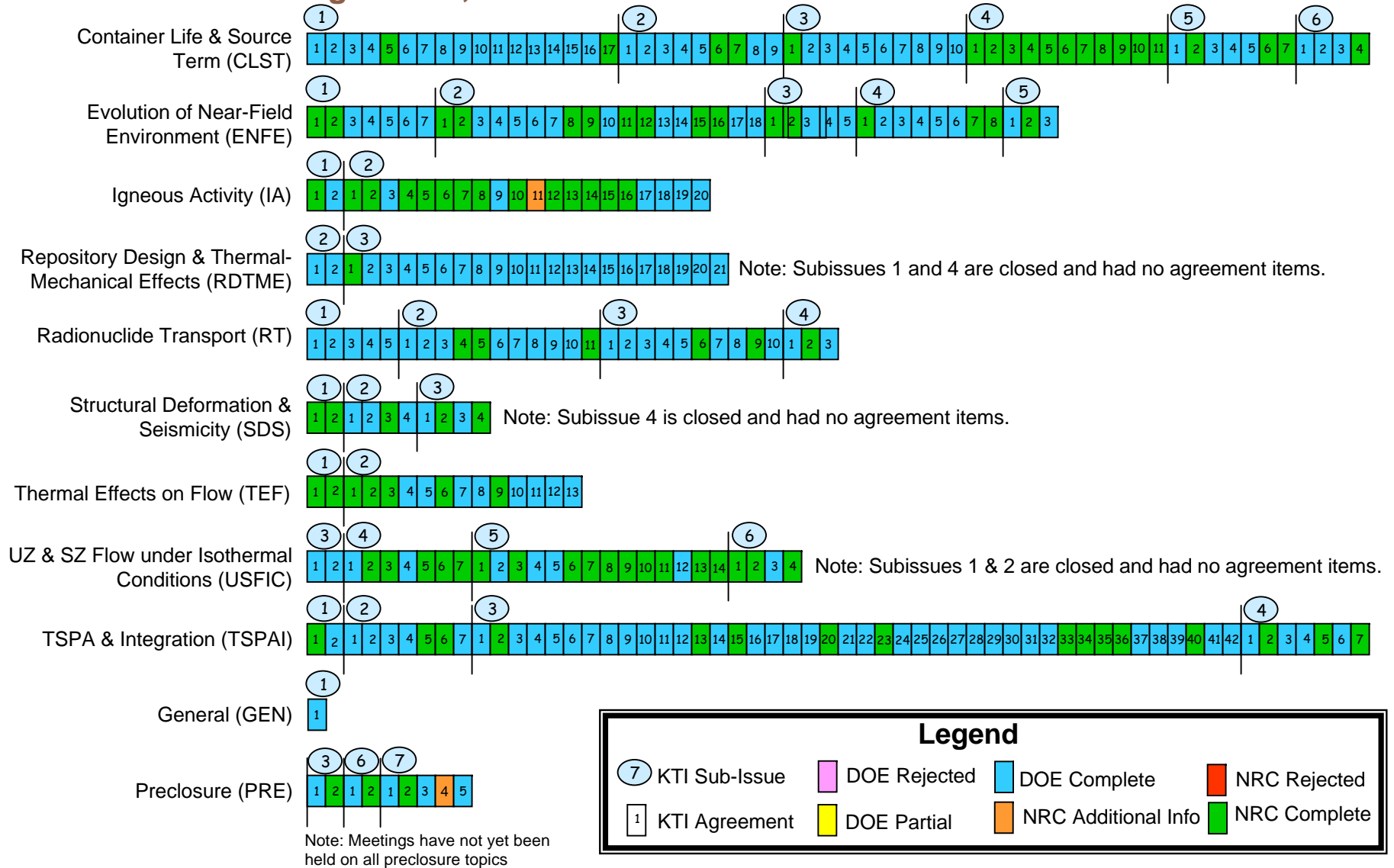| Component	% Complete (Jun '03)	% Complete (Jul '04)
KTI Agreements Addressed	27%	*94%
LA Document	5%	76%
Preclosure Safety Assessment	14%	89%
TSPA-LA	35%	81%**
Design	25%	90%
Total Weighted % Complete	25%	85%

* Status reflected as % of 293 agreements with DOE submittals to NRC as of July; 100% complete was achieved August 31, 2004

** This value will be held at the current value through September pending completion of the Analysis Model Report/Regulatory Integration Team (AMR/RIT) effort and the Total System Performance Assessment-License Application (TSPA-LA) document

DOE Key Technical Issue Progress Thermometer

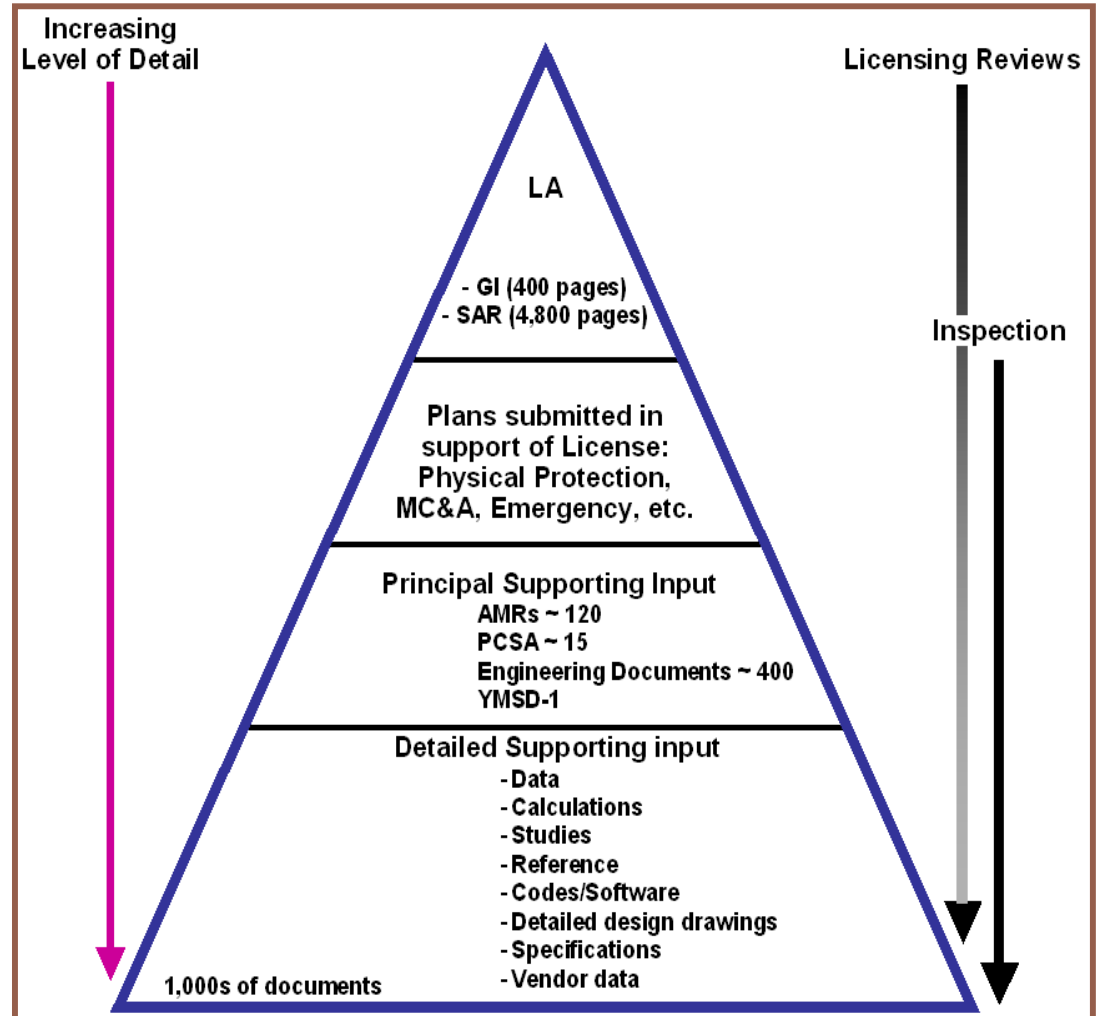## As of August 31st, DOE had transmitted/addressed 100% of all KTIs

Note: Subissues 1 and 4 are closed and had no agreement items. (RDTME)

Note: Subissue 4 is closed and had no agreement items. (SDS)

Note: Subissues 1 & 2 are closed and had no agreement items. (USFIC)

Note: Meetings have not yet been held on all preclosure topics

Legend

7 KTI Sub-Issue	DOE Rejected	DOE Complete	NRC Rejected
1 KTI Agreement	DOE Partial	NRC Additional Info	NRC Complete

11 Note: Additional Information on IA-2.11 & PRE-7.4 to be provided in License Application

License Application Content and Supporting Documents

- **General Information (GI), 400 pages**
  1. **General Description**
  2. **Proposed Schedules for Construction, Receipt and Emplacement of Waste**
  3. **Physical Protection Plan**
  4. **Material Control and Accounting Program**
  5. **Site Characterization**

- **Safety Analysis Report (SAR), 4,800 pages**
  1. **Repository Safety Before Permanent Closure**
  2. **Repository Safety After Permanent Closure**
  3. **Research and Development Program to Resolve Safety Questions**
  4. **Performance Confirmation Program**
  5. **Administrative and Programmatic Requirements**

Increasing Level of Detail

Licensing Reviews

Inspection

LA

- GI (400 pages)
- SAR (4,800 pages)

Plans submitted in support of License: Physical Protection, MC&A, Emergency, etc.

Principal Supporting Input
AMRs ~ 120
PCSA ~ 15
Engineering Documents ~ 400
YMSD-1

Detailed Supporting input
- Data
- Calculations
- Studies
- Reference
- Codes/Software
- Detailed design drawings
- Specifications
- Vendor data

1,000s of documents

Licensee Transition Team

- **Tasked with developing a transition plan that defines the goals, actions, milestones, and responsibilities for a successful transition to an NRC-regulated environment**

- **Reports to the ORD Associate Deputy Director, chaired by Richard Spence**

- **LTT is responsible for:**

    - **Defining key attributes of a successful NRC Applicant/Licensee**

    - **Defining best practices, processes and systems for each project phase**

    - **Identifying current state and perform gap analysis**

    - **Defining action plans and time frame to implement transition**

    - **Performing inspection readiness**

Key Attributes of a Successful Licensee

Key Attribute	Demonstrated By
Leadership	• Vision is apparent • Conservative and fully-informed decision making is used • Defensible management systems are used • Executable strategies are in place • Team work and individual accountability are evident • Sound planning and rigorous execution is evident
Commitment to Quality and a Strong Nuclear Safety Culture	• Cost/Schedule pressure does not compromise quality or safety • Actions are traceable and defendable • Rigorous, industry standard processes are used • Nuclear operating experience (i.e., lessons learned) is used • Incorporate defense-in-depth and risk management • Strong employee concerns program is in place • The Safety Conscious Work Environment includes evidence of a strong nuclear safety culture
Clear Organizational Goals	• Goals and progress toward goals are effectively communicated throughout the organization • Clear expectations for performance are communicated • Metrics are established to measure performance against goals and are visibly displayed

Testing Categories and Criteria

1. Natural & Engineered Systems Test & Evaluation	2. Design Construction & Ops Testing	3. Performance Confirmation	4. Regulatory Directed R&D Programs	5. Health, Safety & Effluents	6. Security & Emergency Testing	7. Licensing Specifications	8. Science & Technology Program
1a. Elective DOE Testing in Response To NRC Questions = Resulting from NRC review of LA and requests for additional information	**2a. Prototype Evaluation** = Testing first-of-kind items to confirm fabrication & non-destructive examination methods	**3a. Performance Confirmation Tests** = Testing & Monitoring in Performance Confirmation Plan per 10 CFR 63	**4a. NRC-Requested R&D Safety Tests** = to resolve safety issues identified by NRC-mandated conditions of license	**5a. ES&H Compliance Monitoring** = To confirm public & worker health & safety & to demonstrate compliance with permits	**6a. Security Safeguards & Emergency Tests** = Testing to confirm functional performance of systems	**7a. Licensing Specifications** = Monitoring to comply with NRC specifications to ensure safety bases are met	**8a. Natural System S&T for Long-Term Barrier Performance** = R&D tests to develop long-term barrier performance enhancements
1b. DOE Elective Testing = Selected to evaluate uncertainty & conservatism; Data for potential TSPA modifications or to strengthen technical arguments	**2b. Design, Construction & Startup** = Geotechnical & construction materials testing; Testing of components, sub-systems, & systems to confirm functional & operational performance		**4b. NRC 10 CFR 63.74(a) Tests** = Performance of tests specified by NRC under 63.74(a) - "Tests"				**8a. Engineered System S&T for Long-Term Ops Performance** = R&D tests to develop long-term facility operational & TSPA performance improvements
	2c. Operations & Maintenance = Planned ops & maintenance testing to confirm maintenance requirements & operating performance						

SCWE

MANAGEMENT SUPPORT	EFFECTIVE NORMAL PROBLEM RESOLUTION PROCESSES	EFFECTIVE ALTERNATE PROBLEM RESOLUTION PROCESSES	EFFECTIVE METHODS TO DETECT AND PREVENT RETALIATION
85% (up from 77%)	70% (up from 58%)	85% (up from 76%)	90% (up from 86%*)
WORKER CONFIDENCE and TRUST	Corrective Action Program & Differing Professional Opinions	OCRWM Concerns Program & BSC Employee Concerns Program	FOCUS / SCWE Review Team * Pulse Survey

Joint Leadership Council SCWE Improvement Goals

August 2004 MOR Annunciator Panel

Note: Reflects data as of July 2004