

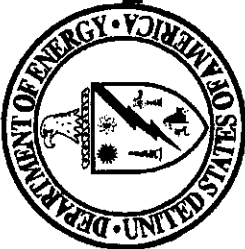
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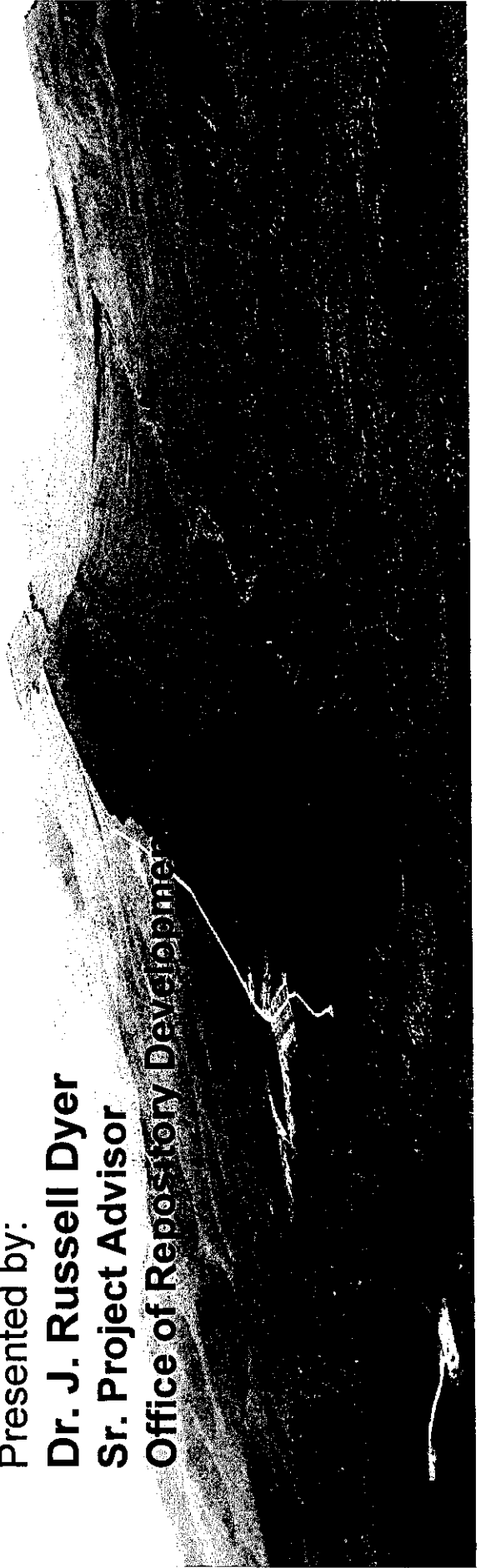
U.S. Department of Energy
Office of Civilian Radioactive Waste Management



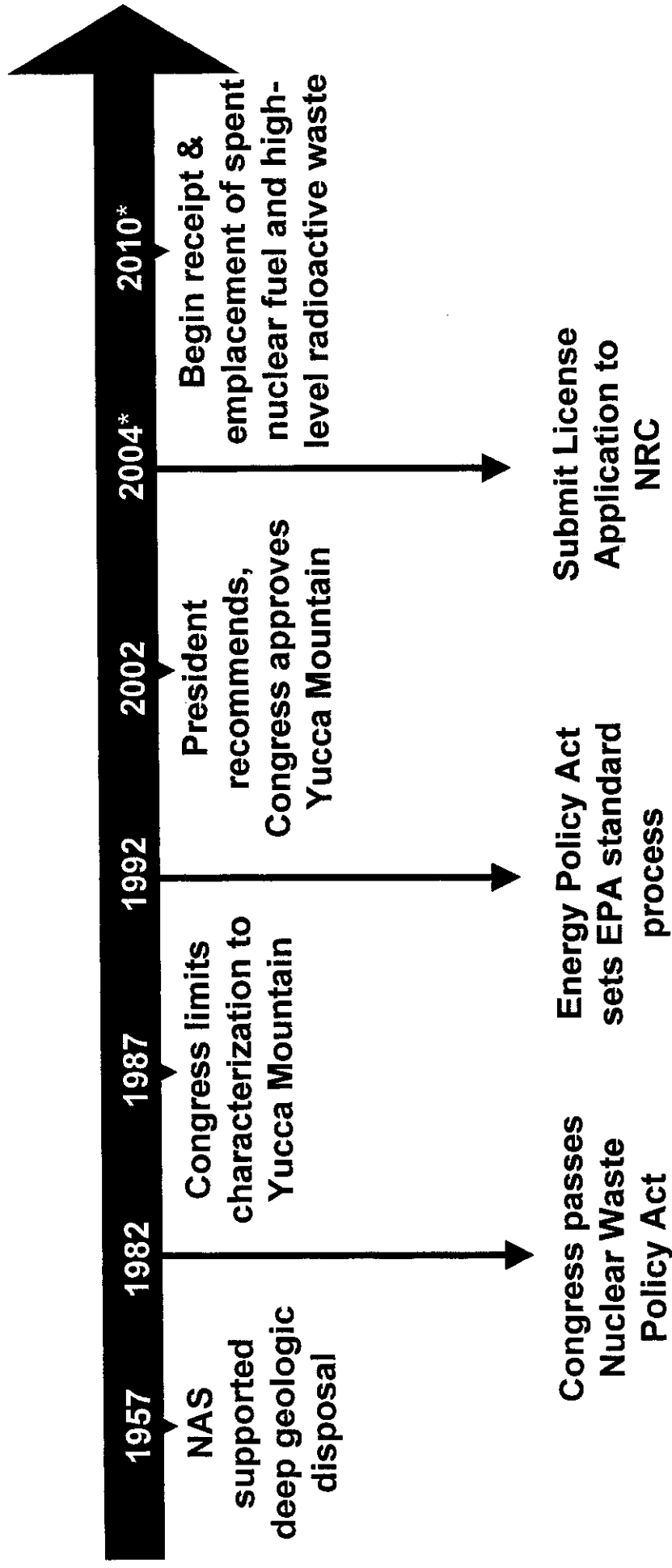
Yucca Mountain Project

Presented to:
Nevada State Senate Committee on Transportation

Presented by:
Dr. J. Russell Dyer
Sr. Project Advisor
Office of Repository Development



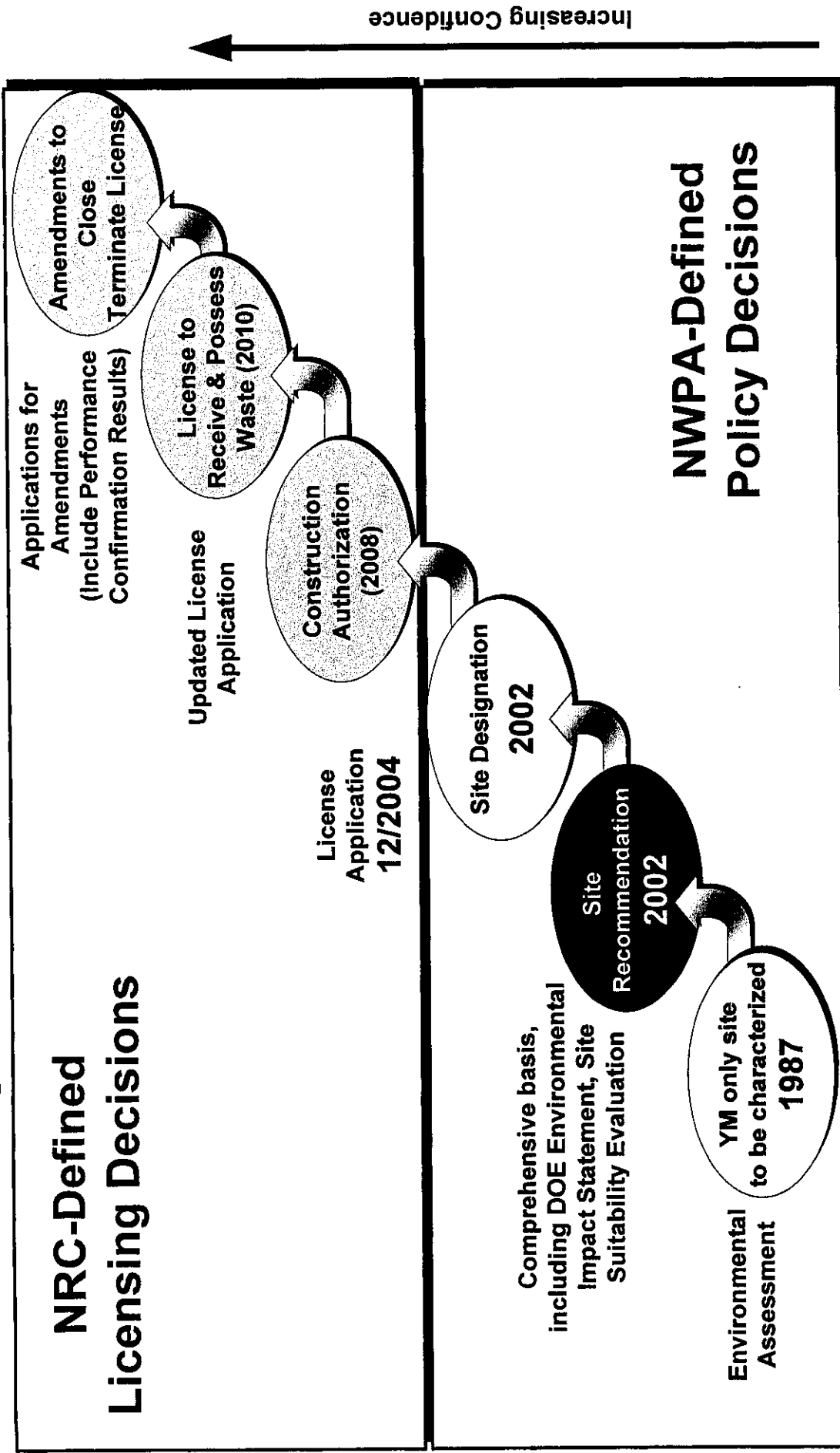
Congress Created a Legal Obligation to Dispose of Nuclear Waste



* Current Schedule



Step-Wise Decision Process



Action required by:

■ Secretary/President Congress ■ NRC



Current Management Emphasis

- **Overall goal: Change our priorities and operating culture from characterization and site development to repository design, licensing and operation**
 - Finalize design, safety analyses, models, and calculations
 - Repository Design Decisions
 - Transportation planning
- **Key activities toward operating in an NRC licensing environment:**
 - Increasing technical exchanges with the NRC
 - Closure on Key Technical Issues (KTI's)
 - Emphasis on Safety Conscious Work Environment

Current Management Emphasis

(Continued)

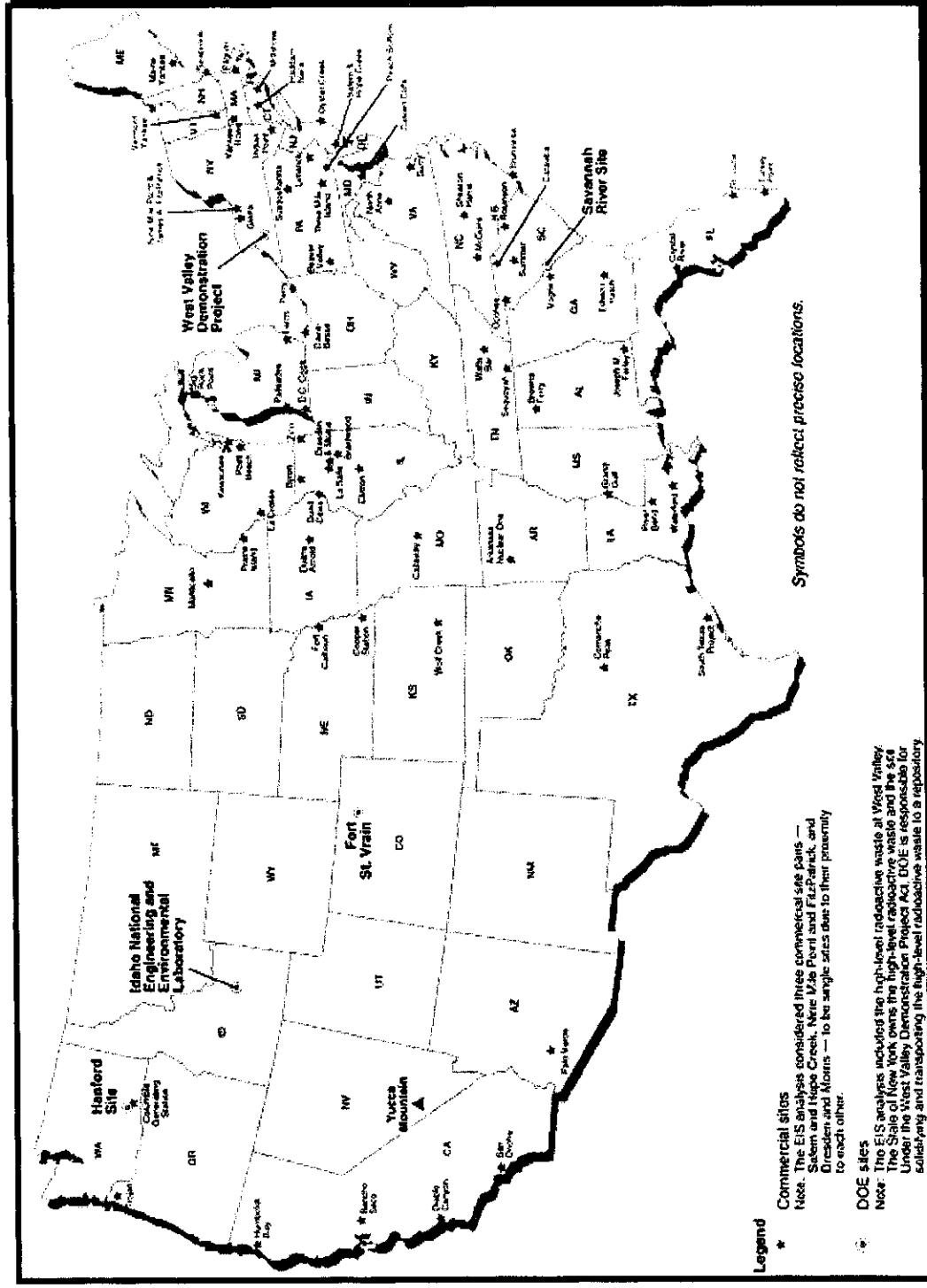
- **License Application (LA) is first priority**
 - DOE will be the licensee, responsible for this program. Work executed through a contract with Bechtel SAIC Company, LLC and aligned with our other partners in the national laboratories, USGS, etc.
 - Focused science and engineering development activities will continue as needed to support pre- and postclosure performance evaluations for the LA
- **We understand that NRC will expect:**
 - High-quality LA
 - Operating environment like a licensee

Transportation

- **Spent nuclear fuel shipments in the U.S. carry impressive safety record**
 - More than 3,000 shipments in the U.S. during the past 30 years
 - 738 Navy container shipments, traveling over 1 million miles since 1957
 - There has never been a release of radioactive material harmful to the public or the environment
- **Waste Isolation Pilot Plant (WIPP) has completed more than 1,400 shipments as of December 2002**
- **NRC and DOT regulations govern all aspects of nuclear waste transportation**
- **Emergency responders would be trained prior to shipments**
- **More than 70,000 metric tons of spent nuclear fuel have already been shipped safely in densely populated Europe; France and Britain average 650 shipments per year**



Locations of Commercial and DOE Sites and Yucca Mountain



Proposed Action Spent Nuclear Fuel Inventory

Site	Fuel type ^b	1995 actual	1996-2011 ^c	Total ^d assemblies	Equivalent assemblies	Site	Fuel type ^b	1995 actual	1996-2011 ^c	Total ^d assemblies	Equivalent assemblies
Arkansas Nuclear One	PWR	643	466	1,109	2,526	Monticello	BWR	147	280	426	2,324
Beaver Valley	PWR	437	581	1,018	2,206	North Anna	PWR	570	613	1,184	2,571
Big Rock Point	BWR	44	14	58	439	Oconee	PWR	1,098	767	1,865	4,028
Bridgwood	PWR	318	711	1,029	2,424	Oyster Creek	BWR	374	325	699	3,824
Browns Ferry	BWR	840	1,092	1,932	10,402	Palisades	PWR	338	247	585	1,473
Brunswick	Both	448	448	896	4,410	Palo Verde	PWR	556	1,118	1,674	4,082
Byron	PWR	404	664	1,068	2,515	Peach Bottom	BWR	908	645	1,554	8,413
Callaway	PWR	280	422	702	1,609	Perry	BWR	178	274	452	2,470
Calvert Cliffs	PWR	641	501	1,142	2,982	Pilgrim	BWR	326	201	527	2,853
Catawba	PWR	465	683	1,148	2,677	Point Beach	PWR	529	347	876	2,270
Clinton	BWR	174	303	477	2,588	Prairie Island	PWR	518	348	866	2,315
Comanche Peak	PWR	176	821	998	2,202	Quad Cities	BWR	813	464	1,277	6,953
Cooper	BWR	175	277	452	2,435	Rancho Seco	PWR	228	--	228	493
Crystal River	PWR	280	232	512	1,102	River Bend	BWR	176	356	531	2,889
D. C. Cook	PWR	777	656	1,433	3,253	Salem/Hope Creek	Both	793	866	1,659	7,154
Davis-Besse	PWR	243	262	505	1,076	San Onofre	PWR	722	701	1,423	3,582
Diablo Canyon	PWR	463	664	1,126	2,512	Seabrook	PWR	133	292	425	918
Dresden	BWR	1,557	590	2,146	11,602	Sequoyah	PWR	452	570	1,023	2,218
Duane Arnold	BWR	258	208	467	2,545	Shearon Harris	Both	498	252	750	2,499
Edwin I. Hatch	BWR	755	692	1,446	7,862	South Texas Project	PWR	290	722	1,012	1,871
Fermi	BWR	155	368	523	2,898	St. Lucie	PWR	601	419	1,020	2,701
Fort Calhoun	PWR	222	157	379	1,054	Summer	PWR	225	301	526	1,177
Ginna	PWR	282	180	463	1,234	Surry	PWR	660	534	1,194	2,604
Grand Gulf	BWR	349	506	856	4,771	Susquehanna	BWR	628	648	1,276	7,172
H. B. Robinson	PWR	145	239	384	903	Three Mile Island	PWR	311	236	548	1,180
Haddam Neck	PWR	355	65	420	1,017	Trojan	PWR	359	--	359	780
Humboldt Bay	BWR	29	--	29	390	Turkey Point	PWR	616	458	1,074	2,355
Indian Point	PWR	678	486	1,164	2,649	Vermont Yankee	BWR	387	222	609	3,299
James A. FitzPatrick/ Nine Mile Point	BWR	882	930	1,812	9,830	Vogtle	PWR	335	745	1,080	2,364
Joseph M. Farley	PWR	644	530	1,174	2,555	Columbia	BWR	243	338	581	3,223
Kewaunee	PWR	282	169	451	1,172	Generating Station					
La Crosse	BWR	38	--	38	333	Waterford	PWR	253	247	500	1,217
La Salle	BWR	465	487	952	5,189	Watts Bar	PWR	--	251	251	544
Limerick	BWR	432	711	1,143	6,203	Wolf Creek	PWR	226	404	630	1,360
Maine Yankee	PWR	454	82	536	1,421	Yankee-Rowe	PWR	127	--	127	533
McGuire	PWR	714	725	1,439	3,257	Zion	PWR	841	211	1,052	2,302
Millstone	Both	959	749	1,709	6,447	Totals		31,926	31,074	63,000	218,709

Table A-7. Proposed Action spent nuclear fuel inventory (MTHM).^a

a. Source: DRES 155725-CRWMS M&O (1998, all).
b. PWR = pressurized-water reactor; BWR = boiling-water reactor.
c. Projected.
d. To convert metric tons to kwt, multiply by 1,1023.
e. -- = no spent nuclear fuel production.

Target Acceptance Rates for Planning

Reference case used for planning is based on the following target acceptance rates*

Year	Commercial SNF Target Receipt Rate
2010	400
2011	600
2012	1,200
2013	2,000
2014-2034	3,000

* The rates in this schedule are targets only and do not create any binding legal obligation on the Department of Energy

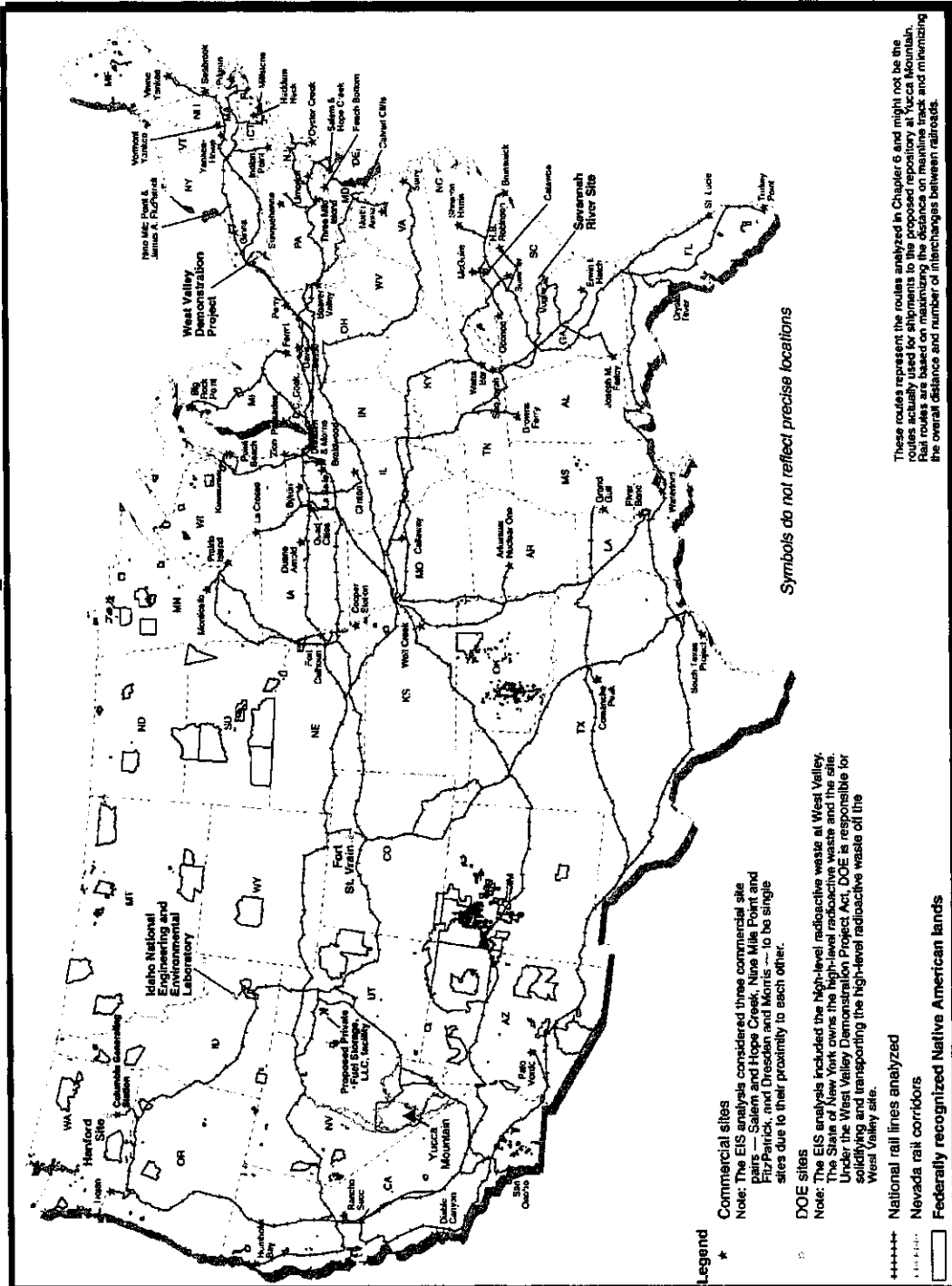
Mostly Rail

(Preferred Option Final Environmental Impact Statement)

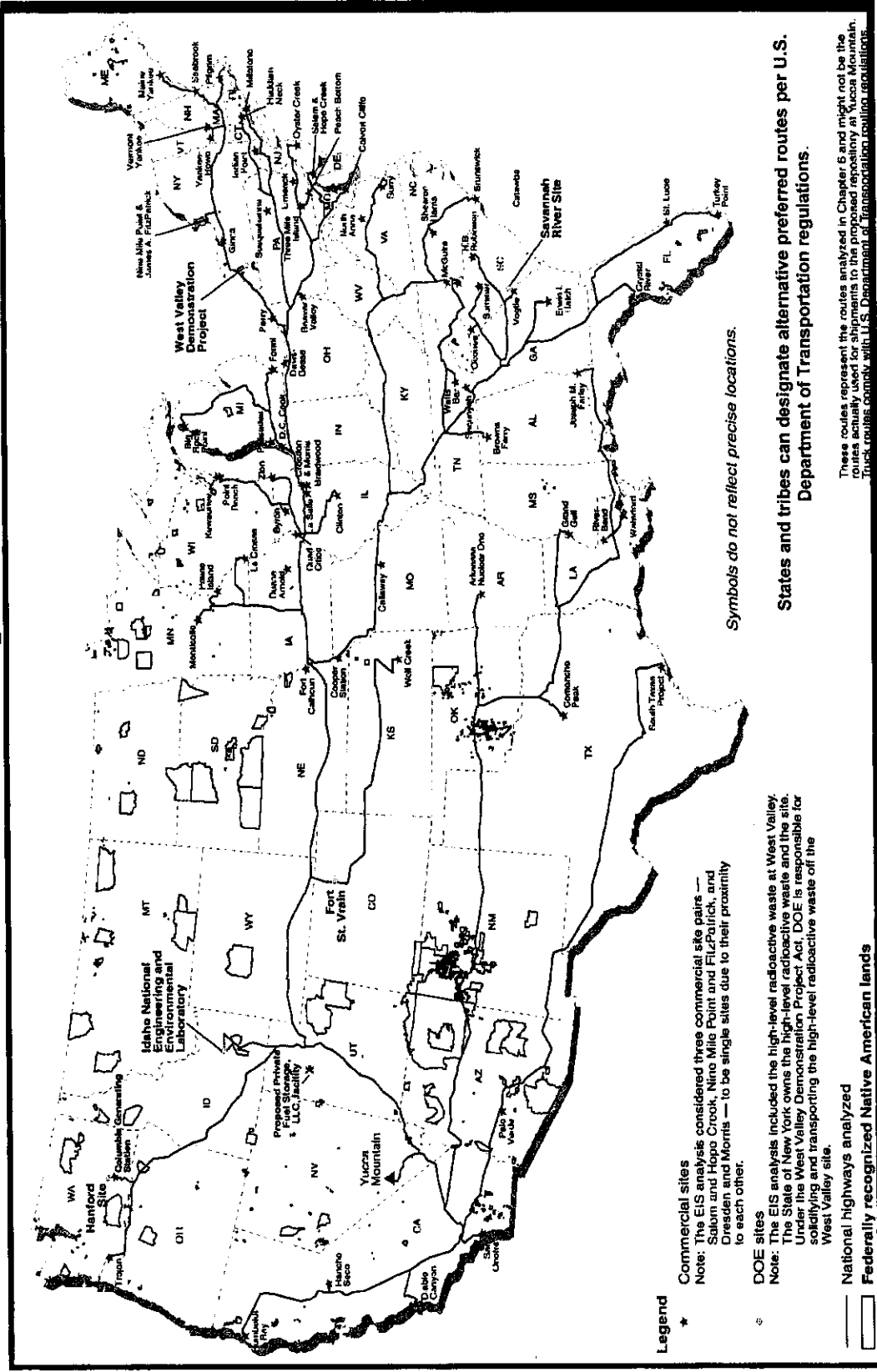
- **Total 24-year shipping campaign*:**
 - 3,215 train shipments (3 casks per train)
 - 1,079 truck shipments
- **Annually:**
 - 130 train shipments
 - 45 truck shipments
 - 175 total shipments
- **To date, no rail or highway routes have been selected.**

* All totals are approximate and based on 70,000 metric tons

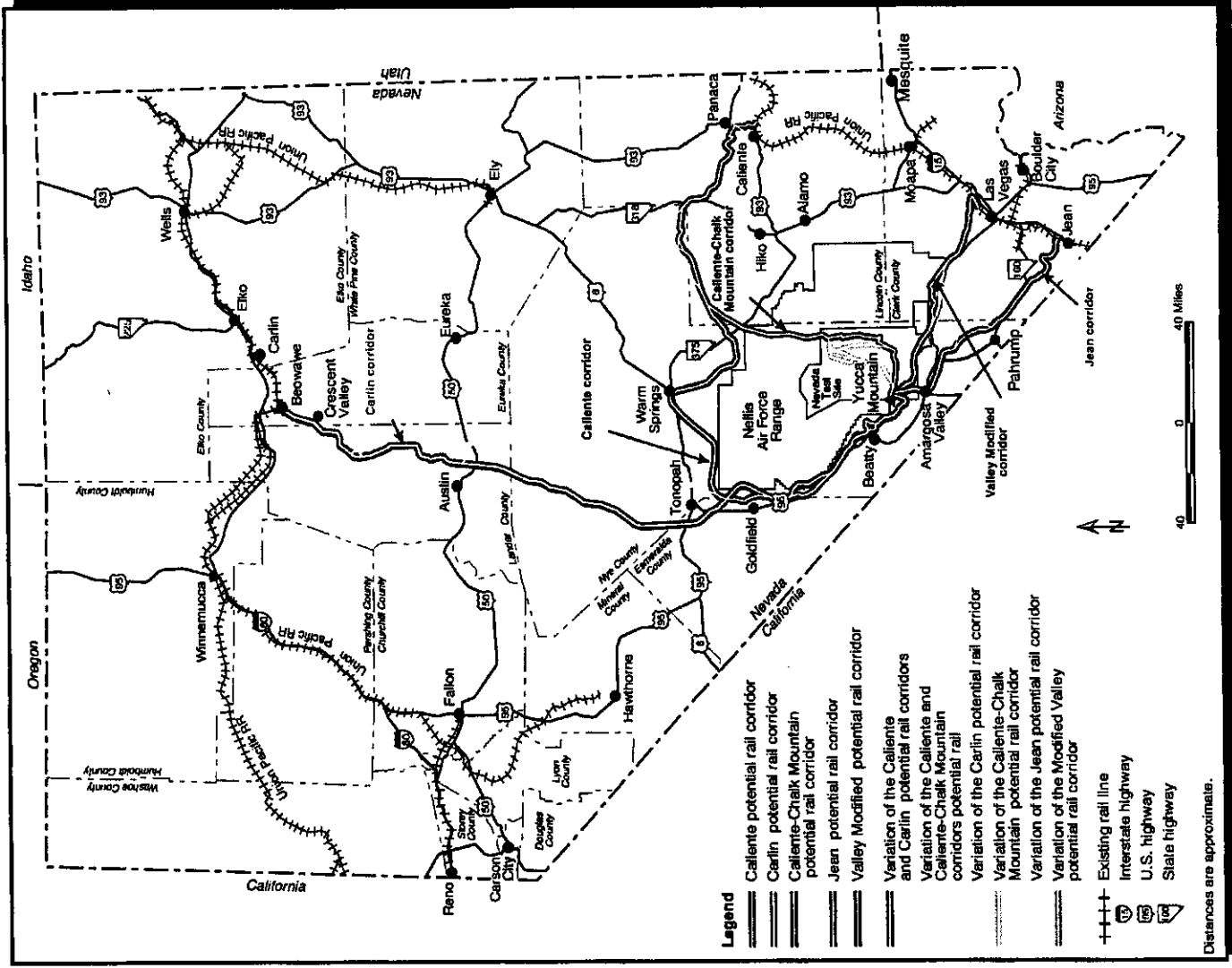
Rail Routes Analyzed in Final Environmental Impact Statement



Highway Routes Analyzed in Final Environmental Impact Statement



Potential Nevada Rail Corridors Analyzed in Final Highway Routes Analyzed in Final Environmental Impact Statement



Moving Ahead

- **Success will require that we:**
 - **Ensure that the transportation system and its operation are safe, secure, and reliable**
 - **Work cooperatively with federal agencies, states, tribes, local governments, advisory groups, waste owners and other parties**
 - **Build upon DOE's impressive safety record and successful experience in establishing and conducting transportation programs**
 - **Use science and technology to create continuous improvements in the transportation system**
 - **Make informed decisions and manage effectively**
 - **Foster public confidence and build working relationships**



Moving Ahead

(Continued)

- **As the transportation system matures, we look forward to more opportunities to communicate on a broad range of issues**
- **We welcome recommendations from the State of Nevada and other stakeholders so that we can successfully accomplish this important national mission**