U.S. DEPARTMENT OF ENERGY

Site-Specific Advisory Board

2012-2013 Budget Update and ARRA Closeout

10/20/11

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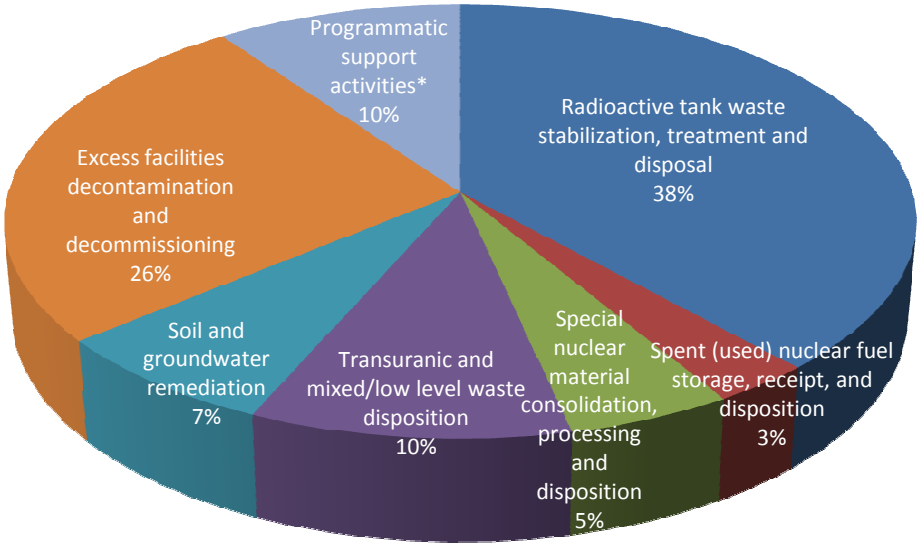
EM Priorities

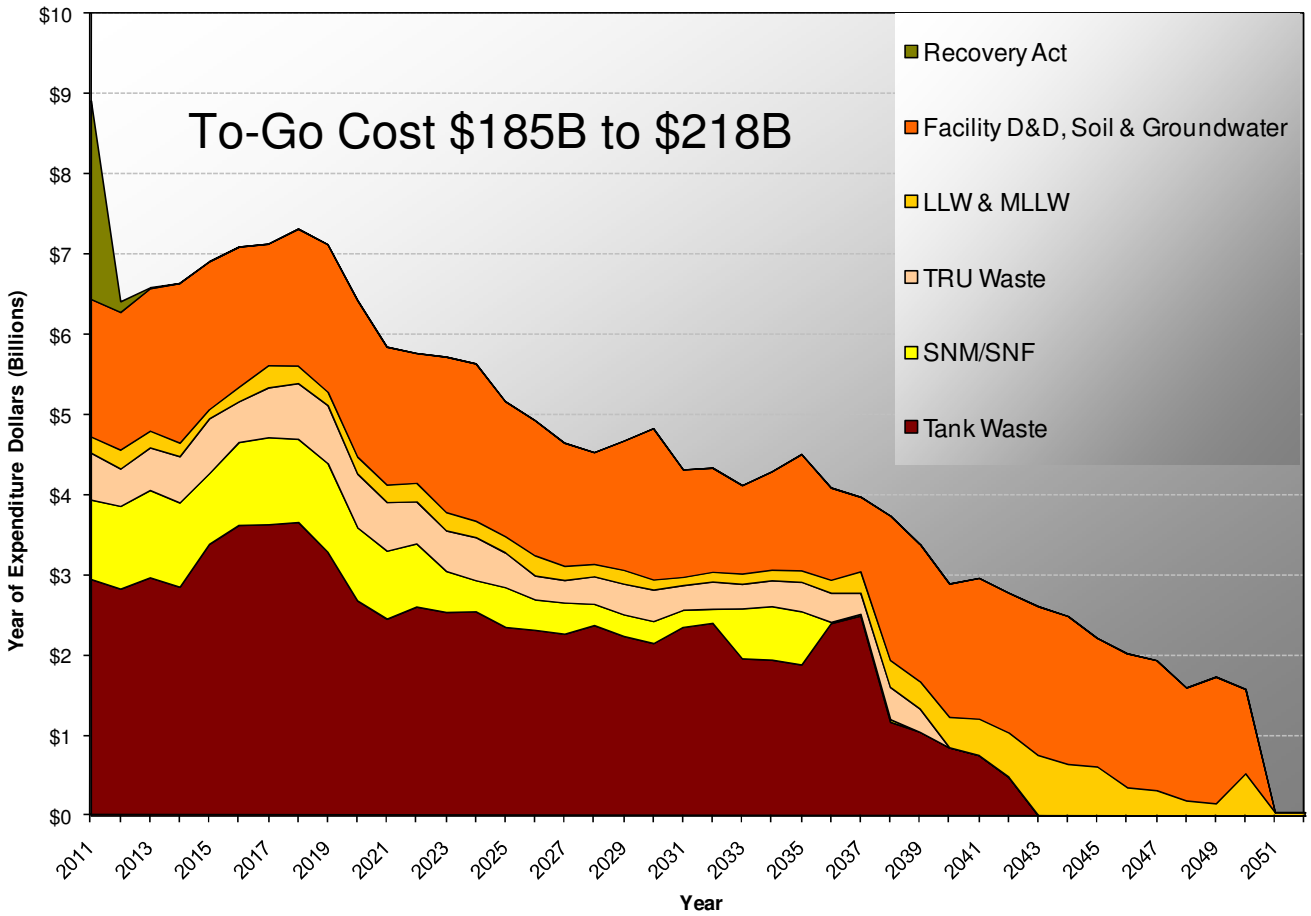
- Activities to maintain a **safe, secure, and compliant** posture in the EM complex
- **Radioactive tank waste** stabilization, treatment, and disposal
- Spent **(used) nuclear fuel** storage, receipt, and disposition
- **Special nuclear material** consolidation, processing, and disposition
- High priority groundwater remediation
- **Transuranic** and **mixed/low-level waste** disposition
- **Soil and groundwater** remediation
- Excess facilities **deactivation and decommissioning**

"To-Go Life-Cycle Cost"

($185B - $218B as of the FY 2012 Request)



Life-Cycle Cost Profile



Cost Reduction Strategies

- Enhanced Tank Waste Disposition
- Footprint Reduction
- Applied Research and Technology
- Innovation for Base Cost Efficiencies

Compliance Posture

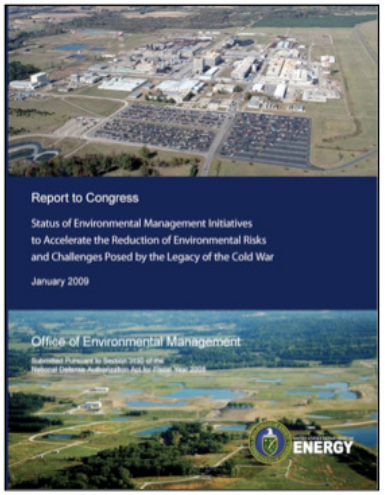
- Now, after two decades EM and its regulators operate in a mature programmatic and regulatory setting

- Regulators and stakeholder relationships are sophisticated
  - Cost and scope is well understood
  - Structure of regulatory agreements vary from state to state
  - Real expectation that the Department will deliver on its commitments
  - Legal remedies available to regulators

- To fulfill the requirements of Executive Order 12088, EM must submit a request to cover the costs of environmental compliance requirements in its OMB budget request

Strategic Planning Used to Optimize Program and Balance Budget Priorities

Strategic Planning Initiative



- Evaluated multiple conceptual business cases to achieve LCC savings and footprint reduction
- Alternative approaches to dispositioning tank waste, excess nuclear materials and spent fuel

ARRA Benefits

- Selected "shovel-ready" projects for Recovery Act funds
- Resulted in LCC reductions and scope acceleration

Portfolio of Additional Opportunities

- Focus on:
  - ✓Footprint Reduction
  - ✓Enhanced Tank Waste Strategy
- Challenge sites to continue achievement of efficiencies

Key Strategic Goals for Reducing Program Costs

Enhanced Tank Waste Strategy

Goal	Status
Accelerate tank waste disposition	❖ Requires near-term investment above baseline ❖ Near-term budgets constrained, funding availability is uncertain ❖ Savannah River implementation of FY 2012 strategy is revised

Transuranic Waste Disposition

Goal	Status
Dispose 90% legacy TRU by 2015	❖ Los Alamos, Idaho, Savannah River will achieve this goal ❖ All on track and within budget if managed efficiently and required funding is received

Footprint Reduction

Goal	Status
Shrink legacy footprint 90% by 2015 (Hanford and Savannah River are the drivers)	❖ Hanford 2015 goal achievable if River Corridor is fully funded ❖ Savannah River likely requires significant investment; baseline substantially higher than funding target

Successes Under Recovery Act

$6B investment to complete work now that would cost ~$13B in future years, saving $7B. As of September 1, 2011:

- EM achieved a total footprint reduction of 66%, or 613 of 931 square miles. EM achieved its goal of 40% footprint reduction in April 2011, five months ahead of schedule. Exceeded High Priority Performance Goal.
- Permanently disposed 2,101,473 cubic meters of debris and soil.
- Completed demolition or cleanup of 242 of 259 facilities.
- Dispositioned 5,158 cubic meters of transuranic waste.
- Disposed 97,336 cubic meters of low-level and mixed low-level waste, equal to 449,419 55-gallon drums.
- Disposed more than 2.6 million tons of uranium mill tailings, surpassing the 2 million ton goal.

Progress to Date: Successful ARRA Program

$6B of ARRA funds supported 124 projects

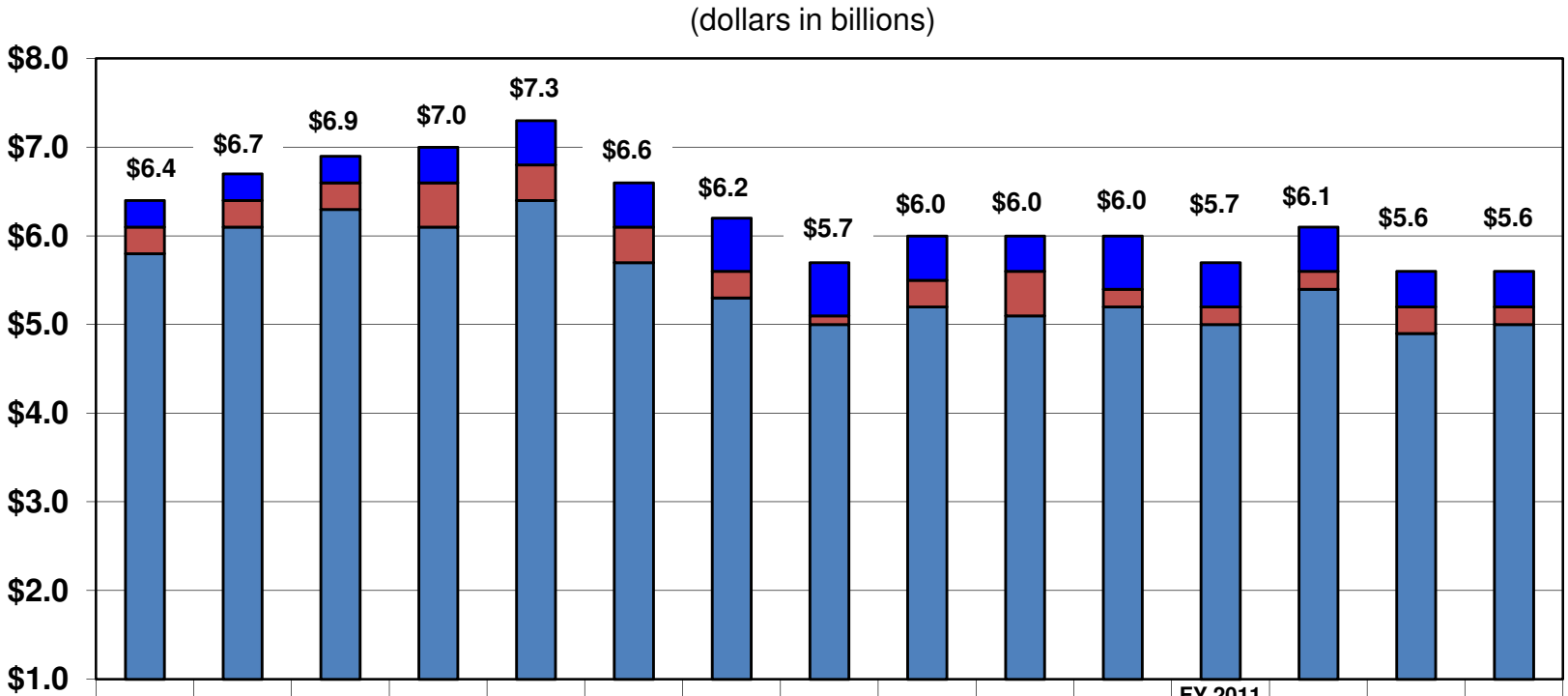
- 84 have been physically completed (68% of total)
- Another 28 will be completed in FY 2012 (90% of total)
- 12 will be completed in FY 2013 (100% of total)

Site	Spend Plan	Obligated to Contracts	Payments to Date
Argonne National Laboratory	$79,000,000	$79,000,000	$63,135,545
Brookhaven National Laboratory	$70,810,000	$70,810,000	$70,789,790
Energy Technology Engineering Center	$51,675,000	$51,675,000	$48,287,590
Hanford (Office of River Protection)	$326,035,000	$326,035,000	$325,830,756
Hanford (Richland)	$1,634,500,000	$1,634,445,175	$1,515,727,977
Idaho	$467,875,000	$467,875,000	$424,425,388
Los Alamos National Laboratory	$211,975,000	$211,975,000	$211,046,167
Moab	$108,350,000	$108,350,000	$108,208,716
Mound	$17,900,000	$17,900,000	$17,715,769
Nevada Nuclear Security Site	$44,325,000	$44,325,000	$43,691,161
Oak Ridge	$755,110,000	$754,989,967	$577,738,859
Paducah	$80,400,000	$80,400,000	$77,215,159
Portsmouth	$119,800,000	$119,800,000	$112,014,518
Savannah River	$1,615,400,000	$1,615,200,918	$1,390,135,530
SLAC National Accelerator Laboratory	$14,300,000	$14,300,000	$14,300,000
Separations Process Research Unit	$58,575,000	$58,575,000	$57,413,458
Waste Isolation Pilot Plant	$172,175,000	$172,175,000	$163,897,092
West Valley Demonstration Project	$62,875,000	$62,875,000	$60,303,532
Title X Uranium/Thorium Reimbursements	$70,000,000	$69,996,978	$54,994,235
Management & Oversight	$27,920,000	$27,732,455	$25,402,146
Total	**$5,989,000,000**	**$5,988,435,492**	**$5,362,273,389**

Progress to Date: Successful Base Program Cleanup

- As of 9/30/10, EM had cleaned-up 93 sites out of the original 110
  - Recent site closures include: Inhalation Toxicology Laboratory and GE Vallecitos
- Three major weapons production facilities have been closed
  - Rocky Flats – former nuclear weapons components production facility is now a National Wildlife Refuge
    - $20 billion saving from original estimate
  - Fernald – former uranium processing facility supporting U.S. weapons program is now a nature preserve
    - $200 million savings from original estimate
  - Mound – former nuclear weapons components production facility now is being managed by the private sector to industrial re-use

EM Funding History: Levelized in Recent Years



	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY09 ARRA	FY10 Approp	FY 2011 Oper Plan	FY 2012 Request	FY 2012 HEWD	FY 2012 SEWD
UE D&D	0.3	0.3	0.3	0.4	0.5	0.5	0.6	0.6	0.5	0.4	0.6	0.5	0.5	0.4	0.4
Non-Def	0.3	0.3	0.3	0.5	0.4	0.4	0.3	0.1	0.3	0.5	0.2	0.2	0.2	0.3	0.2
Defense	$5.8	$6.1	$6.3	$6.1	$6.4	$5.7	$5.3	$5.0	$5.2	$5.1	$5.2	$5.0	$5.4	$4.9	$5.0

Funding by Site for Base Program

(dollars in thousands)

		FY 2010		FY 2011		FY 2012				
Site	FY 2009 Recovery	Cong. Request	Current Enacted	Cong. Request	Operating Plan	FY 2012 Cong. Request	FY 2012 House Mark	FY 2012 Senate Mark	FY 2012 House Mark vs. Cong. Request	FY 2012 Senate Mark vs. Cong. Request
Argonne	79,000	-	10,000	-	-	-	-	-	-	-
Brookhaven	70,810	12,614	15,000	13,861	13,833	8,185	8,185	8,185	-	-
ETEC	51,675	13,000	10,500	10,679	6,466	10,679	9,179	10,679	(1,500)	-
Hanford	1,634,500	993,503	1,080,503	1,041,822	1,038,877	1,005,987	1,025,987	1,025,189	20,000	19,202
Idaho	467,875	411,168	469,168	412,000	403,448	392,000	391,913	389,630	(87)	(2,370)
Los Alamos	211,975	191,938	200,438	200,000	191,800	361,577	188,561	185,000	(173,016)	(176,577)
Lawrence Livermore	-	1,148	2,924	873	822	873	873	873	-	-
Miamisburg	17,900	33,243	33,243	-	-	-	-	-	-	-
Moab	108,350	30,671	39,000	31,000	30,938	31,000	31,000	31,000	-	-
Nevada	44,325	65,574	74,405	66,000	62,510	66,000	63,945	63,380	(2,055)	(2,620)
Oak Ridge	755,110	411,168	436,448	450,000	401,142	401,056	380,529	385,749	(20,527)	(15,307)
River Protection	326,035	1,098,000	1,096,600	1,158,178	1,134,197	1,361,391	1,148,000	1,207,000	(213,391)	(154,391)
Paducah	80,400	144,857	165,127	145,000	144,370	143,769	142,182	139,655	(1,587)	(4,114)
Portsmouth	119,800	319,663	310,307	479,035	257,604	310,035	253,327	253,033	(56,708)	(57,002)
Savannah River	1,615,400	1,342,013	1,342,013	1,349,863	1,300,022	1,363,728	1,320,119	1,320,879	(43,609)	(42,849)
SPRU	58,575	15,000	15,000	12,500	50,895	1,500	1,500	1,500	-	-
SLAC	14,300	4,600	7,100	3,526	7,711	2,435	2,435	2,435	-	-
Sandia	-	2,864	2,864	-	3,014	-	-	3,014	-	3,014
WIPP	172,175	224,981	234,981	225,000	220,006	233,771	224,845	204,845	(8,926)	(28,926)
West Valley	62,875	59,933	59,933	60,000	59,588	60,000	58,500	60,000	(1,500)	-
Other	-	9,867	13,687	6,375	175	5,375	5,375	5,375	-	-
Program Direction	27,920	355,000	345,000	323,825	320,007	321,628	316,948	321,628	(4,680)	-
Program Support	-	34,000	34,000	25,143	21,101	20,143	19,718	20,380	(425)	237
Ur/Th Reimbursement	70,000	-	-	-	-	-	-	-	-	-
TD&D	-	55,000	19,440	32,320	18,869	32,320	10,000	11,000	(22,320)	(21,320)
D&D Fund Deposit	-	463,000	463,000	496,700	33,633	-	-	-	-	-
EM Undistributed (West Valley)	-	-	-	-	-	-	41,000	-	41,000	-
Subtotal, EM	5,989,000	6,292,805	6,480,681	6,543,700	5,721,028	6,133,452	5,644,121	5,650,429	(489,331)	(483,023)
UED&D Fund Offset:	-	(463,000)	(463,000)	(496,700)	(33,633)	-	-	-	-	-
Domestic Utility Fee Offset	-	(20,000)	-	-	-	-	-	-	-	-
Defense Prior Year Offset:	-	(11,787)	(11,787)	-	-	(3,381)	(3,381)	-	-	3,381
Total, EM	5,989,000	5,798,018	6,005,894	6,047,000	5,687,395	6,130,071	5,640,740	5,650,429	(489,331)	(479,642)

Budget By State

(dollars in thousands)

		FY 2011		FY 2012 Cong. Request				
State	FY 2010 Enacted	Cong. Request	Operating Plan	Cong. Request	HEWD	SEWD	FY 2012 HEWD vs. Cong. Request	FY 2012 SEWD vs. Cong. Request
California	20,786	15,078	14,999	13,987	12,487	13,987	-1,500	0
Colorado	6,375	6,375	175	5,375	5,375	5,375	0	0
Idaho	480,567	422,776	414,603	403,211	403,124	400,841	-87	-2,370
Illinois	10,000	0	0	0	0	0	0	0
Kentucky	175,397	153,951	154,679	154,794	153,207	150,680	-1,587	-4,114
Mississippi	4,000	0	0	0	0	0	0	0
Nevada	78,254	69,932	66,174	69,821	67,766	67,201	-2,055	-2,620
New Mexico	455,030	439,363	430,842	611,109	429,167	408,620	-181,942	-202,489
New York	89,933	86,361	124,316	69,685	68,185	69,685	-1,500	0
Ohio	393,978	520,279	303,195	350,816	294,108	293,814	-56,708	-57,002
South Carolina	1,395,909	1,404,326	1,350,066	1,415,655	1,372,046	1,372,806	-43,609	-42,849
Tennessee	455,621	466,610	416,114	417,216	396,689	401,909	-20,527	-15,307
Utah	39,000	31,000	30,938	31,000	31,000	31,000	0	0
Washington	2,253,899	2,270,826	2,251,825	2,444,757	2,251,366	2,309,568	-193,391	-135,189
Washington, DC	621,932	656,823	163,102	146,026	118,601	124,943	-27,425	-21,083
Undistributed	0	0	0	0	41,000	0	41,000	0
	6,480,681	6,543,700	5,721,028	6,133,452	5,644,121	5,650,429	-489,331	-483,023
D&D Fund Deposit	-463,000	-496,700	-33,633	0	0	0	0	0
Defense PY Offset	-11,787	0	0	-3,381	-3,381	0	0	3,381
	6,005,894	6,047,000	5,687,395	6,130,071	5,640,740	5,650,429	-489,331	-479,642

FY 2012 Budget Overview

- **FY 2012 Congressional Budget Request (CBR) - $6.130B**
- **House mark of $5.641B is $489M or 8.0% below FY2012 Request**
  - Sites with the largest cuts include Los Alamos (-$173M), ORP's Tank Farms (-$113M) and WTP (-$100M) , Portsmouth's D&D (-$57M), and SRS's Tank Farm operations (-$43M)
- **Senate mark of $5.650B is $480M or 7.8% below FY2012 Request**
  - Sites with the largest cuts include Los Alamos (-$176.6M), ORP's Tank Farms (-$54M) and WTP ($100M), Portsmouth's D&D (-$57M), SRS's Tank Farms operations (-$52M), and economic assistance to the state of New Mexico at Carlsbad (-$29M)
- **Thus, EM expects the total funding cut to the EM program will be some where between $480M-$489M**

FY 2012 Budget Climate & Strategy

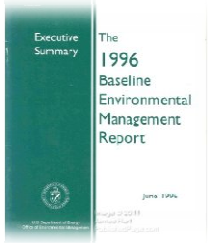
- **Budget climate for FY 2012 and beyond will be challenging**
  - **Potential for significant across the board spending reductions for all agencies and programs**
    - Lawmakers may cut at least $1.2 trillion over a decade thru spending cuts or tax revenue
  - **Deficit Reduction Committee charged to "go big"**
    - 12 Member Team - 6 House and 6 Senate evenly distributed between Democrats and Republicans
    - Recommendations due by November 23, 2011
    - No action by December 23, 2011 results in automatic across-the-board cuts, split 50-50 between defense and non-defense spending

- **FY 2012 EM Strategy**
  - Identify efficiencies to maximize progress
  - Align workforce to meet mission need
  - Build on successes from ARRA completions
  - Utilize technologies and approaches to achieve maximum efficiency

FY 2012 and FY 2013 Budget Status

- **FY 2012 Continuing Resolution (CR)**
  - Avoids Government Shutdown
  - 1st CR ran through October 4th
  - 2nd CR will run through November 18
    - Contains an across-the-board cut of 1.503% to discretionary spending, lowering the Department's annual spending rate from $25.7B to $25.4B
  - Energy Water and Development's FY 2012 spending bill expected to be part of an omnibus measure being proposed in late November
- **FY2013 Budget Submitted to OMB in September**
  - Anticipate OMB Passback in late November

Progress Toward EM Completion



	EM established	BEMR LCC estimate	Post-ARRA	Near-term Strategic Goals	2020 Vision
	1989	1996	2011	2015	2020
Active Sites	110	96	17	12	1 major 8 small
States	35	29	11	11	5
Area (mi^2)	3,125mi^2	Total Not Estimated	559 mi^2	93 mi^2	76 mi^2
Remaining Cost	Not Estimated	$354 B	$185 – 218 B	TBD	TBD

Closing

- Recovery Act is demonstrating how additional dollars can significantly accelerate the EM program and significantly reduce life-cycle cost.
- There are opportunities in tank waste and continued accelerated closure of sites to reduce overall life-cycle cost.
- Continue science and technology investments to support reduction in high risk/high cost program drivers.