DETAILED COST MODEL RESULTS FOR THE ADDENDUM TO THE

ASSESSMENT OF THE POTENTIAL COSTS, BENEFITS, & OTHER IMPACTS OF THE HAZARDOUS WASTE COMBUSTION MACT STANDARDS: FINAL RULE (JULY 1, 1999)

LIST OF EXHIBITS

(0% Price Pass-Through; PM CEM Option 1: Required for All Facilities)

Total Annual Compliance Costs (Assuming no Market Exit)
Average Total Annual Compliance Costs per Combustion System (Assuming no Market Exit)
Average Total Annual Compliance Costs Per Ton (Before Consolidation)
Average Total Annual Baseline Cost of Burning Waste and Compliance Costs per Ton of Hazardous Waste Burned (Before Consolidation)
Baseline Operating Profits per Ton of Hazardous Waste Burned and as Percentage of Baseline Weighted Average Prices per Ton
Percent of Systems Requiring Control Measures (Before Consolidation)
Percent of New Compliance Costs by Control Measure (Before Consolidation)
Percentage of Combustion Systems Burning Below Static BEQs
Total Annual Pre-Tax Compliance Costs (After Combustion System Consolidations)
Average Total Annual Pre-Tax Compliance Cost per Combustion System After Consolidation
Average Total Annual Pre-Tax Compliance Costs per Ton (Short Term - After Consolidation)
Percentage of Combustion Systems Meeting Short Term BEQ After Consolidation
Percentage of Combustion Systems Meeting Long Term BEQ After Consolidation
Number of Combustion Facilities Likely to Stop Burning Hazardous Waste in the Short Term
Number of Combustion Facilities Likely to Stop Burning Hazardous Waste in the Long Term
Percentage of Facilities Likely to Stop Burning Waste in the Short Term
Percentage of Facilities Likely to Stop Burning Waste in the Long Term
Quantity of Hazardous Waste that could be Diverted from Combustion Facilities in the Short Term
Quantity of Hazardous Waste that could be Diverted from Combustion Facilities in the Long Term
Estimated Short-Term Employment Losses at Combustion Systems
Estimated Long-Term Employment Losses at Combustion Systems
Estimated Employment Increases Associated with Compliance Requirements After System Consolidation
-- Floor (50%)
-- Floor (70%)
-- Rec (50%)
-- Rec (70%)
-- BTF-ACI (50%)
-- BTF-ACI (70%)
Weighted Average Combustion Price per Ton and Increase in Prices Due to Assumed Price Pass-Through
New Compliance Costs as a Percentage of Baseline Costs of Hazardous Waste Burning
New Compliance Costs as a Percentage of Hazardous Waste Burning Revenues
Change in Average Operating Profits Per Ton of Hazardous Waste Burned

PRELIMINARY ECONOMIC IMPACT RESULTS

TOTAL ANNUAL COMPLIANCE COSTS (millions)
(Assuming no Market Exit)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites	Total
Floor (50%)	$24	$3	$8	$40	$7	$83
Floor (70%)	$16	$3	$8	$36	$7	$69
Rec (50%)	$26	$4	$8	$44	$7	$89
Rec (70%)	$19	$4	$8	$40	$7	$77
BTF-ACI (50%)	$34	$5	$11	$67	$27	$144
BTF-ACI (70%)	$27	$5	$11	$62	$26	$130

Notes:

1. Estimates assume that all facilities comply. Facilities non-viable in the baseline are included.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER COMBUSTION SYSTEM
(Assuming no Market Exit)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites
Estimated Number of Combustion Systems	33	10	26	138	25
Floor (50%)	$728,353	$312,665	$322,837	$292,830	$281,064
Floor (70%)	$495,465	$265,102	$294,313	$259,041	$261,146
Rec (50%)	$773,990	$394,025	$323,198	$321,088	$281,064
Rec (70%)	$578,418	$360,261	$297,774	$289,350	$261,146
BTF-ACI (50%)	$1,043,019	$508,367	$435,023	$484,470	$1,061,809
BTF-ACI (70%)	$818,226	$464,470	$411,798	$447,559	$1,042,619

Notes:

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER TON
(Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$31	$37	$134	$20,110
Floor (70%)	$23	$31	$129	$19,447
Rec (50%)	$33	$49	$147	$20,225
Rec (70%)	$26	$45	$139	$19,575
BTF-ACI (50%)	$44	$66	$154	$18,185
BTF-ACI (70%)	$35	$59	$145	$18,085

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. Average on-site incinerator compliance costs include direct costs of meeting the new emission levels. Indirect costs to facilities that stop burning wastes and must ship them off-site for management are not included.
3. Only private systems, and not governmental systems, are reflected in the average compliance costs per ton for on-site incinerators.
4. On-site incinerator compliance costs per ton are high due to a number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger volumes of hazardous waste, compliance costs per ton for on-site incinerators will be lower.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS PER COMBUSTION SYSTEM AFTER CONSOLIDATION

Price pass through assumed: 0%

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites
Floor (50%)	$728,353	$312,665	$298,694	$313,997	$281,064
Floor (70%)	$495,465	$265,102	$268,924	$269,565	$261,146
Rec (50%)	$773,990	$394,025	$303,414	$330,878	$281,064
Rec (70%)	$578,418	$360,261	$277,499	$288,094	$261,146
BTF-ACI (50%)	$1,043,019	$477,964	$426,560	$574,293	$1,061,809
BTF-ACI (70%)	$818,226	$464,470	$403,222	$525,451	$1,042,619

Notes:

1. Average annual pre-tax compliance costs per system are based on the number of combustion systems that remain open after consolidation. The number of combustion systems that remain open in the sectors may vary by option.
2. Total annual pre-tax compliance costs for the on-site incinerator sector do not include the cost of diverting waste to alternative management for those systems that stop burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL BASELINE COST OF BURNING WASTE AND COMPLIANCE COSTS PER TON OF HAZARDOUS WASTE BURNED (Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Baseline	$74	$114	$658	$36,325
Compliance Costs				
Floor (50%)	$31	$37	$134	$20,110
Floor (70%)	$23	$31	$129	$19,447
Rec (50%)	$33	$49	$147	$20,225
Rec (70%)	$26	$45	$139	$19,575
BTF-ACI (50%)	$44	$66	$154	$18,185
BTF-ACI (70%)	$35	$59	$145	$18,085

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. On-site incinerator baseline and compliance costs per ton are high due to the large number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger quantities of hazardous waste compliance costs per ton would actually be lower. If facilities are burning large volumes of non hazardous waste in addition to the hazardous waste, baseline costs per ton would be lower.

PRELIMINARY ECONOMIC IMPACT RESULTS

BASELINE OPERATING PROFITS PER TON OF HAZARDOUS WASTE BURNED
(Number of Combustion systems Falling in Range)

	<$0	$0 - $50	$51 - $100	$101 - $150	>$150
Cement Kilns	0	0	8	15	10
LWA Kilns	0	0	8	3	0
Commercial Incinerators	3	1	1	1	20
On-site Incinerators	48	13	11	11	56

BASELINE OPERATING PROFITS AS A PERCENTAGE OF BASELINE WEIGHTED AVERAGE PRICES PER TON
(Number of Combustion systems Falling in Range)

	<0%	0% - 10%	11% - 25%	26% - 50%	>50%
Cement Kilns	0	0	0	2	31
LWA Kilns	0	0	0	0	10
Commercial Incinerators	3	0	3	8	13
On-site Incinerators	48	8	24	19	40

Notes:

1. Baseline Operating Profits = (weighted average price per ton + weighted average energy savings per ton) - total annual baseline costs per ton. Total annual baseline costs include fixed annual capital costs, fixed annual operating and maintenance costs, and annual variable costs.
2. Baseline operating profits exclude overhead, other administrative costs, and taxes. Actual after-tax profits will be lower.
3. Number of systems with average operating profits less than $0 (or <0%) includes those burning very little or no waste.
4. Baseline operating profits are calculated at the system level. Consolidating burning into fewer systems may reduce facility closures, explaining why the system estimates presented in this exhibit appear higher than the facility closure presented in later exhibits.
5. Includes combustion systems not currently burning waste in the cement kiln, LWAK, and commercial incinerator sectors; or burning less than 50 tons per year in the on-site incinerator sector.

PERCENT OF SYSTEMS REQUIRING CONTROL MEASURES
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%)	BTF-ACI(70%
Cement Kilns						
New Fabric Filters	33%	27%	33%	27%	61%	52%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	45%	36%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	45%	33%	45%	33%	39%	30%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	3%	3%	3%	3%	0%	0%
Fabric Filter DOM, mod	9%	6%	9%	6%	6%	6%
DESP DOM, small	6%	0%	6%	0%	3%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	3%	3%	3%	3%	3%	3%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	55%	42%	64%	52%	73%	55%
None	12%	27%	3%	21%	3%	18%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	63%	50%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	63%	50%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	88%	88%	88%	88%	50%	50%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	25%	13%	25%	13%	13%	0%
Fabric Filter DOM, mod	13%	0%	13%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	75%	75%	75%	75%
Feed Control	100%	75%	63%	63%	50%	63%
None	0%	13%	0%	0%	0%	0%

PERCENT OF SYSTEMS REQUIRING CONTROL MEASURES cont.
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%)	BTF-ACI(70%
Commercial Incinerators						
New Fabric Filters	15%	10%	15%	15%	40%	40%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	20%	20%	85%	85%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	55%	50%	45%	40%	20%	15%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	5%	5%	35%	35%
Fabric Filter DOM, small	5%	5%	5%	5%	5%	5%
Fabric Filter DOM, mod	10%	5%	10%	5%	10%	5%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	5%	0%	5%	0%	0%	0%
IWS DOM, mod	5%	5%	5%	5%	0%	0%
HEWS DOM, small	0%	5%	0%	5%	0%	0%
HEWS DOM, mod	15%	10%	15%	10%	5%	5%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	5%	0%	5%	0%	5%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	85%	80%	80%	75%	70%	65%
None	5%	5%	5%	5%	5%	5%
On-Site Incinerators						
New Fabric Filters	67%	65%	71%	69%	85%	81%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	15%	15%	71%	60%
New Carbon Bed	0%	0%	2%	2%	6%	6%
New Quencher	17%	17%	12%	12%	10%	10%
New Afterburner	6%	2%	6%	2%	6%	2%
New Reheater	0%	0%	8%	8%	60%	48%
Fabric Filter DOM, small	0%	2%	0%	2%	0%	2%
Fabric Filter DOM, mod	2%	0%	2%	0%	2%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	2%	2%	2%	2%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	2%	2%	2%	2%	0%	0%
HEWS DOM, small	0%	2%	0%	2%	0%	2%
HEWS DOM, mod	10%	10%	8%	8%	2%	2%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	2%	4%	2%	4%	2%	4%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	46%	40%	42%	37%	42%	52%
None	6%	8%	4%	6%	2%	2%
Government On-site Incinerators						
New Fabric Filters	29%	24%	29%	24%	38%	33%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	48%	43%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	5%
New Afterburner	5%	5%	5%	5%	5%	5%
New Reheater	0%	0%	0%	0%	19%	19%
Fabric Filter DOM, small	0%	5%	0%	5%	0%	5%
Fabric Filter DOM, mod	14%	10%	14%	10%	14%	10%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	5%	5%	5%	5%	5%	5%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	14%	14%	14%	14%	14%	14%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	57%	52%	57%	52%	57%	52%
None	19%	19%	19%	19%	14%	14%

PERCENT OF NEW COMPLIANCE COSTS BY CONTROL MEASURE
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%	BTF-ACI(70%
Cement Kilns						
New Fabric Filters	35%	35%	33%	30%	39%	39%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	24%	24%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	24%	32%	23%	27%	13%	15%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	3%	2%	3%	2%	1%	1%
DESP DOM, small	4%	0%	4%	0%	1%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	33%	30%	37%	40%	22%	21%
Total	100%	100%	100%	100%	100%	100%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	27%	24%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	31%	27%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	38%	47%	28%	29%	10%	11%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	1%	1%	1%	1%	0%	0%
Fabric Filter DOM, mod	3%	0%	2%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	38%	42%	27%	30%
Feed Control	58%	52%	31%	29%	4%	8%
Total	100%	100%	100%	100%	100%	100%

PERCENT OF NEW COMPLIANCE COSTS BY CONTROL MEASURE, cont.
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%	BTF-ACI(70%
Commercial Incinerators						
New Fabric Filters	10%	8%	9%	11%	19%	20%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	16%	18%	47%	50%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	21%	23%	17%	17%	4%	3%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	3%	3%	19%	20%
Fabric Filter DOM, small	0%	1%	0%	1%	0%	0%
Fabric Filter DOM, mod	3%	1%	3%	1%	2%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	1%	0%	1%	0%	0%	0%
IWS DOM, mod	1%	1%	1%	1%	0%	0%
HEWS DOM, small	0%	2%	0%	2%	0%	0%
HEWS DOM, mod	7%	3%	6%	3%	1%	1%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	57%	61%	44%	44%	8%	5%
Total	100%	100%	100%	100%	100%	100%
On-Site Incinerators						
New Fabric Filters	39%	54%	36%	48%	28%	33%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	9%	12%	28%	30%
New Carbon Bed	0%	0%	0%	1%	1%	1%
New Quencher	5%	7%	3%	4%	2%	2%
New Afterburner	30%	7%	27%	6%	17%	3%
New Reheater	0%	0%	4%	5%	20%	21%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	0%	0%	0%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	2%	4%	1%	3%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	1%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	23%	26%	18%	20%	4%	8%
Total	100%	100%	100%	100%	100%	100%
Government On-Site Incinerators						
New Fabric Filters	22%	21%	22%	21%	22%	21%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	32%	31%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	2%
New Afterburner	6%	7%	6%	7%	4%	4%
New Reheater	0%	0%	0%	0%	12%	13%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	0%	0%	0%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	8%	9%	8%	9%	5%	6%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	2%	2%	2%	2%	1%	1%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	62%	61%	62%	61%	24%	22%
Total	100%	100%	100%	100%	100%	100%

PERCENTAGE OF COMBUSTION SYSTEMS BURNING BELOW STATIC BEQs

	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators			
							Short Term		Long Term	
	Short Term	Long Term	Short Term	Long Term	Short Term	Long Term	<20% below	>20% below	<20% below	>20% below
Floor (50%)	0%	3%	0%	0%	10%	10%	0%	31%	4%	40%
Floor (70%)	0%	3%	0%	0%	10%	10%	2%	29%	4%	40%
Rec (50%)	0%	6%	0%	0%	10%	10%	0%	31%	4%	40%
Rec (70%)	0%	6%	0%	0%	10%	10%	2%	29%	4%	40%
BTF-ACI (50%)	0%	6%	13%	25%	10%	10%	2%	33%	8%	46%
BTF-ACI (70%)	0%	6%	0%	25%	10%	10%	2%	31%	8%	46%

Notes:

PRELIMINARY ECONOMIC IMPACT RESULTS

PERCENTAGE OF COMBUSTION SYSTEMS MEETING SHORT TERM BEQ AFTER CONSOLIDATION
(Percentage of combustion systems; includes systems currently burning below their break-even quantity)

Price pass through assumed: 0%

	Cement Kilns			LWAKs			Commercial Incinerators			Private On-site Incinerators		
	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below
Floor (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	60%	0%	40%
Floor (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	60%	0%	40%
Rec (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	60%	0%	40%
Rec (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	60%	0%	40%
BTF-ACI (50%)	100%	0%	0%	88%	0%	13%	90%	0%	10%	54%	0%	46%
BTF-ACI (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	54%	0%	46%

Notes:

1. Percent of systems currently not meeting short term baseline break-even quantity:

Cement Kilns	0%
LWAKs	0%
Commercial Incinerators	10%
Private On-site Incinerators	15%

PRELIMINARY ECONOMIC IMPACT RESULTS

PERCENTAGE OF COMBUSTION SYSTEMS MEETING LONG TERM BEQ AFTER CONSOLIDATION
(Percentage of combustion systems; includes systems currently burning below their break-even quantity)

Price pass through assumed: 0%

	Cement Kilns			LWAKs			Commercial Incinerators			Private On-site Incinerators		
	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below
Floor (50%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Floor (70%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Rec (50%)	94%	0%	6%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Rec (70%)	94%	0%	6%	100%	0%	0%	90%	0%	10%	50%	0%	50%
BTF-ACI (50%)	94%	0%	6%	75%	0%	25%	90%	0%	10%	42%	0%	58%
BTF-ACI (70%)	94%	0%	6%	88%	0%	13%	90%	0%	10%	46%	0%	54%

Notes:

1. Percent of systems currently not meeting long term baseline break-even quantity:

Cement Kilns	0%
LWAKs	0%
Commercial Incinerators	10%
Private On-site Incinerators	35%

PRELIMINARY ECONOMIC IMPACT RESULTS

TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS (millions)
AFTER COMBUSTION SYSTEM CONSOLIDATIONS

Price pass through assumed: **0%**

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-Sites	Total	% Difference from Compliance Costs with No System Consolidation
Floor (50%)	$24	$3	$7	$26	$7	$67	-19%
Floor (70%)	$16	$3	$6	$22	$7	$54	-22%
Rec (50%)	$26	$4	$7	$27	$7	$71	-21%
Rec (70%)	$19	$4	$6	$24	$7	$59	-23%
BTF-ACI (50%)	$34	$4	$10	$43	$27	$118	-18%
BTF-ACI (70%)	$27	$5	$9	$39	$26	$106	-18%

Notes:

1. Compliance costs after consolidation include only the costs for those systems that will continue to burn waste, and do not include shipping and disposal costs (after the assumed price increase) for on-site incinerators that decide to stop burning waste on-site.
2. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specific firm's marginal tax bracket.
3. "Consolidation" allows for non-viable combustion systems to consolidate waste flows with other systems at the same facility, or to exit the waste burning market. As a result, the number of combustion systems incurring compliance costs is reduced.

TOTAL COST OF WASTE DIVERTED FROM ON-SITE SYSTEMS THAT STOP BURNING (millions)

Price pass through assumed: **0%**

Option	On-site Incinerators
Floor (50%)	$0.19
Floor (70%)	$0.19
Rec (50%)	$0.19
Rec (70%)	$0.19
BTF-ACI (50%)	$6.03
BTF-ACI (70%)	$6.03

Notes:

1. On-site incinerator estimates are for private facilities only. We assume that government facilities continue burning post-MACT and therefore no waste will be diverted from these facilities.
2. Waste diversion costs include both transportation and disposal costs (after the assumed price increase).

TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS AFTER COMBUSTION SYSTEM CONSOLIDATIONS
(millions)
(Includes Cost of Waste Diversion)

Price pass through assumed: **0%**

Option	Total
Floor (50%)	$67
Floor (70%)	$54
Rec (50%)	$71
Rec (70%)	$60
BTF-ACI (50%)	$124
BTF-ACI (70%)	$112

Notes:

1. Compliance costs after consolidation include the costs for those systems that will continue to burn waste, as well as the shipping and disposal costs (after the assumed price increase) for on-site incinerators that decide to stop burning wastes on-site. Other types of combustion systems that stop burning wastes do not incur compliance costs and therefore are excluded.
2. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specfic firm's marginal tax bracket.
3. "Consolidation" allows for non-viable combustion systems to consolidate waste flows with other systems at the same facility, or to exit the waste burning market. As a result, the number of combustion systems incurring compliance costs is reduced.

PRELIMINARY ECONOMIC IMPACT RESULTS

QUANTITY OF HAZARDOUS WASTE THAT COULD BE DIVERTED FROM COMBUSTION FACILITIES IN THE SHORT TERM

Price pass through assumed: 0%

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	TOTAL	Percentage of all BRS Combusted Hazardous Waste
Baseline	0	0	3,170	45,770	48,940	1%
Floor (50%)	0	0	3,170	46,210	49,380	1%
Floor (70%)	0	0	3,170	46,210	49,380	1%
Rec (50%)	0	0	3,170	46,210	49,380	1%
Rec (70%)	0	0	3,170	46,210	49,380	1%
BTF-ACI (50%)	0	0	3,170	59,780	62,950	2%
BTF-ACI (70%)	0	0	3,170	59,780	62,950	2%

Notes:

1. Combusted hazardous waste reported to BRS in 1995 excluding tonnage burned in on-site boilers: 3,300,000
2. Estimates do not include waste diverted from systems that consolidate waste into other systems at the same facility.
3. Quantities of waste diverted under each option are upper-bound, total estimates. They are not incremental and may include waste from facilities non-viable in the baseline.
4. Baseline quantities of waste diverted resulting from consolidation and market exit likely to occur in the baseline (i.e., without the MACT standards) are shown in the first row of the exhibit.
5. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

QUANTITY OF HAZARDOUS WASTE THAT COULD BE DIVERTED FROM COMBUSTION FACILITIES IN THE LONG TERM

Price pass through assumed: **0%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	TOTAL	Percentage of all BRS Combusted Hazardous Waste
Baseline	0	0	3,170	97,760	100,930	3%
Floor (50%)	11,530	0	3,170	111,330	126,030	4%
Floor (70%)	11,530	0	3,170	111,330	126,030	4%
Rec (50%)	28,490	0	3,170	111,330	142,990	4%
Rec (70%)	28,490	0	3,170	111,330	142,990	4%
BTF-ACI (50%)	28,490	7,380	3,170	199,820	238,860	7%
BTF-ACI (70%)	28,490	2,730	3,170	170,050	204,440	6%

Notes:

1. Combusted hazardous waste reported to BRS in 1995 excluding tonnage burned in on-site boilers: 3,300,000
2. Estimates do not include waste diverted from systems that consolidate waste into other systems at the same facility.
3. Quantities of waste diverted under each option are upper-bound, total estimates. They are not incremental and may include waste from facilities non-viable in the baseline.
4. Baseline quantities of waste diverted resulting from consolidation and market exit likely to occur in the baseline (i.e., without the MACT standards) are shown in the first row of the exhibit.
5. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS PER TON
(Short Term - After Consolidation)

Price pass through assumed: **0%**

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$31	$37	$17	$33
Floor (70%)	$23	$31	$14	$29
Rec (50%)	$33	$49	$17	$34
Rec (70%)	$26	$45	$15	$30
BTF-ACI (50%)	$44	$51	$21	$36
BTF-ACI (70%)	$35	$59	$19	$33

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. Average on-site incinerator compliance costs include direct costs of meeting the new emission levels. Indirect costs to facilities that stop burning wastes and must ship them off-site for management are not included.
3. Only private systems, and not governmental systems, are reflected in the average compliance costs per ton for on-site incinerators.
4. On-site incinerator compliance costs per ton are high due to a number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger volumes of hazardous waste, compliance costs per ton for on-site incinerators will be lower.
5. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specific firm's marginal tax bracket.

PRELIMINARY ECONOMIC IMPACT RESULTS

NUMBER OF COMBUSTION FACILITIES LIKELY TO STOP BURNING HAZARDOUS WASTE IN THE SHORT TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **0%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0	0	3	26
Incremental Facilities Likely to Stop Burning Waste				
Floor (50%)	0	0	0	16
Floor (70%)	0	0	0	16
Rec (50%)	0	0	0	16
Rec (70%)	0	0	0	16
BTF-ACI (50%)	0	0	0	23
BTF-ACI (70%)	0	0	0	23

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PRELIMINARY ECONOMIC IMPACT RESULTS

NUMBER OF COMBUSTION FACILITIES LIKELY TO STOP BURNING HAZARDOUS WASTE IN THE LONG TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **0%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0	0	3	42
Incremental Facilities Likely to Stop Burning Waste				
Floor (50%)	1	0	0	13
Floor (70%)	1	0	0	13
Rec (50%)	2	0	0	13
Rec (70%)	2	0	0	13
BTF-ACI (50%)	2	0	0	23
BTF-ACI (70%)	2	0	0	20

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PERCENTAGE OF FACILITIES LIKELY TO STOP BURNING WASTE IN THE SHORT TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **0%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0%	0%	13%	24%
Floor (50%)	0%	0%	0%	15%
Floor (70%)	0%	0%	0%	15%
Rec (50%)	0%	0%	0%	15%
Rec (70%)	0%	0%	0%	15%
BTF-ACI (50%)	0%	0%	0%	21%
BTF-ACI (70%)	0%	0%	0%	21%

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PERCENTAGE OF FACILITIES LIKELY TO STOP BURNING WASTE IN THE LONG TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **0%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0%	0%	13%	38%
Floor (50%)	6%	0%	0%	12%
Floor (70%)	6%	0%	0%	12%
Rec (50%)	11%	0%	0%	12%
Rec (70%)	11%	0%	0%	12%
BTF-ACI (50%)	11%	0%	0%	21%
BTF-ACI (70%)	11%	0%	0%	18%

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of th Hazardous Waste Combustion MACT.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED SHORT-TERM EMPLOYMENT LOSSES AT COMBUSTION SYSTEMS
(net of systems currently burning below their break-even quantity)

Price pass through assumed: 0%

MACT Option	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators		TOTAL	
	Low End	High End	Low End	High End	Low End	High End	Low End	High End	Low End	High End
Baseline	0	0	0	0	80	80	182	182	262	262
Floor (50%)	0	0	0	0	0	0	131	252	131	252
Floor (70%)	0	0	0	0	0	0	131	252	131	252
Rec (50%)	0	0	0	0	0	0	131	252	131	252
Rec (70%)	0	0	0	0	0	0	131	252	131	252
BTF-ACI (50%)	0	0	0	3	0	0	147	276	147	278
BTF-ACI (70%)	0	0	0	0	0	0	147	276	147	276

Notes:

1. Low-end estimates include employment losses associated only with those systems located at facilities where all systems stop burning. High-end estimates reflect all employment losses, including those associated with closing systems located at facilities where at least one system remains open. The low-end estimate assumes the possibility for employee reassignment within a facility that has combustion systems remaining open.
2. Estimates are sensitive to a number of assumptions, including the estimated number of employees associated with waste burning for each system.
3. Estimates are based on primary employment impacts only, and ignore secondary spill-over effects.
4. Employment impacts are national estimates.
5. Employment loss estimates are incremental, or directly attributable to compliance with the proposed MACT standards. These estimates do not include losses that are associated with systems that are non-viable in the baseline and therefore not directly attributable to compliance with the proposed MACT standards. Those baseline losses are provided separately in the first row of the above exhibit.
6. Compliance costs include CEM costs.
7. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED LONG-TERM EMPLOYMENT LOSSES AT COMBUSTION SYSTEMS
(net of systems currently burning below their break-even quantity)

Price pass through assumed: 0%

MACT Option	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators		TOTAL	
	Low End	High End	Low End	High End	Low End	High End	Low End	High End	Low End	High End
Baseline	0	0	0	0	80	80	345	408	425	488
Floor (50%)	21	21	0	0	0	0	98	116	119	137
Floor (70%)	21	21	0	0	0	0	98	116	119	137
Rec (50%)	42	42	0	0	0	0	98	116	140	158
Rec (70%)	42	42	0	0	0	0	98	116	140	158
BTF-ACI (50%)	42	42	0	5	0	0	145	177	187	224
BTF-ACI (70%)	42	42	0	3	0	0	124	132	166	177

Notes:

1. Low-end estimates include employment losses associated only with those systems located at facilities where all systems stop burning. High-end estimates reflect all employment losses, including those associated with closing systems located at facilities where at least one system remains open. The low-end estimate assumes the possibility for employee reassignment within a facility that has combustion systems remaining open.
2. Estimates are sensitive to a number of assumptions, including the estimated number of employees associated with waste burning for each system.
3. Estimates are based on primary employment impacts only, and ignore secondary spill-over effects.
4. Employment impacts are national estimates.
5. Employment loss estimates are incremental, or directly attributable to compliance with the proposed MACT standards. These estimates do not include losses that are associated with systems that are non-viable in the baseline and therefore not directly attributable to compliance with the proposed MACT standards. Those baseline losses are provided separately in the first row of the above exhibit.
6. Compliance costs include CEM costs.
7. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **FIr(50%)**
Price pass through assumed: **0%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	77	5	10	30	5	127
CEMs/Monitoring Equipment	25	6	14	56	29	130
Labor Within Combustion Sector						
O&M	50	4	9	80	8	152
Permitting	1	0	1	4	1	7
Total	**153**	**16**	**34**	**169**	**43**	416

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **FIr(70%)**
Price pass through assumed: **0%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	51	5	8	26	5	95
CEMs/Monitoring Equipment	25	6	14	55	29	128
Labor Within Combustion Sector						
O&M	35	4	8	72	7	126
Permitting	1	0	1	3	1	7
Total	**113**	**15**	**30**	**157**	**42**	357

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **Rec(50%)**
Price pass through assumed: **0%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	77	7	12	36	5	137
CEMs/Monitoring Equipment	25	6	14	54	29	128
Labor Within Combustion Sector						
O&M	50	5	13	95	8	171
Permitting	1	0	1	3	1	7
Total	**153**	**19**	**40**	**188**	**43**	443

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **Rec(70%)**
Price pass through assumed: **0%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	51	6	10	33	5	105
CEMs/Monitoring Equipment	25	6	14	52	29	126
Labor Within Combustion Sector						
O&M	35	5	12	86	7	146
Permitting	1	0	1	3	1	7
Total	**113**	**17**	**37**	**174**	**42**	384

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **BTF(50%)**
Price pass through assumed: **0%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	99	8	22	80	13	222
CEMs/Monitoring Equipment	25	5	15	56	29	129
Labor Within Combustion Sector						
O&M	84	14	35	179	24	337
Permitting	1	0	1	4	1	7
Total	**209**	**27**	**73**	**319**	**67**	696

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **BTF(70%)**
Price pass through assumed: **0%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	78	9	20	69	13	188
CEMs/Monitoring Equipment	25	6	14	56	29	130
Labor Within Combustion Sector						
O&M	67	14	35	157	22	295
Permitting	1	0	1	4	1	7
Total	**171**	**29**	**71**	**285**	**65**	621

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

WEIGHTED AVERAGE COMBUSTION PRICE PER TON AND INCREASE IN PRICES DUE TO ASSUMED PRICE PASS THROUGH

Price pass through assumed: **0%**
(percentage of median compliance costs for the most efficient sector)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Current weighted average price	$172	$136	$689	$729
Increase in price due to compliance costs passed through				
Floor (50%)	$0	$0	$0	$0
Floor (70%)	$0	$0	$0	$0
Rec (50%)	$0	$0	$0	$0
Rec (70%)	$0	$0	$0	$0
BTF-ACI (50%)	$0	$0	$0	$0
BTF-ACI (70%)	$0	$0	$0	$0

Notes:

1. Compliance costs include CEM costs.
2. Median compliance costs per ton exclude systems currently not burning hazardous waste.
3. **The commercial sector with the lowest total cost per ton (baseline + compliance cost) drives the assumed increase in combustion prices of waste categories managed by that sector.**
4. Prices for on-site incinerators reflect the cost per ton of off-site treatment that generators avoid by burning the waste on-site.
5. **Weighted average price per ton = (solids percentage of total waste burned in each sector x solids price) + (liquids percentage of total waste burned in each sector x liquids price) + (sludges percentage of total waste burned in each sector x sludges price).**

PRELIMINARY ECONOMIC IMPACT RESULTS

NEW COMPLIANCE COSTS AS A PERCENTAGE OF BASELINE COSTS OF HAZARDOUS WASTE BURNING
(percentage of permitted combustion systems; see Note 3)

	Cement Kilns					LWAKs					Commercial Incinerators					On-site Incinerators					Government On-sites				
	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%
Floor (50%)	15%	9%	39%	24%	12%	0%	25%	50%	25%	0%	80%	10%	10%	0%	0%	33%	21%	37%	6%	4%	24%	14%	43%	10%	10%
Floor (70%)	30%	9%	36%	21%	3%	13%	13%	50%	25%	0%	85%	5%	10%	0%	0%	38%	25%	27%	6%	4%	33%	14%	33%	5%	14%
Rec (50%)	3%	21%	36%	21%	18%	0%	0%	75%	25%	0%	80%	10%	10%	0%	0%	27%	19%	48%	0%	6%	24%	14%	43%	10%	10%
Rec (70%)	27%	12%	30%	24%	6%	0%	0%	75%	25%	0%	85%	10%	5%	0%	0%	33%	23%	38%	2%	4%	33%	14%	33%	5%	14%
BTF-ACI (50%)	3%	6%	30%	30%	30%	0%	0%	38%	38%	25%	60%	30%	10%	0%	0%	13%	25%	46%	8%	8%	19%	10%	33%	24%	14%
BTF-ACI (70%)	21%	6%	15%	36%	21%	0%	0%	38%	50%	13%	70%	25%	5%	0%	0%	15%	31%	38%	10%	6%	24%	14%	24%	19%	19%

Notes:

1. Compliance costs as a percent of baseline costs = [Total annual compliance costs/Total annual baseline costs]
2. Total annual baseline costs = Annualized fixed capital and fixed operating costs + (Variable operating costs * Hazardous waste burned).
3. Percentages include systems not currently burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

NEW COMPLIANCE COSTS AS A PERCENTAGE OF HAZARDOUS WASTE BURNING REVENUES
(percentage of permitted combustion systems; see Note 3)

	Cement Kilns					LWAKs					Commercial Incinerators					On-site Incinerators				
	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%
Floor (50%)	39%	30%	30%	0%	0%	13%	50%	38%	0%	0%	90%	0%	0%	0%	10%	48%	13%	10%	15%	13%
Floor (70%)	61%	18%	21%	0%	0%	25%	50%	25%	0%	0%	90%	0%	0%	5%	5%	52%	10%	10%	19%	10%
Rec (50%)	39%	30%	30%	0%	0%	0%	25%	75%	0%	0%	90%	0%	0%	5%	5%	48%	13%	12%	12%	15%
Rec (70%)	52%	27%	21%	0%	0%	0%	25%	75%	0%	0%	90%	0%	0%	5%	5%	52%	10%	12%	15%	12%
BTF-ACI (50%)	24%	27%	45%	3%	0%	0%	13%	63%	25%	0%	90%	0%	0%	5%	5%	37%	10%	19%	23%	12%
BTF-ACI (70%)	36%	24%	36%	3%	0%	0%	13%	75%	13%	0%	90%	0%	0%	5%	5%	37%	21%	12%	19%	12%

Notes:

1. Compliance costs as a percent of revenues = [Total compliance costs per ton]/[Waste burning revenues per ton + Energy savings per ton]
2. On-site incinerator revenues are equal to the costs generators avoid by not shipping the waste to a commercial incinerator (waste fees charged + transportation costs).
3. High-end of range (>75 percent) includes systems not currently burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

CHANGE IN AVERAGE OPERATING PROFITS PER TON OF HAZARDOUS WASTE BURNED FROM THE PROPOSED MACT

Price pass through assumed: **0%**

Options	Cement Kilns			LWA Kilns			Commercial Incinerators			On-site Incinerators		
	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule
	$ Change	% Change		$ Change	% Change		$ Change	% Change		$ Change	% Change	
Floor (50%)	($22)	-16%	68%	($37)	-42%	37%	($17)	-4%	56%	($33)	-8%	62%
Floor (70%)	($15)	-11%	72%	($31)	-35%	42%	($14)	-3%	56%	($29)	-7%	63%
Rec (50%)	($22)	-16%	68%	($49)	-55%	29%	($17)	-4%	56%	($34)	-8%	62%
Rec (70%)	($16)	-12%	71%	($45)	-51%	32%	($15)	-4%	56%	($30)	-8%	62%
BTF-ACI (50%)	($47)	-34%	53%	($51)	-51%	36%	($21)	-5%	55%	($36)	-8%	64%
BTF-ACI (70%)	($35)	-25%	61%	($59)	-68%	21%	($19)	-5%	56%	($33)	-8%	64%

Notes:

1. Operating Profits = (weighted average price per ton + weighted average energy savings per ton + assumed price increase due to compliance costs passed through) - (average baseline costs per ton + average total annual compliance cost per ton). Assumed price pass-through is a set percentage (shown at the top of this exhibit) of the median compliance cost for the most efficient combustion sector. As this is a static model, we have capped the price pass-through using the combustion systems expected to remain burning hazardous waste even though the original pass-through value included some systems expected to stop burning. This is a better approximation of the impetus combustors have to raise prices, though it is not a precise predictor. To address uncertainty regarding the amount prices will rise, a variety of price increase scenarios were used. All other averages were calculated after consolidation, and include only those systems that continue to burn hazardous waste.
2. Operating profits exclude overhead, other administrative costs, and taxes. Actual after-tax profits will be lower.
3. Percentage Operating Profit Margin = average operating profits per ton / (weighted average price per ton + assumed price increase due to compliance costs passed through). Percentage profit margin after the rule is calculated using the same formula with post-rule operating profits and prices.
4. Change in operating profits per ton = Post-rule operating profits per ton - baseline operating profits per ton. Percentage change in operating profits margin = (post-rule operating profits margin - baseline operating profits margin) / baseline operating profits margin. Baseline operating profit margins for systems remaining open after consolidation can be calculated by dividing the percentage profit margin after the rule by one plus the percentage change in the operating profit margin. For consistency, baseline values have been calculated using the median compliance cost per ton for facilities that remain in operation after the rule for each MACT option.

LIST OF EXHIBITS

(0% Price Pass-Through; PM CEM Option 2: Not Required for Any Facilities)

Total Annual Compliance Costs (Assuming no Market Exit)
Average Total Annual Compliance Costs per Combustion System (Assuming no Market Exit)
Average Total Annual Compliance Costs Per Ton (Before Consolidation)
Average Total Annual Baseline Cost of Burning Waste and Compliance Costs per Ton of Hazardous Waste Burned (Before Consolidation)
Baseline Operating Profits per Ton of Hazardous Waste Burned and as Percentage of Baseline Weighted Average Prices per Ton
Percent of Systems Requiring Control Measures (Before Consolidation)
Percent of New Compliance Costs by Control Measure (Before Consolidation)
Percentage of Combustion Systems Burning Below Static BEQs
Total Annual Pre-Tax Compliance Costs (After Combustion System Consolidations)
Average Total Annual Pre-Tax Compliance Cost per Combustion System After Consolidation
Average Total Annual Pre-Tax Compliance Costs per Ton (Short Term - After Consolidation)
Percentage of Combustion Systems Meeting Short Term BEQ After Consolidation
Percentage of Combustion Systems Meeting Long Term BEQ After Consolidation
Number of Combustion Facilities Likely to Stop Burning Hazardous Waste in the Short Term
Number of Combustion Facilities Likely to Stop Burning Hazardous Waste in the Long Term
Percentage of Facilities Likely to Stop Burning Waste in the Short Term
Percentage of Facilities Likely to Stop Burning Waste in the Long Term
Quantity of Hazardous Waste that could be Diverted from Combustion Facilities in the Short Term
Quantity of Hazardous Waste that could be Diverted from Combustion Facilities in the Long Term
Estimated Short-Term Employment Losses at Combustion Systems
Estimated Long-Term Employment Losses at Combustion Systems
Estimated Employment Increases Associated with Compliance Requirements After System Consolidation
-- Floor (50%)
-- Floor (70%)
-- Rec (50%)
-- Rec (70%)
-- BTF-ACI (50%)
-- BTF-ACI (70%)
Weighted Average Combustion Price per Ton and Increase in Prices Due to Assumed Price Pass-Through
New Compliance Costs as a Percentage of Baseline Costs of Hazardous Waste Burning
New Compliance Costs as a Percentage of Hazardous Waste Burning Revenues
Change in Average Operating Profits Per Ton of Hazardous Waste Burned

PRELIMINARY ECONOMIC IMPACT RESULTS

TOTAL ANNUAL COMPLIANCE COSTS (millions)
(Assuming no Market Exit)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites	Total
Floor (50%)	$22	$3	$7	$33	$4	$69
Floor (70%)	$15	$2	$6	$28	$4	$55
Rec (50%)	$24	$3	$7	$37	$4	$75
Rec (70%)	$17	$3	$6	$32	$4	$63
BTF-ACI (50%)	$33	$5	$10	$59	$24	$130
BTF-ACI (70%)	$25	$4	$9	$54	$24	$116

Notes:

1. Estimates assume that all facilities comply. Facilities non-viable in the baseline are included.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER COMBUSTION SYSTEM
(Assuming no Market Exit)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites
Estimated Number of Combustion Systems	33	10	26	138	25
Floor (50%)	$677,373	$260,252	$267,273	$237,552	$179,565
Floor (70%)	$444,485	$212,689	$238,749	$203,763	$159,648
Rec (50%)	$723,010	$341,613	$267,634	$265,811	$179,565
Rec (70%)	$527,438	$307,849	$242,210	$234,073	$159,648
BTF-ACI (50%)	$992,039	$455,955	$379,459	$429,193	$960,310
BTF-ACI (70%)	$767,246	$412,058	$356,234	$392,281	$941,121

Notes:

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER TON
(Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$29	$30	$116	$17,853
Floor (70%)	$21	$24	$111	$17,190
Rec (50%)	$31	$42	$129	$17,968
Rec (70%)	$23	$38	$121	$17,318
BTF-ACI (50%)	$41	$60	$135	$15,929
BTF-ACI (70%)	$33	$53	$127	$15,828

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. Average on-site incinerator compliance costs include direct costs of meeting the new emission levels. Indirect costs to facilities that stop burning wastes and must ship them off-site for management are not included.
3. Only private systems, and not governmental systems, are reflected in the average compliance costs per ton for on-site incinerators.
4. On-site incinerator compliance costs per ton are high due to a number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger volumes of hazardous waste, compliance costs per ton for on-site incinerators will be lower.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL BASELINE COST OF BURNING WASTE AND COMPLIANCE COSTS PER TON OF HAZARDOUS WASTE BURNED (Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Baseline	$74	$114	$658	$36,325
Compliance Costs				
Floor (50%)	$29	$30	$116	$17,853
Floor (70%)	$21	$24	$111	$17,190
Rec (50%)	$31	$42	$129	$17,968
Rec (70%)	$23	$38	$121	$17,318
BTF-ACI (50%)	$41	$60	$135	$15,929
BTF-ACI (70%)	$33	$53	$127	$15,828

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. On-site incinerator baseline and compliance costs per ton are high due to the large number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger quantities of hazardous waste compliance costs per ton would actually be lower. If facilities are burning large volumes of non hazardous waste in addition to the hazardous waste, baseline costs per ton would be lower.

PRELIMINARY ECONOMIC IMPACT RESULTS

BASELINE OPERATING PROFITS PER TON OF HAZARDOUS WASTE BURNED
(Number of Combustion systems Falling in Range)

	<$0	$0 - $50	$51 - $100	$101 - $150	>$150
Cement Kilns	0	0	8	15	10
LWA Kilns	0	0	8	3	0
Commercial Incinerators	3	1	1	1	20
On-site Incinerators	48	13	11	11	56

BASELINE OPERATING PROFITS AS A PERCENTAGE OF BASELINE WEIGHTED AVERAGE PRICES PER TON
(Number of Combustion systems Falling in Range)

	<0%	0% - 10%	11% - 25%	26% - 50%	>50%
Cement Kilns	0	0	0	2	31
LWA Kilns	0	0	0	0	10
Commercial Incinerators	3	0	3	8	13
On-site Incinerators	48	8	24	19	40

Notes:

1. Baseline Operating Profits = (weighted average price per ton + weighted average energy savings per ton) - total annual baseline costs per ton. Total annual baseline costs include fixed annual capital costs, fixed annual operating and maintenance costs, and annual variable costs.
2. Baseline operating profits exclude overhead, other administrative costs, and taxes. Actual after-tax profits will be lower.
3. Number of systems with average operating profits less than $0 (or <0%) includes those burning very little or no waste.
4. Baseline operating profits are calculated at the system level. Consolidating burning into fewer systems may reduce facility closures, explaining why the system estimates presented in this exhibit appear higher than the facility closure presented in later exhibits.
5. Includes combustion systems not currently burning waste in the cement kiln, LWAK, and commercial incinerator sector; or burning less than 50 tons per year in the on-site incinerator sector.

PERCENT OF SYSTEMS REQUIRING CONTROL MEASURES
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%)	BTF-ACI(70%
Cement Kilns						
New Fabric Filters	33%	27%	33%	27%	61%	52%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	45%	36%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	45%	33%	45%	33%	39%	30%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	3%	3%	3%	3%	0%	0%
Fabric Filter DOM, mod	9%	6%	9%	6%	6%	6%
DESP DOM, small	6%	0%	6%	0%	3%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	3%	3%	3%	3%	3%	3%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	55%	42%	64%	52%	73%	55%
None	12%	27%	3%	21%	3%	18%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	63%	50%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	63%	50%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	88%	88%	88%	88%	50%	50%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	25%	13%	25%	13%	13%	0%
Fabric Filter DOM, mod	13%	0%	13%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	75%	75%	75%	75%
Feed Control	100%	75%	63%	63%	50%	63%
None	0%	13%	0%	0%	0%	0%

PERCENT OF SYSTEMS REQUIRING CONTROL MEASURES cont.
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%)	BTF-ACI(70%
Commercial Incinerators						
New Fabric Filters	15%	10%	15%	15%	40%	40%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	20%	20%	85%	85%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	55%	50%	45%	40%	20%	15%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	5%	5%	35%	35%
Fabric Filter DOM, small	5%	5%	5%	5%	5%	5%
Fabric Filter DOM, mod	10%	5%	10%	5%	10%	5%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	5%	0%	5%	0%	0%	0%
IWS DOM, mod	5%	5%	5%	5%	0%	0%
HEWS DOM, small	0%	5%	0%	5%	0%	0%
HEWS DOM, mod	15%	10%	15%	10%	5%	5%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	5%	0%	5%	0%	5%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	85%	80%	80%	75%	70%	65%
None	5%	5%	5%	5%	5%	5%
On-Site Incinerators						
New Fabric Filters	67%	65%	71%	69%	85%	81%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	15%	15%	71%	60%
New Carbon Bed	0%	0%	2%	2%	6%	6%
New Quencher	17%	17%	12%	12%	10%	10%
New Afterburner	6%	2%	6%	2%	6%	2%
New Reheater	0%	0%	8%	8%	60%	48%
Fabric Filter DOM, small	0%	2%	0%	2%	0%	2%
Fabric Filter DOM, mod	2%	0%	2%	0%	2%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	2%	2%	2%	2%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	2%	2%	2%	2%	0%	0%
HEWS DOM, small	0%	2%	0%	2%	0%	2%
HEWS DOM, mod	10%	10%	8%	8%	2%	2%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	2%	4%	2%	4%	2%	4%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	46%	40%	42%	37%	42%	52%
None	6%	8%	4%	6%	2%	2%
Government On-site Incinerators						
New Fabric Filters	29%	24%	29%	24%	38%	33%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	48%	43%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	5%
New Afterburner	5%	5%	5%	5%	5%	5%
New Reheater	0%	0%	0%	0%	19%	19%
Fabric Filter DOM, small	0%	5%	0%	5%	0%	5%
Fabric Filter DOM, mod	14%	10%	14%	10%	14%	10%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	5%	5%	5%	5%	5%	5%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	14%	14%	14%	14%	14%	14%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	57%	52%	57%	52%	57%	52%
None	19%	19%	19%	19%	14%	14%

PERCENT OF NEW COMPLIANCE COSTS BY CONTROL MEASURE
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%	BTF-ACI(70%
Cement Kilns						
New Fabric Filters	35%	35%	33%	30%	39%	39%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	24%	24%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	24%	32%	23%	27%	13%	15%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	3%	2%	3%	2%	1%	1%
DESP DOM, small	4%	0%	4%	0%	1%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	33%	30%	37%	40%	22%	21%
Total	100%	100%	100%	100%	100%	100%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	27%	24%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	31%	27%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	38%	47%	28%	29%	10%	11%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	1%	1%	1%	1%	0%	0%
Fabric Filter DOM, mod	3%	0%	2%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	38%	42%	27%	30%
Feed Control	58%	52%	31%	29%	4%	8%
Total	100%	100%	100%	100%	100%	100%

PERCENTAGE OF COMBUSTION SYSTEMS BURNING BELOW STATIC BEQs

	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators			
	Short Term	Long Term	Short Term	Long Term	Short Term	Long Term	Short Term		Long Term	
							<20% below	>20% below	<20% below	>20% below
Floor (50%)	0%	3%	0%	0%	10%	10%	10%	21%	4%	38%
Floor (70%)	0%	3%	0%	0%	10%	10%	10%	21%	2%	38%
Rec (50%)	0%	6%	0%	0%	10%	10%	10%	21%	4%	38%
Rec (70%)	0%	6%	0%	0%	10%	10%	10%	21%	2%	38%
BTF-ACI (50%)	0%	6%	13%	25%	10%	10%	10%	23%	12%	42%
BTF-ACI (70%)	0%	6%	0%	13%	10%	10%	12%	21%	12%	42%

Notes:

PERCENTAGE OF COMBUSTION SYSTEMS BURNING BELOW STATIC BEQs

	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators			
	Short Term	Long Term	Short Term	Long Term	Short Term	Long Term	Short Term		Long Term	
							<20% below	>20% below	<20% below	>20% below
Floor (50%)	0%	3%	0%	0%	10%	10%	10%	21%	4%	38%
Floor (70%)	0%	3%	0%	0%	10%	10%	10%	21%	2%	38%
Rec (50%)	0%	6%	0%	0%	10%	10%	10%	21%	4%	38%
Rec (70%)	0%	6%	0%	0%	10%	10%	10%	21%	2%	38%
BTF-ACI (50%)	0%	6%	13%	25%	10%	10%	10%	23%	12%	42%
BTF-ACI (70%)	0%	6%	0%	13%	10%	10%	12%	21%	12%	42%

Notes:

PRELIMINARY ECONOMIC IMPACT RESULTS

TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS (millions)
AFTER COMBUSTION SYSTEM CONSOLIDATIONS

Price pass through assumed: **0%**

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-Sites	Total	% Difference from Compliance Costs with No System Consolidation
Floor (50%)	$22	$3	$6	$22	$4	$57	-17%
Floor (70%)	$15	$2	$5	$18	$4	$44	-20%
Rec (50%)	$24	$3	$6	$23	$4	$61	-19%
Rec (70%)	$17	$3	$5	$20	$4	$50	-21%
BTF-ACI (50%)	$33	$4	$9	$39	$24	$108	-17%
BTF-ACI (70%)	$25	$4	$8	$37	$24	$98	-16%

Notes:

1. Compliance costs after consolidation include only the costs for those systems that will continue to burn waste, and do not include shipping and disposal costs (after the assumed price increase) for on-site incinerators that decide to stop burning waste on-site.
2. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specific firm's marginal tax bracket.
3. "Consolidation" allows for non-viable combustion systems to consolidate waste flows with other systems at the same facility, or to exit the waste burning market. As a result, the number of combustion systems incurring compliance costs is reduced.

TOTAL COST OF WASTE DIVERTED FROM ON-SITE SYSTEMS THAT STOP BURNING (millions)

Price pass through assumed: **0%**

Option	On-site Incinerators
Floor (50%)	$0.19
Floor (70%)	$0.19
Rec (50%)	$0.19
Rec (70%)	$0.19
BTF-ACI (50%)	$6.03
BTF-ACI (70%)	$2.27

Notes:

1. On-site incinerator estimates are for private facilities only. We assume that government facilities continue burning post-MACT and therefore no waste will be diverted from these facilities.
2. Waste diversion costs include both transportation and disposal costs (after the assumed price increase).

TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS AFTER COMBUSTION SYSTEM CONSOLIDATIONS
(millions)
(Includes Cost of Waste Diversion)

Price pass through assumed: **0%**

Option	Total
Floor (50%)	$57
Floor (70%)	$44
Rec (50%)	$61
Rec (70%)	$50
BTF-ACI (50%)	$114
BTF-ACI (70%)	$100

Notes:

1. Compliance costs after consolidation include the costs for those systems that will continue to burn waste, as well as the shipping and disposal costs (after the assumed price increase) for on-site incinerators that decide to stop burning wastes on-site. Other types of combustion systems that stop burning wastes do not incur compliance costs and therefore are excluded.
2. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specfic firm's marginal tax bracket.
3. "Consolidation" allows for non-viable combustion systems to consolidate waste flows with other systems at the same facility, or to exit the waste burning market. As a result, the number of combustion systems incurring compliance costs is reduced.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS PER COMBUSTION SYSTEM AFTER CONSOLIDATION

Price pass through assumed: 0%

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites
Floor (50%)	$677,373	$260,252	$243,257	$251,839	$179,565
Floor (70%)	$444,485	$212,689	$213,488	$210,100	$159,648
Rec (50%)	$723,010	$341,613	$247,977	$267,697	$179,565
Rec (70%)	$527,438	$307,849	$222,062	$227,506	$159,648
BTF-ACI (50%)	$992,039	$425,347	$371,123	$506,190	$960,310
BTF-ACI (70%)	$767,246	$412,058	$347,785	$465,008	$941,121

Notes:

1. Average annual pre-tax compliance costs per system are based on the number of combustion systems that remain open after consolidation. The number of combustion systems that remain open in the sectors may vary by option.
2. Total annual pre-tax compliance costs for the on-site incinerator sector do not include the cost of diverting waste to alternative management for those systems that stop burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS PER TON
(Short Term - After Consolidation)

Price pass through assumed: **0%**

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$29	$30	$14	$28
Floor (70%)	$21	$24	$11	$24
Rec (50%)	$31	$42	$14	$29
Rec (70%)	$23	$38	$12	$25
BTF-ACI (50%)	$41	$46	$18	$33
BTF-ACI (70%)	$33	$53	$16	$35

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. Average on-site incinerator compliance costs include direct costs of meeting the new emission levels. Indirect costs to facilities that stop burning wastes and must ship them off-site for management are not included.
3. Only private systems, and not governmental systems, are reflected in the average compliance costs per ton for on-site incinerators.
4. On-site incinerator compliance costs per ton are high due to a number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger volumes of hazardous waste, compliance costs per ton for on-site incinerators will be lower.
5. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specific firm's marginal tax bracket.

PRELIMINARY ECONOMIC IMPACT RESULTS

PERCENTAGE OF COMBUSTION SYSTEMS MEETING SHORT TERM BEQ AFTER CONSOLIDATION
(Percentage of combustion systems; includes systems currently burning below their break-even quantity)

Price pass through assumed: 0%

	Cement Kilns			LWAKs			Commercial Incinerators			Private On-site Incinerators		
	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below
Floor (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
Floor (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
Rec (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
Rec (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
BTF-ACI (50%)	100%	0%	0%	88%	0%	13%	90%	0%	10%	56%	0%	44%
BTF-ACI (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	58%	0%	42%

Notes:

1. Percent of systems currently not meeting short term baseline break-even quantity:

Cement Kilns	0%
LWAKs	0%
Commercial Incinerators	10%
Private On-site Incinerators	15%

PRELIMINARY ECONOMIC IMPACT RESULTS

PERCENTAGE OF COMBUSTION SYSTEMS MEETING LONG TERM BEQ AFTER CONSOLIDATION
(Percentage of combustion systems; includes systems currently burning below their break-even quantity)

Price pass through assumed: 0%

	Cement Kilns			LWAKs			Commercial Incinerators			Private On-site Incinerators		
	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below
Floor (50%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Floor (70%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Rec (50%)	94%	0%	6%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Rec (70%)	94%	0%	6%	100%	0%	0%	90%	0%	10%	50%	0%	50%
BTF-ACI (50%)	94%	0%	6%	75%	0%	25%	90%	0%	10%	44%	0%	56%
BTF-ACI (70%)	94%	0%	6%	88%	0%	13%	90%	0%	10%	46%	0%	54%

Notes:

1. Percent of systems currently not meeting long term baseline break-even quantity:

Cement Kilns	0%
LWAKs	0%
Commercial Incinerators	10%
Private On-site Incinerators	35%

PRELIMINARY ECONOMIC IMPACT RESULTS

NUMBER OF COMBUSTION FACILITIES LIKELY TO STOP BURNING HAZARDOUS WASTE IN THE SHORT TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **0%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0	0	3	26
Incremental Facilities Likely to Stop Burning Waste				
Floor (50%)	0	0	0	16
Floor (70%)	0	0	0	16
Rec (50%)	0	0	0	16
Rec (70%)	0	0	0	16
BTF-ACI (50%)	0	0	0	23
BTF-ACI (70%)	0	0	0	20

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PRELIMINARY ECONOMIC IMPACT RESULTS

NUMBER OF COMBUSTION FACILITIES LIKELY TO STOP BURNING HAZARDOUS WASTE IN THE LONG TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **0%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0	0	3	42
Incremental Facilities Likely to Stop Burning Waste				
Floor (50%)	1	0	0	13
Floor (70%)	1	0	0	13
Rec (50%)	2	0	0	13
Rec (70%)	2	0	0	13
BTF-ACI (50%)	2	0	0	20
BTF-ACI (70%)	2	0	0	20

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PERCENTAGE OF FACILITIES LIKELY TO STOP BURNING WASTE IN THE SHORT TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **0%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0%	0%	13%	24%
Floor (50%)	0%	0%	0%	15%
Floor (70%)	0%	0%	0%	15%
Rec (50%)	0%	0%	0%	15%
Rec (70%)	0%	0%	0%	15%
BTF-ACI (50%)	0%	0%	0%	21%
BTF-ACI (70%)	0%	0%	0%	18%

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PERCENTAGE OF FACILITIES LIKELY TO STOP BURNING WASTE IN THE LONG TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **0%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0%	0%	13%	38%
Floor (50%)	6%	0%	0%	12%
Floor (70%)	6%	0%	0%	12%
Rec (50%)	11%	0%	0%	12%
Rec (70%)	11%	0%	0%	12%
BTF-ACI (50%)	11%	0%	0%	18%
BTF-ACI (70%)	11%	0%	0%	18%

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of th Hazardous Waste Combustion MACT.

PRELIMINARY ECONOMIC IMPACT RESULTS

QUANTITY OF HAZARDOUS WASTE THAT COULD BE DIVERTED FROM COMBUSTION FACILITIES IN THE SHORT TERM

Price pass through assumed: 0%

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	TOTAL	Percentage of all BRS Combusted Hazardous Waste
Baseline	0	0	3,170	45,770	48,940	1%
Floor (50%)	0	0	3,170	46,210	49,380	1%
Floor (70%)	0	0	3,170	46,210	49,380	1%
Rec (50%)	0	0	3,170	46,210	49,380	1%
Rec (70%)	0	0	3,170	46,210	49,380	1%
BTF-ACI (50%)	0	0	3,170	59,780	62,950	2%
BTF-ACI (70%)	0	0	3,170	51,040	54,210	2%

Notes:

1. Combusted hazardous waste reported to BRS in 1995 excluding tonnage burned in on-site boilers: 3,300,000
2. Estimates do not include waste diverted from systems that consolidate waste into other systems at the same facility.
3. Quantities of waste diverted under each option are upper-bound, total estimates. They are not incremental and may include waste from facilities non-viable in the baseline.
4. Baseline quantities of waste diverted resulting from consolidation and market exit likely to occur in the baseline (i.e., without the MACT standards) are shown in the first row of the exhibit.
5. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

QUANTITY OF HAZARDOUS WASTE THAT COULD BE DIVERTED FROM COMBUSTION FACILITIES IN THE LONG TERM

Price pass through assumed: 0%

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	TOTAL	Percentage of all BRS Combusted Hazardous Waste
Baseline	0	0	3,170	97,760	100,930	3%
Floor (50%)	11,530	0	3,170	111,330	126,030	4%
Floor (70%)	11,530	0	3,170	111,330	126,030	4%
Rec (50%)	28,490	0	3,170	111,330	142,990	4%
Rec (70%)	28,490	0	3,170	111,330	142,990	4%
BTF-ACI (50%)	28,490	7,380	3,170	170,050	209,090	6%
BTF-ACI (70%)	28,490	2,730	3,170	170,050	204,440	6%

Notes:

1. Combusted hazardous waste reported to BRS in 1995 excluding tonnage burned in on-site boilers: 3,300,000
2. Estimates do not include waste diverted from systems that consolidate waste into other systems at the same facility.
3. Quantities of waste diverted under each option are upper-bound, total estimates. They are not incremental and may include waste from facilities non-viable in the baseline.
4. Baseline quantities of waste diverted resulting from consolidation and market exit likely to occur in the baseline (i.e., without the MACT standards) are shown in the first row of the exhibit.
5. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED SHORT-TERM EMPLOYMENT LOSSES AT COMBUSTION SYSTEMS
(net of systems currently burning below their break-even quantity)

Price pass through assumed: 0%

MACT Option	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators		TOTAL	
	Low End	High End	Low End	High End	Low End	High End	Low End	High End	Low End	High End
Baseline	0	0	0	0	80	80	182	182	262	262
Floor (50%)	0	0	0	0	0	0	131	231	131	231
Floor (70%)	0	0	0	0	0	0	131	231	131	231
Rec (50%)	0	0	0	0	0	0	131	231	131	231
Rec (70%)	0	0	0	0	0	0	131	231	131	231
BTF-ACI (50%)	0	0	0	3	0	0	147	260	147	263
BTF-ACI (70%)	0	0	0	0	0	0	139	252	139	252

Notes:

1. Low-end estimates include employment losses associated only with those systems located at facilities where all systems stop burning. High-end estimates reflect all employment losses, including those associated with closing systems located at facilities where at least one system remains open. The low-end estimate assumes the possibility for employee reassignment within a facility that has combustion systems remaining open.
2. Estimates are sensitive to a number of assumptions, including the estimated number of employees associated with waste burning for each system.
3. Estimates are based on primary employment impacts only, and ignore secondary spill-over effects.
4. Employment impacts are national estimates.
5. Employment loss estimates are incremental, or directly attributable to compliance with the proposed MACT standards. These estimates do not include losses that are associated with systems that are non-viable in the baseline and therefore not directly attributable to compliance with the proposed MACT standards. Those baseline losses are provided separately in the first row of the above exhibit.
6. Compliance costs include CEM costs.
7. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED LONG-TERM EMPLOYMENT LOSSES AT COMBUSTION SYSTEMS
(net of systems currently burning below their break-even quantity)

Price pass through assumed: **0%**

MACT Option	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators		TOTAL	
	Low End	High End	Low End	High End	Low End	High End	Low End	High End	Low End	High End
Baseline	0	0	0	0	80	80	345	408	425	488
Floor (50%)	21	21	0	0	0	0	98	116	119	137
Floor (70%)	21	21	0	0	0	0	98	116	119	137
Rec (50%)	42	42	0	0	0	0	98	116	140	158
Rec (70%)	42	42	0	0	0	0	98	116	140	158
BTF-ACI (50%)	42	42	0	5	0	0	124	164	166	211
BTF-ACI (70%)	42	42	0	3	0	0	124	132	166	177

Notes:

1. Low-end estimates include employment losses associated only with those systems located at facilities where all systems stop burning. High-end estimates reflect all employment losses, including those associated with closing systems located at facilities where at least one system remains open. The low-end estimate assumes the possibility for employee reassignment within a facility that has combustion systems remaining open.
2. Estimates are sensitive to a number of assumptions, including the estimated number of employees associated with waste burning for each system.
3. Estimates are based on primary employment impacts only, and ignore secondary spill-over effects.
4. Employment impacts are national estimates.
5. Employment loss estimates are incremental, or directly attributable to compliance with the proposed MACT standards. These estimates do not include losses that are associated with systems that are non-viable in the baseline and therefore not directly attributable to compliance with the proposed MACT standards. Those baseline losses are provided separately in the first row of the above exhibit.
6. Compliance costs include CEM costs.
7. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **FIr(50%)**
Price pass through assumed: **0%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	77	5	10	31	5	128
CEMs/Monitoring Equipment	6	0	0	2	1	8
Labor Within Combustion Sector						
O&M	50	4	9	84	8	156
Permitting	1	0	1	4	1	7
Total	**134**	**10**	**20**	**121**	**15**	300

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **FIr(70%)**
Price pass through assumed: **0%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	51	5	8	28	5	96
CEMs/Monitoring Equipment	6	0	0	2	1	8
Labor Within Combustion Sector						
O&M	35	4	7	76	7	130
Permitting	1	0	1	4	1	7
Total	**94**	**9**	**16**	**109**	**14**	242

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **Rec(50%)**
Price pass through assumed: **0%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	77	7	12	37	5	138
CEMs/Monitoring Equipment	6	0	0	2	1	8
Labor Within Combustion Sector						
O&M	50	5	13	98	8	175
Permitting	1	0	1	4	1	7
Total	**134**	**13**	**26**	**141**	**15**	329

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **Rec(70%)**
Price pass through assumed: **0%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	51	6	10	34	5	106
CEMs/Monitoring Equipment	6	0	0	2	1	8
Labor Within Combustion Sector						
O&M	35	5	12	90	7	149
Permitting	1	0	1	3	1	7
Total	**94**	**11**	**23**	**128**	**14**	270

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **BTF(50%)**
Price pass through assumed: **0%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	99	8	22	83	13	225
CEMs/Monitoring Equipment	6	0	0	2	1	8
Labor Within Combustion Sector						
O&M	84	14	35	185	24	342
Permitting	1	0	1	4	1	7
Total	**190**	**22**	**59**	**273**	**39**	583

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **BTF(70%)**
Price pass through assumed: **0%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	78	9	20	74	13	194
CEMs/Monitoring Equipment	6	0	0	2	1	8
Labor Within Combustion Sector						
O&M	67	14	35	170	22	308
Permitting	1	0	1	4	1	8
Total	**152**	**23**	**56**	**249**	**37**	518

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

WEIGHTED AVERAGE COMBUSTION PRICE PER TON AND INCREASE IN PRICES DUE TO ASSUMED PRICE PASS THROUGH

Price pass through assumed: **0%**
(percentage of median compliance costs for the most efficient sector)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Current weighted average price	$172	$136	$689	$729
Increase in price due to compliance costs passed through				
Floor (50%)	$0	$0	$0	$0
Floor (70%)	$0	$0	$0	$0
Rec (50%)	$0	$0	$0	$0
Rec (70%)	$0	$0	$0	$0
BTF-ACI (50%)	$0	$0	$0	$0
BTF-ACI (70%)	$0	$0	$0	$0

Notes:

1. Compliance costs include CEM costs.
2. Median compliance costs per ton exclude systems currently not burning hazardous waste.
3. **The commercial sector with the lowest total cost per ton (baseline + compliance cost) drives the assumed increase in combustion prices of waste categories managed by that sector.**
4. Prices for on-site incinerators reflect the cost per ton of off-site treatment that generators avoid by burning the waste on-site.
5. **Weighted average price per ton = (solids percentage of total waste burned in each sector x solids price) + (liquids percentage of total waste burned in each sector x liquids price) + (sludges percentage of total waste burned in each sector x sludges price).**

PRELIMINARY ECONOMIC IMPACT RESULTS

NEW COMPLIANCE COSTS AS A PERCENTAGE OF BASELINE COSTS OF HAZARDOUS WASTE BURNING
(percentage of permitted combustion systems; see Note 3)

	Cement Kilns					LWAKs					Commercial Incinerators					On-site Incinerators					Government On-sites				
	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%
Floor (50%)	18%	9%	42%	21%	9%	13%	13%	50%	25%	0%	80%	10%	10%	0%	0%	46%	13%	35%	4%	2%	33%	33%	19%	5%	10%
Floor (70%)	33%	18%	30%	15%	3%	13%	38%	38%	13%	0%	85%	5%	10%	0%	0%	46%	19%	29%	4%	2%	48%	19%	19%	5%	10%
Rec (50%)	15%	12%	39%	21%	12%	0%	0%	75%	25%	0%	80%	15%	5%	0%	0%	40%	13%	40%	4%	2%	33%	33%	19%	5%	10%
Rec (70%)	30%	18%	27%	18%	6%	0%	0%	88%	13%	0%	85%	10%	5%	0%	0%	40%	17%	37%	4%	2%	48%	19%	19%	5%	10%
BTF-ACI (50%)	6%	3%	33%	33%	24%	0%	0%	63%	13%	25%	70%	25%	5%	0%	0%	21%	21%	46%	6%	6%	24%	14%	38%	10%	14%
BTF-ACI (70%)	24%	9%	18%	33%	15%	0%	0%	63%	25%	13%	70%	25%	5%	0%	0%	23%	25%	40%	6%	6%	33%	10%	33%	10%	14%

Notes:

1. Compliance costs as a percent of baseline costs = [Total annual compliance costs/Total annual baseline costs]
2. Total annual baseline costs = Annualized fixed capital and fixed operating costs + (Variable operating costs * Hazardous waste burned).
3. Percentages include systems not currently burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

NEW COMPLIANCE COSTS AS A PERCENTAGE OF HAZARDOUS WASTE BURNING REVENUES
(percentage of permitted combustion systems; see Note 3)

	Cement Kilns					LWAKs					Commercial Incinerators					On-site Incinerators				
	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%
Floor (50%)	48%	21%	30%	0%	0%	25%	50%	25%	0%	0%	90%	0%	0%	5%	5%	52%	13%	19%	4%	12%
Floor (70%)	64%	18%	18%	0%	0%	38%	50%	13%	0%	0%	90%	0%	0%	5%	5%	56%	12%	17%	8%	8%
Rec (50%)	48%	21%	30%	0%	0%	0%	38%	63%	0%	0%	90%	0%	0%	5%	5%	52%	12%	17%	4%	15%
Rec (70%)	52%	30%	18%	0%	0%	0%	63%	38%	0%	0%	90%	0%	5%	0%	5%	56%	10%	15%	8%	12%
BTF-ACI (50%)	27%	27%	45%	0%	0%	0%	13%	75%	13%	0%	90%	0%	0%	5%	5%	40%	13%	23%	12%	12%
BTF-ACI (70%)	39%	30%	30%	0%	0%	0%	38%	63%	0%	0%	90%	0%	0%	5%	5%	44%	15%	19%	10%	12%

Notes:

1. Compliance costs as a percent of revenues = [Total compliance costs per ton]/[Waste burning revenues per ton + Energy savings per ton]
2. On-site incinerator revenues are equal to the costs generators avoid by not shipping the waste to a commercial incinerator (waste fees charged + transportation costs).
3. High-end of range (>75 percent) includes systems not currently burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

CHANGE IN AVERAGE OPERATING PROFITS PER TON OF HAZARDOUS WASTE BURNED FROM THE PROPOSED MACT

Price pass through assumed: **0%**

Options	Cement Kilns			LWA Kilns			Commercial Incinerators			On-site Incinerators		
	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule
	$ Change	% Change		$ Change	% Change		$ Change	% Change		$ Change	% Change	
Floor (50%)	($21)	-15%	69%	($30)	-34%	43%	($14)	-3%	56%	($28)	-7%	60%
Floor (70%)	($13)	-9%	73%	($24)	-27%	47%	($11)	-3%	57%	($24)	-7%	61%
Rec (50%)	($21)	-15%	69%	($42)	-47%	34%	($14)	-3%	56%	($29)	-8%	60%
Rec (70%)	($14)	-10%	72%	($38)	-43%	37%	($12)	-3%	57%	($25)	-7%	61%
BTF-ACI (50%)	($45)	-32%	55%	($46)	-46%	40%	($18)	-4%	56%	($33)	-8%	63%
BTF-ACI (70%)	($34)	-24%	61%	($53)	-60%	26%	($16)	-4%	56%	($35)	-9%	62%

Notes:

1. Operating Profits = (weighted average price per ton + weighted average energy savings per ton + assumed price increase due to compliance costs passed through) - (average baseline costs per ton + average total annual compliance cost per ton). Assumed price pass-through is a set percentage (shown at the top of this exhibit) of the median compliance cost for the most efficient combustion sector. As this is a static model, we have capped the price pass-through using the combustion systems expected to remain burning hazardous waste even though the original pass-through value included some systems expected to stop burning. This is a better approximation of the impetus combustors have to raise prices, though it is not a precise predictor. To address uncertainty regarding the amount prices will rise, a variety of price increase scenarios were used. All other averages were calculated after consolidation, and include only those systems that continue to burn hazardous waste.
2. Operating profits exclude overhead, other administrative costs, and taxes. Actual after-tax profits will be lower.
3. Percentage Operating Profit Margin = average operating profits per ton / (weighted average price per ton + assumed price increase due to compliance costs passed through). Percentage profit margin after the rule is calculated using the same formula with post-rule operating profits and prices.
4. Change in operating profits per ton = Post-rule operating profits per ton - baseline operating profits per ton. Percentage change in operating profits margin = (post-rule operating profits margin - baseline operating profits margin) / baseline operating profits margin. Baseline operating profit margins for systems remaining open after consolidation can be calculated by dividing the percentage profit margin after the rule by one plus the percentage change in the operating profit margin. For consistency, baseline values have been calculated using the median compliance cost per ton for facilities that remain in operation after the rule for each MACT option.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **FIr(50%)**
Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	77	5	10	31	5	128
CEMs/Monitoring Equipment	25	6	14	59	29	132
Labor Within Combustion Sector						
O&M	50	4	9	83	8	155
Permitting	1	0	1	4	1	7
Total	**153**	**16**	**34**	**176**	**43**	423

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **FIr(70%)**
Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	51	5	8	28	5	96
CEMs/Monitoring Equipment	25	6	14	57	29	131
Labor Within Combustion Sector						
O&M	35	4	8	76	7	130
Permitting	1	0	1	4	1	7
Total	**113**	**15**	**30**	**164**	**42**	364

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **Rec(50%)**
Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	77	7	12	37	5	138
CEMs/Monitoring Equipment	25	6	14	56	29	130
Labor Within Combustion Sector						
O&M	50	5	13	98	8	175
Permitting	1	0	1	4	1	7
Total	**153**	**19**	**40**	**195**	**43**	450

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **Rec(70%)**
Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	51	6	10	34	5	106
CEMs/Monitoring Equipment	25	6	14	55	29	128
Labor Within Combustion Sector						
O&M	35	5	12	90	7	150
Permitting	1	0	1	3	1	7
Total	**113**	**17**	**37**	**182**	**42**	391

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **BTF(50%)**
Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	99	8	22	81	13	223
CEMs/Monitoring Equipment	25	5	15	57	29	130
Labor Within Combustion Sector						
O&M	84	14	35	182	24	339
Permitting	1	0	1	4	1	7
Total	**209**	**27**	**73**	**323**	**67**	700

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **BTF(70%)**
Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	78	9	20	69	13	189
CEMs/Monitoring Equipment	25	6	14	56	29	131
Labor Within Combustion Sector						
O&M	67	14	35	159	22	297
Permitting	1	0	1	4	1	7
Total	**171**	**29**	**71**	**288**	**65**	625

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

WEIGHTED AVERAGE COMBUSTION PRICE PER TON AND INCREASE IN PRICES DUE TO ASSUMED PRICE PASS THROUGH

Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Current weighted average price	$172	$136	$689	$729
Increase in price due to compliance costs passed through				
Floor (50%)	$5	$5	$5	$5
Floor (70%)	$4	$4	$4	$4
Rec (50%)	$5	$5	$5	$5
Rec (70%)	$4	$4	$4	$4
BTF-ACI (50%)	$12	$12	$9	$10
BTF-ACI (70%)	$9	$9	$7	$8

Notes:

1. Compliance costs include CEM costs.
2. Median compliance costs per ton exclude systems currently not burning hazardous waste.
3. **The commercial sector with the lowest total cost per ton (baseline + compliance cost) drives the assumed increase in combustion prices of waste categories managed by that sector.**
4. Prices for on-site incinerators reflect the cost per ton of off-site treatment that generators avoid by burning the waste on-site.
5. **Weighted average price per ton = (solids percentage of total waste burned in each sector x solids price) + (liquids percentage of total waste burned in each sector x liquids price) + (sludges percentage of total waste burned in each sector x sludges price).**

PRELIMINARY ECONOMIC IMPACT RESULTS

NEW COMPLIANCE COSTS AS A PERCENTAGE OF BASELINE COSTS OF HAZARDOUS WASTE BURNING
(percentage of permitted combustion systems; see Note 3)

	Cement Kilns					LWAKs					Commercial Incinerators					On-site Incinerators					Government On-sites				
	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%
Floor (50%)	15%	9%	39%	24%	12%	0%	25%	50%	25%	0%	80%	10%	10%	0%	0%	33%	21%	37%	6%	4%	24%	14%	43%	10%	10%
Floor (70%)	30%	9%	36%	21%	3%	13%	13%	50%	25%	0%	85%	5%	10%	0%	0%	38%	25%	27%	6%	4%	33%	14%	33%	5%	14%
Rec (50%)	3%	21%	36%	21%	18%	0%	0%	75%	25%	0%	80%	10%	10%	0%	0%	27%	19%	48%	0%	6%	24%	14%	43%	10%	10%
Rec (70%)	27%	12%	30%	24%	6%	0%	0%	75%	25%	0%	85%	10%	5%	0%	0%	33%	23%	38%	2%	4%	33%	14%	33%	5%	14%
BTF-ACI (50%)	3%	6%	30%	30%	30%	0%	0%	38%	38%	25%	60%	30%	10%	0%	0%	13%	25%	46%	8%	8%	19%	10%	33%	24%	14%
BTF-ACI (70%)	21%	6%	15%	36%	21%	0%	0%	38%	50%	13%	70%	25%	5%	0%	0%	15%	31%	38%	10%	6%	24%	14%	24%	19%	19%

Notes:

1. Compliance costs as a percent of baseline costs = [Total annual compliance costs/Total annual baseline costs]
2. Total annual baseline costs = Annualized fixed capital and fixed operating costs + (Variable operating costs * Hazardous waste burned).
3. Percentages include systems not currently burning hazardous waste.

PERCENT OF NEW COMPLIANCE COSTS BY CONTROL MEASURE
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%	BTF-ACI(70%
Cement Kilns						
New Fabric Filters	35%	35%	33%	30%	39%	39%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	24%	24%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	24%	32%	23%	27%	13%	15%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	3%	2%	3%	2%	1%	1%
DESP DOM, small	4%	0%	4%	0%	1%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	33%	30%	37%	40%	22%	21%
Total	100%	100%	100%	100%	100%	100%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	27%	24%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	31%	27%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	38%	47%	28%	29%	10%	11%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	1%	1%	1%	1%	0%	0%
Fabric Filter DOM, mod	3%	0%	2%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	38%	42%	27%	30%
Feed Control	58%	52%	31%	29%	4%	8%
Total	100%	100%	100%	100%	100%	100%

PERCENT OF NEW COMPLIANCE COSTS BY CONTROL MEASURE, cont.
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%	BTF-ACI(70%
Commercial Incinerators						
New Fabric Filters	10%	8%	9%	11%	19%	20%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	16%	18%	47%	50%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	21%	23%	17%	17%	4%	3%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	3%	3%	19%	20%
Fabric Filter DOM, small	0%	1%	0%	1%	0%	0%
Fabric Filter DOM, mod	3%	1%	3%	1%	2%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	1%	0%	1%	0%	0%	0%
IWS DOM, mod	1%	1%	1%	1%	0%	0%
HEWS DOM, small	0%	2%	0%	2%	0%	0%
HEWS DOM, mod	7%	3%	6%	3%	1%	1%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	57%	61%	44%	44%	8%	5%
Total	100%	100%	100%	100%	100%	100%
On-Site Incinerators						
New Fabric Filters	39%	54%	36%	48%	28%	33%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	9%	12%	28%	30%
New Carbon Bed	0%	0%	0%	1%	1%	1%
New Quencher	5%	7%	3%	4%	2%	2%
New Afterburner	30%	7%	27%	6%	17%	3%
New Reheater	0%	0%	4%	5%	20%	21%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	0%	0%	0%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	2%	4%	1%	3%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	1%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	23%	26%	18%	20%	4%	8%
Total	100%	100%	100%	100%	100%	100%
Government On-Site Incinerators						
New Fabric Filters	22%	21%	22%	21%	22%	21%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	32%	31%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	2%
New Afterburner	6%	7%	6%	7%	4%	4%
New Reheater	0%	0%	0%	0%	12%	13%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	0%	0%	0%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	8%	9%	8%	9%	5%	6%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	2%	2%	2%	2%	1%	1%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	62%	61%	62%	61%	24%	22%
Total	100%	100%	100%	100%	100%	100%

PERCENTAGE OF COMBUSTION SYSTEMS BURNING BELOW STATIC BEQs

	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators			
	Short Term	Long Term	Short Term	Long Term	Short Term	Long Term	Short Term		Long Term	
							<20% below	>20% below	<20% below	>20% below
Floor (50%)	0%	3%	0%	0%	10%	10%	0%	31%	4%	40%
Floor (70%)	0%	3%	0%	0%	10%	10%	2%	29%	4%	40%
Rec (50%)	0%	6%	0%	0%	10%	10%	0%	31%	4%	40%
Rec (70%)	0%	6%	0%	0%	10%	10%	2%	29%	4%	40%
BTF-ACI (50%)	0%	6%	13%	25%	10%	10%	2%	33%	8%	46%
BTF-ACI (70%)	0%	6%	0%	25%	10%	10%	2%	31%	8%	46%

Notes:

PRELIMINARY ECONOMIC IMPACT RESULTS

TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS (millions)
AFTER COMBUSTION SYSTEM CONSOLIDATIONS

Price pass through assumed: **25%**

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-Sites	Total	% Difference from Compliance Costs with No System Consolidation
Floor (50%)	$24	$3	$7	$27	$7	$68	-18%
Floor (70%)	$16	$3	$6	$23	$7	$55	-20%
Rec (50%)	$26	$4	$7	$28	$7	$72	-19%
Rec (70%)	$19	$4	$6	$25	$7	$60	-21%
BTF-ACI (50%)	$34	$4	$10	$43	$27	$118	-18%
BTF-ACI (70%)	$27	$5	$9	$40	$26	$107	-18%

Notes:

1. Compliance costs after consolidation include only the costs for those systems that will continue to burn waste, and do not include shipping and disposal costs (after the assumed price increase) for on-site incinerators that decide to stop burning waste on-site.
2. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specific firm's marginal tax bracket.
3. "Consolidation" allows for non-viable combustion systems to consolidate waste flows with other systems at the same facility, or to exit the waste burning market. As a result, the number of combustion systems incurring compliance costs is reduced.

TOTAL COST OF WASTE DIVERTED FROM
ON-SITE SYSTEMS THAT STOP BURNING (millions)

Price pass through assumed: **25%**

Option	On-site Incinerators
Floor (50%)	$0.19
Floor (70%)	$0.19
Rec (50%)	$0.19
Rec (70%)	$0.19
BTF-ACI (50%)	$6.03
BTF-ACI (70%)	$6.03

Notes:

1. On-site incinerator estimates are for private facilities only. We assume that government facilities continue burning post-MACT and therefore no waste will be diverted from these facilities.
2. Waste diversion costs include both transportation and disposal costs (after the assumed price increase).

TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS AFTER COMBUSTION SYSTEM CONSOLIDATIONS
(millions)
(Includes Cost of Waste Diversion)

Price pass through assumed: 25%

Option	Total
Floor (50%)	$68
Floor (70%)	$55
Rec (50%)	$72
Rec (70%)	$61
BTF-ACI (50%)	$124
BTF-ACI (70%)	$113

Notes:

1. Compliance costs after consolidation include the costs for those systems that will continue to burn waste, as well as the shipping and disposal costs (after the assumed price increase) for on-site incinerators that decide to stop burning wastes on-site. Other types of combustion systems that stop burning wastes do not incur compliance costs and therefore are excluded.
2. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specfic firm's marginal tax bracket.
3. "Consolidation" allows for non-viable combustion systems to consolidate waste flows with other systems at the same facility, or to exit the waste burning market. As a result, the number of combustion systems incurring compliance costs is reduced.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS PER COMBUSTION SYSTEM AFTER CONSOLIDATION

Price pass through assumed: **25%**

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites
Floor (50%)	$728,353	$312,665	$298,694	$306,987	$281,064
Floor (70%)	$495,465	$265,102	$268,924	$265,247	$261,146
Rec (50%)	$773,990	$394,025	$303,414	$322,844	$281,064
Rec (70%)	$578,418	$360,261	$277,499	$282,653	$261,146
BTF-ACI (50%)	$1,043,019	$477,964	$426,560	$561,122	$1,061,809
BTF-ACI (70%)	$818,226	$464,470	$403,222	$513,964	$1,042,619

Notes:

1. Average annual pre-tax compliance costs per system are based on the number of combustion systems that remain open after consolidation. The number of combustion systems that remain open in the sectors may vary by option.
2. Total annual pre-tax compliance costs for the on-site incinerator sector do not include the cost of diverting waste to alternative management for those systems that stop burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS PER TON
(Short Term - After Consolidation)

Price pass through assumed: **25%**

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$31	$37	$17	$36
Floor (70%)	$23	$31	$14	$32
Rec (50%)	$33	$49	$17	$36
Rec (70%)	$26	$45	$15	$33
BTF-ACI (50%)	$44	$51	$21	$39
BTF-ACI (70%)	$35	$59	$19	$36

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. Average on-site incinerator compliance costs include direct costs of meeting the new emission levels. Indirect costs to facilities that stop burning wastes and must ship them off-site for management are not included.
3. Only private systems, and not governmental systems, are reflected in the average compliance costs per ton for on-site incinerators.
4. On-site incinerator compliance costs per ton are high due to a number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger volumes of hazardous waste, compliance costs per ton for on-site incinerators will be lower.
5. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specific firm's marginal tax bracket.

PRELIMINARY ECONOMIC IMPACT RESULTS

PERCENTAGE OF COMBUSTION SYSTEMS MEETING SHORT TERM BEQ AFTER CONSOLIDATION
(Percentage of combustion systems; includes systems currently burning below their break-even quantity)

Price pass through assumed: 25%

	Cement Kilns			LWAKs			Commercial Incinerators			Private On-site Incinerators		
	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below
Floor (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
Floor (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
Rec (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
Rec (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
BTF-ACI (50%)	100%	0%	0%	88%	0%	13%	90%	0%	10%	56%	0%	44%
BTF-ACI (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	56%	0%	44%

Notes:

1. Percent of systems currently not meeting short term baseline break-even quantity:

Cement Kilns	0%
LWAKs	0%
Commercial Incinerators	10%
Private On-site Incinerators	15%

PRELIMINARY ECONOMIC IMPACT RESULTS

PERCENTAGE OF COMBUSTION SYSTEMS MEETING LONG TERM BEQ AFTER CONSOLIDATION
(Percentage of combustion systems; includes systems currently burning below their break-even quantity)

Price pass through assumed: 25%

	Cement Kilns			LWAKs			Commercial Incinerators			Private On-site Incinerators		
	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below
Floor (50%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Floor (70%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Rec (50%)	94%	0%	6%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Rec (70%)	94%	0%	6%	100%	0%	0%	90%	0%	10%	50%	0%	50%
BTF-ACI (50%)	94%	0%	6%	75%	0%	25%	90%	0%	10%	46%	0%	54%
BTF-ACI (70%)	94%	0%	6%	88%	0%	13%	90%	0%	10%	48%	0%	52%

Notes:

1. Percent of systems currently not meeting long term baseline break-even quantity:

Cement Kilns	0%
LWAKs	0%
Commercial Incinerators	10%
Private On-site Incinerators	35%

PRELIMINARY ECONOMIC IMPACT RESULTS

NUMBER OF COMBUSTION FACILITIES LIKELY TO STOP BURNING HAZARDOUS WASTE IN THE SHORT TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **25%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0	0	3	26
Incremental Facilities Likely to Stop Burning Waste				
Floor (50%)	0	0	0	16
Floor (70%)	0	0	0	16
Rec (50%)	0	0	0	16
Rec (70%)	0	0	0	16
BTF-ACI (50%)	0	0	0	23
BTF-ACI (70%)	0	0	0	23

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PERCENT OF NEW COMPLIANCE COSTS BY CONTROL MEASURE, cont.
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%	BTF-ACI(70%
Commercial Incinerators						
New Fabric Filters	10%	8%	9%	11%	19%	20%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	16%	18%	47%	50%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	21%	23%	17%	17%	4%	3%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	3%	3%	19%	20%
Fabric Filter DOM, small	0%	1%	0%	1%	0%	0%
Fabric Filter DOM, mod	3%	1%	3%	1%	2%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	1%	0%	1%	0%	0%	0%
IWS DOM, mod	1%	1%	1%	1%	0%	0%
HEWS DOM, small	0%	2%	0%	2%	0%	0%
HEWS DOM, mod	7%	3%	6%	3%	1%	1%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	57%	61%	44%	44%	8%	5%
Total	100%	100%	100%	100%	100%	100%
On-Site Incinerators						
New Fabric Filters	39%	54%	36%	48%	28%	33%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	9%	12%	28%	30%
New Carbon Bed	0%	0%	0%	1%	1%	1%
New Quencher	5%	7%	3%	4%	2%	2%
New Afterburner	30%	7%	27%	6%	17%	3%
New Reheater	0%	0%	4%	5%	20%	21%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	0%	0%	0%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	2%	4%	1%	3%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	1%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	23%	26%	18%	20%	4%	8%
Total	100%	100%	100%	100%	100%	100%
Government On-Site Incinerators						
New Fabric Filters	22%	21%	22%	21%	22%	21%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	32%	31%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	2%
New Afterburner	6%	7%	6%	7%	4%	4%
New Reheater	0%	0%	0%	0%	12%	13%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	0%	0%	0%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	8%	9%	8%	9%	5%	6%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	2%	2%	2%	2%	1%	1%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	62%	61%	62%	61%	24%	22%
Total	100%	100%	100%	100%	100%	100%

PERCENTAGE OF FACILITIES LIKELY TO STOP BURNING WASTE IN THE SHORT TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **25%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0%	0%	13%	24%
Floor (50%)	0%	0%	0%	15%
Floor (70%)	0%	0%	0%	15%
Rec (50%)	0%	0%	0%	15%
Rec (70%)	0%	0%	0%	15%
BTF-ACI (50%)	0%	0%	0%	21%
BTF-ACI (70%)	0%	0%	0%	21%

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PERCENTAGE OF FACILITIES LIKELY TO STOP BURNING WASTE IN THE LONG TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **25%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0%	0%	13%	38%
Floor (50%)	6%	0%	0%	12%
Floor (70%)	6%	0%	0%	12%
Rec (50%)	11%	0%	0%	12%
Rec (70%)	11%	0%	0%	12%
BTF-ACI (50%)	11%	0%	0%	18%
BTF-ACI (70%)	11%	0%	0%	15%

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of th Hazardous Waste Combustion MACT.

PRELIMINARY ECONOMIC IMPACT RESULTS

QUANTITY OF HAZARDOUS WASTE THAT COULD BE DIVERTED FROM COMBUSTION FACILITIES IN THE SHORT TERM

Price pass through assumed: **25%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	TOTAL	Percentage of all BRS Combusted Hazardous Waste
Baseline	0	0	3,170	45,770	48,940	1%
Floor (50%)	0	0	3,170	46,210	49,380	1%
Floor (70%)	0	0	3,170	46,210	49,380	1%
Rec (50%)	0	0	3,170	46,210	49,380	1%
Rec (70%)	0	0	3,170	46,210	49,380	1%
BTF-ACI (50%)	0	0	3,170	59,780	62,950	2%
BTF-ACI (70%)	0	0	3,170	59,780	62,950	2%

Notes:

1. Combusted hazardous waste reported to BRS in 1995 excluding tonnage burned in on-site boilers: 3,300,000
2. Estimates do not include waste diverted from systems that consolidate waste into other systems at the same facility.
3. Quantities of waste diverted under each option are upper-bound, total estimates. They are not incremental and may include waste from facilities non-viable in the baseline.
4. Baseline quantities of waste diverted resulting from consolidation and market exit likely to occur in the baseline (i.e., without the MACT standards) are shown in the first row of the exhibit.
5. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

QUANTITY OF HAZARDOUS WASTE THAT COULD BE DIVERTED FROM COMBUSTION FACILITIES IN THE LONG TERM

Price pass through assumed: **25%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	TOTAL	Percentage of all BRS Combusted Hazardous Waste
Baseline	0	0	3,170	97,760	100,930	3%
Floor (50%)	11,530	0	3,170	111,330	126,030	4%
Floor (70%)	11,530	0	3,170	111,330	126,030	4%
Rec (50%)	28,490	0	3,170	111,330	142,990	4%
Rec (70%)	28,490	0	3,170	111,330	142,990	4%
BTF-ACI (50%)	28,490	7,380	3,170	170,050	209,090	6%
BTF-ACI (70%)	28,490	2,730	3,170	123,210	157,600	5%

Notes:

1. Combusted hazardous waste reported to BRS in 1995 excluding tonnage burned in on-site boilers: 3,300,000
2. Estimates do not include waste diverted from systems that consolidate waste into other systems at the same facility.
3. Quantities of waste diverted under each option are upper-bound, total estimates. They are not incremental and may include waste from facilities non-viable in the baseline.
4. Baseline quantities of waste diverted resulting from consolidation and market exit likely to occur in the baseline (i.e., without the MACT standards) are shown in the first row of the exhibit.
5. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED LONG-TERM EMPLOYMENT LOSSES AT COMBUSTION SYSTEMS
(net of systems currently burning below their break-even quantity)

Price pass through assumed: **25%**

MACT Option	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators		TOTAL	
	Low End	High End	Low End	High End	Low End	High End	Low End	High End	Low End	High End
Baseline	0	0	0	0	80	80	345	408	425	488
Floor (50%)	21	21	0	0	0	0	98	116	119	137
Floor (70%)	21	21	0	0	0	0	98	116	119	137
Rec (50%)	42	42	0	0	0	0	98	116	140	158
Rec (70%)	42	42	0	0	0	0	98	116	140	158
BTF-ACI (50%)	42	42	0	5	0	0	124	132	166	179
BTF-ACI (70%)	42	42	0	3	0	0	106	124	148	169

Notes:

1. Low-end estimates include employment losses associated only with those systems located at facilities where all systems stop burning. High-end estimates reflect all employment losses, including those associated with closing systems located at facilities where at least one system remains open. The low-end estimate assumes the possibility for employee reassignment within a facility that has combustion systems remaining open.
2. Estimates are sensitive to a number of assumptions, including the estimated number of employees associated with waste burning for each system.
3. Estimates are based on primary employment impacts only, and ignore secondary spill-over effects.
4. Employment impacts are national estimates.
5. Employment loss estimates are incremental, or directly attributable to compliance with the proposed MACT standards. These estimates do not include losses that are associated with systems that are non-viable in the baseline and therefore not directly attributable to compliance with the proposed MACT standards. Those baseline losses are provided separately in the first row of the above exhibit.
6. Compliance costs include CEM costs.
7. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **FIr(50%)**
Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	77	5	10	31	5	128
CEMs/Monitoring Equipment	25	6	14	59	29	132
Labor Within Combustion Sector						
O&M	50	4	9	83	8	155
Permitting	1	0	1	4	1	7
Total	**153**	**16**	**34**	**176**	**43**	423

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **FIr(70%)**
Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	51	5	8	28	5	96
CEMs/Monitoring Equipment	25	6	14	57	29	131
Labor Within Combustion Sector						
O&M	35	4	8	76	7	130
Permitting	1	0	1	4	1	7
Total	**113**	**15**	**30**	**164**	**42**	364

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **Rec(50%)**
Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	77	7	12	37	5	138
CEMs/Monitoring Equipment	25	6	14	56	29	130
Labor Within Combustion Sector						
O&M	50	5	13	98	8	175
Permitting	1	0	1	4	1	7
Total	**153**	**19**	**40**	**195**	**43**	450

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **Rec(70%)**
Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	51	6	10	34	5	106
CEMs/Monitoring Equipment	25	6	14	55	29	128
Labor Within Combustion Sector						
O&M	35	5	12	90	7	150
Permitting	1	0	1	3	1	7
Total	**113**	**17**	**37**	**182**	**42**	391

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **BTF(50%)**
Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	99	8	22	81	13	223
CEMs/Monitoring Equipment	25	5	15	57	29	130
Labor Within Combustion Sector						
O&M	84	14	35	182	24	339
Permitting	1	0	1	4	1	7
Total	**209**	**27**	**73**	**323**	**67**	700

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **BTF(70%)**
Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	78	9	20	69	13	189
CEMs/Monitoring Equipment	25	6	14	56	29	131
Labor Within Combustion Sector						
O&M	67	14	35	159	22	297
Permitting	1	0	1	4	1	7
Total	**171**	**29**	**71**	**288**	**65**	625

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

WEIGHTED AVERAGE COMBUSTION PRICE PER TON AND INCREASE IN PRICES DUE TO ASSUMED PRICE PASS THROUGH

Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Current weighted average price	$172	$136	$689	$729
Increase in price due to compliance costs passed through				
Floor (50%)	$5	$5	$5	$5
Floor (70%)	$4	$4	$4	$4
Rec (50%)	$5	$5	$5	$5
Rec (70%)	$4	$4	$4	$4
BTF-ACI (50%)	$12	$12	$9	$10
BTF-ACI (70%)	$9	$9	$7	$8

Notes:

1. Compliance costs include CEM costs.
2. Median compliance costs per ton exclude systems currently not burning hazardous waste.
3. **The commercial sector with the lowest total cost per ton (baseline + compliance cost) drives the assumed increase in combustion prices of waste categories managed by that sector.**
4. Prices for on-site incinerators reflect the cost per ton of off-site treatment that generators avoid by burning the waste on-site.
5. **Weighted average price per ton = (solids percentage of total waste burned in each sector x solids price) + (liquids percentage of total waste burned in each sector x liquids price) + (sludges percentage of total waste burned in each sector x sludges price).**

PRELIMINARY ECONOMIC IMPACT RESULTS

NEW COMPLIANCE COSTS AS A PERCENTAGE OF BASELINE COSTS OF HAZARDOUS WASTE BURNING
(percentage of permitted combustion systems; see Note 3)

	Cement Kilns					LWAKs					Commercial Incinerators					On-site Incinerators					Government On-sites				
	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%
Floor (50%)	15%	9%	39%	24%	12%	0%	25%	50%	25%	0%	80%	10%	10%	0%	0%	33%	21%	37%	6%	4%	24%	14%	43%	10%	10%
Floor (70%)	30%	9%	36%	21%	3%	13%	13%	50%	25%	0%	85%	5%	10%	0%	0%	38%	25%	27%	6%	4%	33%	14%	33%	5%	14%
Rec (50%)	3%	21%	36%	21%	18%	0%	0%	75%	25%	0%	80%	10%	10%	0%	0%	27%	19%	48%	0%	6%	24%	14%	43%	10%	10%
Rec (70%)	27%	12%	30%	24%	6%	0%	0%	75%	25%	0%	85%	10%	5%	0%	0%	33%	23%	38%	2%	4%	33%	14%	33%	5%	14%
BTF-ACI (50%)	3%	6%	30%	30%	30%	0%	0%	38%	38%	25%	60%	30%	10%	0%	0%	13%	25%	46%	8%	8%	19%	10%	33%	24%	14%
BTF-ACI (70%)	21%	6%	15%	36%	21%	0%	0%	38%	50%	13%	70%	25%	5%	0%	0%	15%	31%	38%	10%	6%	24%	14%	24%	19%	19%

Notes:

1. Compliance costs as a percent of baseline costs = [Total annual compliance costs/Total annual baseline costs]
2. Total annual baseline costs = Annualized fixed capital and fixed operating costs + (Variable operating costs * Hazardous waste burned).
3. Percentages include systems not currently burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

NEW COMPLIANCE COSTS AS A PERCENTAGE OF HAZARDOUS WASTE BURNING REVENUES
(percentage of permitted combustion systems; see Note 3)

	Cement Kilns					LWAKs					Commercial Incinerators					On-site Incinerators				
	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%
Floor (50%)	39%	30%	30%	0%	0%	13%	50%	38%	0%	0%	90%	0%	0%	0%	10%	48%	13%	10%	15%	13%
Floor (70%)	61%	18%	21%	0%	0%	25%	50%	25%	0%	0%	90%	0%	0%	5%	5%	52%	10%	10%	19%	10%
Rec (50%)	39%	30%	30%	0%	0%	0%	25%	75%	0%	0%	90%	0%	0%	5%	5%	48%	13%	12%	12%	15%
Rec (70%)	52%	27%	21%	0%	0%	0%	25%	75%	0%	0%	90%	0%	0%	5%	5%	52%	10%	12%	15%	12%
BTF-ACI (50%)	24%	27%	45%	3%	0%	0%	13%	63%	25%	0%	90%	0%	0%	5%	5%	37%	10%	19%	23%	12%
BTF-ACI (70%)	36%	24%	36%	3%	0%	0%	13%	75%	13%	0%	90%	0%	0%	5%	5%	37%	21%	12%	19%	12%

Notes:

1. Compliance costs as a percent of revenues = [Total compliance costs per ton]/[Waste burning revenues per ton + Energy savings per ton]
2. On-site incinerator revenues are equal to the costs generators avoid by not shipping the waste to a commercial incinerator (waste fees charged + transportation costs).
3. High-end of range (>75 percent) includes systems not currently burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

CHANGE IN AVERAGE OPERATING PROFITS PER TON OF HAZARDOUS WASTE BURNED FROM THE PROPOSED MACT

Price pass through assumed: **25%**

Options	Cement Kilns			LWA Kilns			Commercial Incinerators			On-site Incinerators		
	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule
	$ Change	% Change		$ Change	% Change		$ Change	% Change		$ Change	% Change	
Floor (50%)	($16)	-14%	69%	($31)	-38%	40%	($12)	-4%	56%	($30)	-9%	59%
Floor (70%)	($11)	-10%	73%	($27)	-33%	43%	($11)	-3%	57%	($28)	-8%	60%
Rec (50%)	($16)	-14%	69%	($43)	-51%	32%	($12)	-4%	56%	($31)	-9%	59%
Rec (70%)	($12)	-11%	72%	($41)	-48%	34%	($11)	-3%	56%	($29)	-8%	60%
BTF-ACI (50%)	($36)	-30%	56%	($39)	-44%	41%	($9)	-4%	56%	($27)	-8%	63%
BTF-ACI (70%)	($26)	-22%	63%	($51)	-60%	25%	($10)	-4%	56%	($27)	-8%	63%

Notes:

1. Operating Profits = (weighted average price per ton + weighted average energy savings per ton + assumed price increase due to compliance costs passed through) - (average baseline costs per ton + average total annual compliance cost per ton). Assumed price pass-through is a set percentage (shown at the top of this exhibit) of the median compliance cost for the most efficient combustion sector. As this is a static model, we have capped the price pass-through using the combustion systems expected to remain burning hazardous waste even though the original pass-through value included some systems expected to stop burning. This is a better approximation of the impetus combustors have to raise prices, though it is not a precise predictor. To address uncertainty regarding the amount prices will rise, a variety of price increase scenarios were used. All other averages were calculated after consolidation, and include only those systems that continue to burn hazardous waste.
2. Operating profits exclude overhead, other administrative costs, and taxes. Actual after-tax profits will be lower.
3. Percentage Operating Profit Margin = average operating profits per ton / (weighted average price per ton + assumed price increase due to compliance costs passed through). Percentage profit margin after the rule is calculated using the same formula with post-rule operating profits and prices.
4. Change in operating profits per ton = Post-rule operating profits per ton - baseline operating profits per ton. Percentage change in operating profits margin = (post-rule operating profits margin - baseline operating profits margin) / baseline operating profits margin. Baseline operating profit margins for systems remaining open after consolidation can be calculated by dividing the percentage profit margin after the rule by one plus the percentage change in the operating profit margin. For consistency, baseline values have been calculated using the median compliance cost per ton for facilities that remain in operation after the rule for each MACT option.

LIST OF EXHIBITS

(25% Price Pass-Through; PM CEM Option 2: Not Required for Any Facilities)

Total Annual Compliance Costs (Assuming no Market Exit)
Average Total Annual Compliance Costs per Combustion System (Assuming no Market Exit)
Average Total Annual Compliance Costs Per Ton (Before Consolidation)
Average Total Annual Baseline Cost of Burning Waste and Compliance Costs per Ton of Hazardous Waste Burned (Before Consolidation)
Baseline Operating Profits per Ton of Hazardous Waste Burned and as Percentage of Baseline Weighted Average Prices per Ton
Percent of Systems Requiring Control Measures (Before Consolidation)
Percent of New Compliance Costs by Control Measure (Before Consolidation)
Percentage of Combustion Systems Burning Below Static BEQs
Total Annual Pre-Tax Compliance Costs (After Combustion System Consolidations)
Average Total Annual Pre-Tax Compliance Cost per Combustion System After Consolidation
Average Total Annual Pre-Tax Compliance Costs per Ton (Short Term - After Consolidation)
Percentage of Combustion Systems Meeting Short Term BEQ After Consolidation
Percentage of Combustion Systems Meeting Long Term BEQ After Consolidation
Number of Combustion Facilities Likely to Stop Burning Hazardous Waste in the Short Term
Number of Combustion Facilities Likely to Stop Burning Hazardous Waste in the Long Term
Percentage of Facilities Likely to Stop Burning Waste in the Short Term
Percentage of Facilities Likely to Stop Burning Waste in the Long Term
Quantity of Hazardous Waste that could be Diverted from Combustion Facilities in the Short Term
Quantity of Hazardous Waste that could be Diverted from Combustion Facilities in the Long Term
Estimated Short-Term Employment Losses at Combustion Systems
Estimated Long-Term Employment Losses at Combustion Systems
Estimated Employment Increases Associated with Compliance Requirements After System Consolidation
-- Floor (50%)
-- Floor (70%)
-- Rec (50%)
-- Rec (70%)
-- BTF-ACI (50%)
-- BTF-ACI (70%)
Weighted Average Combustion Price per Ton and Increase in Prices Due to Assumed Price Pass-Through
New Compliance Costs as a Percentage of Baseline Costs of Hazardous Waste Burning
New Compliance Costs as a Percentage of Hazardous Waste Burning Revenues
Change in Average Operating Profits Per Ton of Hazardous Waste Burned

PRELIMINARY ECONOMIC IMPACT RESULTS

TOTAL ANNUAL COMPLIANCE COSTS (millions)
(Assuming no Market Exit)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites	Total
Floor (50%)	$22	$3	$7	$33	$4	$69
Floor (70%)	$15	$2	$6	$28	$4	$55
Rec (50%)	$24	$3	$7	$37	$4	$75
Rec (70%)	$17	$3	$6	$32	$4	$63
BTF-ACI (50%)	$33	$5	$10	$59	$24	$130
BTF-ACI (70%)	$25	$4	$9	$54	$24	$116

Notes:

1. Estimates assume that all facilities comply. Facilities non-viable in the baseline are included.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER COMBUSTION SYSTEM
(Assuming no Market Exit)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites
Estimated Number of Combustion Systems	33	10	26	138	25
Floor (50%)	$677,373	$260,252	$267,273	$237,552	$179,565
Floor (70%)	$444,485	$212,689	$238,749	$203,763	$159,648
Rec (50%)	$723,010	$341,613	$267,634	$265,811	$179,565
Rec (70%)	$527,438	$307,849	$242,210	$234,073	$159,648
BTF-ACI (50%)	$992,039	$455,955	$379,459	$429,193	$960,310
BTF-ACI (70%)	$767,246	$412,058	$356,234	$392,281	$941,121

Notes:

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER TON
(Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$29	$30	$116	$17,853
Floor (70%)	$21	$24	$111	$17,190
Rec (50%)	$31	$42	$129	$17,968
Rec (70%)	$23	$38	$121	$17,318
BTF-ACI (50%)	$41	$60	$135	$15,929
BTF-ACI (70%)	$33	$53	$127	$15,828

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. Average on-site incinerator compliance costs include direct costs of meeting the new emission levels. Indirect costs to facilities that stop burning wastes and must ship them off-site for management are not included.
3. Only private systems, and not governmental systems, are reflected in the average compliance costs per ton for on-site incinerators.
4. On-site incinerator compliance costs per ton are high due to a number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger volumes of hazardous waste, compliance costs per ton for on-site incinerators will be lower.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL BASELINE COST OF BURNING WASTE AND COMPLIANCE COSTS PER TON OF HAZARDOUS WASTE BURNED (Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Baseline	$74	$114	$658	$36,325
Compliance Costs				
Floor (50%)	$29	$30	$116	$17,853
Floor (70%)	$21	$24	$111	$17,190
Rec (50%)	$31	$42	$129	$17,968
Rec (70%)	$23	$38	$121	$17,318
BTF-ACI (50%)	$41	$60	$135	$15,929
BTF-ACI (70%)	$33	$53	$127	$15,828

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. On-site incinerator baseline and compliance costs per ton are high due to the large number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger quantities of hazardous waste compliance costs per ton would actually be lower. If facilities are burning large volumes of non hazardous waste in addition to the hazardous waste, baseline costs per ton would be lower.

PRELIMINARY ECONOMIC IMPACT RESULTS

BASELINE OPERATING PROFITS PER TON OF HAZARDOUS WASTE BURNED
(Number of Combustion systems Falling in Range)

	<$0	$0 - $50	$51 - $100	$101 - $150	>$150
Cement Kilns	0	0	8	15	10
LWA Kilns	0	0	8	3	0
Commercial Incinerators	3	1	1	1	20
On-site Incinerators	48	13	11	11	56

BASELINE OPERATING PROFITS AS A PERCENTAGE OF BASELINE WEIGHTED AVERAGE PRICES PER TON
(Number of Combustion systems Falling in Range)

	<0%	0% - 10%	11% - 25%	26% - 50%	>50%
Cement Kilns	0	0	0	2	31
LWA Kilns	0	0	0	0	10
Commercial Incinerators	3	0	3	8	13
On-site Incinerators	48	8	24	19	40

Notes:

1. Baseline Operating Profits = (weighted average price per ton + weighted average energy savings per ton) - total annual baseline costs per ton. Total annual baseline costs include fixed annual capital costs, fixed annual operating and maintenance costs, and annual variable costs.
2. Baseline operating profits exclude overhead, other administrative costs, and taxes. Actual after-tax profits will be lower.
3. Number of systems with average operating profits less than $0 (or <0%) includes those burning very little or no waste.
4. Baseline operating profits are calculated at the system level. Consolidating burning into fewer systems may reduce facility closures, explaining why the system estimates presented in this exhibit appear higher than the facility closure presented in later exhibits.
5. Includes combustion systems not currently burning waste in the cement kiln, LWAK, and commercial incinerator sectors; or burning less than 50 tons per year in the on-site incinerator sector.

PERCENT OF SYSTEMS REQUIRING CONTROL MEASURES
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%)	BTF-ACI(70%
Cement Kilns						
New Fabric Filters	33%	27%	33%	27%	61%	52%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	45%	36%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	45%	33%	45%	33%	39%	30%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	3%	3%	3%	3%	0%	0%
Fabric Filter DOM, mod	9%	6%	9%	6%	6%	6%
DESP DOM, small	6%	0%	6%	0%	3%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	3%	3%	3%	3%	3%	3%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	55%	42%	64%	52%	73%	55%
None	12%	27%	3%	21%	3%	18%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	63%	50%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	63%	50%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	88%	88%	88%	88%	50%	50%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	25%	13%	25%	13%	13%	0%
Fabric Filter DOM, mod	13%	0%	13%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	75%	75%	75%	75%
Feed Control	100%	75%	63%	63%	50%	63%
None	0%	13%	0%	0%	0%	0%

PERCENT OF SYSTEMS REQUIRING CONTROL MEASURES cont.
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%)	BTF-ACI(70%
Commercial Incinerators						
New Fabric Filters	15%	10%	15%	15%	40%	40%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	20%	20%	85%	85%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	55%	50%	45%	40%	20%	15%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	5%	5%	35%	35%
Fabric Filter DOM, small	5%	5%	5%	5%	5%	5%
Fabric Filter DOM, mod	10%	5%	10%	5%	10%	5%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	5%	0%	5%	0%	0%	0%
IWS DOM, mod	5%	5%	5%	5%	0%	0%
HEWS DOM, small	0%	5%	0%	5%	0%	0%
HEWS DOM, mod	15%	10%	15%	10%	5%	5%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	5%	0%	5%	0%	5%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	85%	80%	80%	75%	70%	65%
None	5%	5%	5%	5%	5%	5%
On-Site Incinerators						
New Fabric Filters	67%	65%	71%	69%	85%	81%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	15%	15%	71%	60%
New Carbon Bed	0%	0%	2%	2%	6%	6%
New Quencher	17%	17%	12%	12%	10%	10%
New Afterburner	6%	2%	6%	2%	6%	2%
New Reheater	0%	0%	8%	8%	60%	48%
Fabric Filter DOM, small	0%	2%	0%	2%	0%	2%
Fabric Filter DOM, mod	2%	0%	2%	0%	2%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	2%	2%	2%	2%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	2%	2%	2%	2%	0%	0%
HEWS DOM, small	0%	2%	0%	2%	0%	2%
HEWS DOM, mod	10%	10%	8%	8%	2%	2%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	2%	4%	2%	4%	2%	4%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	46%	40%	42%	37%	42%	52%
None	6%	8%	4%	6%	2%	2%
Government On-site Incinerators						
New Fabric Filters	29%	24%	29%	24%	38%	33%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	48%	43%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	5%
New Afterburner	5%	5%	5%	5%	5%	5%
New Reheater	0%	0%	0%	0%	19%	19%
Fabric Filter DOM, small	0%	5%	0%	5%	0%	5%
Fabric Filter DOM, mod	14%	10%	14%	10%	14%	10%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	5%	5%	5%	5%	5%	5%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	14%	14%	14%	14%	14%	14%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	57%	52%	57%	52%	57%	52%
None	19%	19%	19%	19%	14%	14%

PERCENT OF NEW COMPLIANCE COSTS BY CONTROL MEASURE
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%	BTF-ACI(70%
Cement Kilns						
New Fabric Filters	35%	35%	33%	30%	39%	39%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	24%	24%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	24%	32%	23%	27%	13%	15%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	3%	2%	3%	2%	1%	1%
DESP DOM, small	4%	0%	4%	0%	1%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	33%	30%	37%	40%	22%	21%
Total	100%	100%	100%	100%	100%	100%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	27%	24%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	31%	27%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	38%	47%	28%	29%	10%	11%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	1%	1%	1%	1%	0%	0%
Fabric Filter DOM, mod	3%	0%	2%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	38%	42%	27%	30%
Feed Control	58%	52%	31%	29%	4%	8%
Total	100%	100%	100%	100%	100%	100%

PERCENT OF NEW COMPLIANCE COSTS BY CONTROL MEASURE, cont.
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%	BTF-ACI(70%
Commercial Incinerators						
New Fabric Filters	10%	8%	9%	11%	19%	20%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	16%	18%	47%	50%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	21%	23%	17%	17%	4%	3%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	3%	3%	19%	20%
Fabric Filter DOM, small	0%	1%	0%	1%	0%	0%
Fabric Filter DOM, mod	3%	1%	3%	1%	2%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	1%	0%	1%	0%	0%	0%
IWS DOM, mod	1%	1%	1%	1%	0%	0%
HEWS DOM, small	0%	2%	0%	2%	0%	0%
HEWS DOM, mod	7%	3%	6%	3%	1%	1%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	57%	61%	44%	44%	8%	5%
Total	100%	100%	100%	100%	100%	100%
On-Site Incinerators						
New Fabric Filters	39%	54%	36%	48%	28%	33%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	9%	12%	28%	30%
New Carbon Bed	0%	0%	0%	1%	1%	1%
New Quencher	5%	7%	3%	4%	2%	2%
New Afterburner	30%	7%	27%	6%	17%	3%
New Reheater	0%	0%	4%	5%	20%	21%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	0%	0%	0%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	2%	4%	1%	3%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	1%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	23%	26%	18%	20%	4%	8%
Total	100%	100%	100%	100%	100%	100%
Government On-Site Incinerators						
New Fabric Filters	22%	21%	22%	21%	22%	21%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	32%	31%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	2%
New Afterburner	6%	7%	6%	7%	4%	4%
New Reheater	0%	0%	0%	0%	12%	13%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	0%	0%	0%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	8%	9%	8%	9%	5%	6%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	2%	2%	2%	2%	1%	1%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	62%	61%	62%	61%	24%	22%
Total	100%	100%	100%	100%	100%	100%

PERCENTAGE OF COMBUSTION SYSTEMS BURNING BELOW STATIC BEQs

	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators			
	Short Term	Long Term	Short Term	Long Term	Short Term	Long Term	Short Term		Long Term	
							<20% below	>20% below	<20% below	>20% below
Floor (50%)	0%	3%	0%	0%	10%	10%	10%	21%	4%	38%
Floor (70%)	0%	3%	0%	0%	10%	10%	10%	21%	2%	38%
Rec (50%)	0%	6%	0%	0%	10%	10%	10%	21%	4%	38%
Rec (70%)	0%	6%	0%	0%	10%	10%	10%	21%	2%	38%
BTF-ACI (50%)	0%	6%	13%	25%	10%	10%	10%	23%	12%	42%
BTF-ACI (70%)	0%	6%	0%	13%	10%	10%	12%	21%	12%	42%

Notes:

PRELIMINARY ECONOMIC IMPACT RESULTS

TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS (millions)
AFTER COMBUSTION SYSTEM CONSOLIDATIONS

Price pass through assumed: 25%

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-Sites	Total	% Difference from Compliance Costs with No System Consolidation
Floor (50%)	$22	$3	$6	$22	$4	$57	-17%
Floor (70%)	$15	$2	$5	$18	$4	$44	-20%
Rec (50%)	$24	$3	$6	$23	$4	$61	-19%
Rec (70%)	$17	$3	$5	$20	$4	$50	-21%
BTF-ACI (50%)	$33	$5	$9	$41	$24	$111	-15%
BTF-ACI (70%)	$25	$4	$8	$37	$24	$98	-16%

Notes:

1. Compliance costs after consolidation include only the costs for those systems that will continue to burn waste, and do not include shipping and disposal costs (after the assumed price increase) for on-site incinerators that decide to stop burning waste on-site.
2. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specific firm's marginal tax bracket.
3. "Consolidation" allows for non-viable combustion systems to consolidate waste flows with other systems at the same facility, or to exit the waste burning market. As a result, the number of combustion systems incurring compliance costs is reduced.

TOTAL COST OF WASTE DIVERTED FROM ON-SITE SYSTEMS THAT STOP BURNING (millions)

Price pass through assumed: **25%**

Option	On-site Incinerators
Floor (50%)	$0.19
Floor (70%)	$0.19
Rec (50%)	$0.19
Rec (70%)	$0.19
BTF-ACI (50%)	$2.27
BTF-ACI (70%)	$2.27

Notes:

1. On-site incinerator estimates are for private facilities only. We assume that government facilities continue burning post-MACT and therefore no waste will be diverted from these facilities.
2. Waste diversion costs include both transportation and disposal costs (after the assumed price increase).

TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS AFTER COMBUSTION SYSTEM CONSOLIDATIONS
(millions)
(Includes Cost of Waste Diversion)

Price pass through assumed: **25%**

Option	Total
Floor (50%)	$57
Floor (70%)	$44
Rec (50%)	$61
Rec (70%)	$50
BTF-ACI (50%)	$113
BTF-ACI (70%)	$100

Notes:

1. Compliance costs after consolidation include the costs for those systems that will continue to burn waste, as well as the shipping and disposal costs (after the assumed price increase) for on-site incinerators that decide to stop burning wastes on-site. Other types of combustion systems that stop burning wastes do not incur compliance costs and therefore are excluded.
2. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specfic firm's marginal tax bracket.
3. "Consolidation" allows for non-viable combustion systems to consolidate waste flows with other systems at the same facility, or to exit the waste burning market. As a result, the number of combustion systems incurring compliance costs is reduced.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS PER COMBUSTION SYSTEM AFTER CONSOLIDATION

Price pass through assumed: **25%**

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites
Floor (50%)	$677,373	$260,252	$243,257	$251,839	$179,565
Floor (70%)	$444,485	$212,689	$213,488	$210,100	$159,648
Rec (50%)	$723,010	$341,613	$247,977	$267,697	$179,565
Rec (70%)	$527,438	$307,849	$222,062	$227,506	$159,648
BTF-ACI (50%)	$992,039	$455,955	$371,123	$510,754	$960,310
BTF-ACI (70%)	$767,246	$412,058	$347,785	$465,008	$941,121

Notes:

1. Average annual pre-tax compliance costs per system are based on the number of combustion systems that remain open after consolidation. The number of combustion systems that remain open in the sectors may vary by option.
2. Total annual pre-tax compliance costs for the on-site incinerator sector do not include the cost of diverting waste to alternative management for those systems that stop burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS PER TON
(Short Term - After Consolidation)

Price pass through assumed: **25%**

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$29	$30	$14	$28
Floor (70%)	$21	$24	$11	$24
Rec (50%)	$31	$42	$14	$29
Rec (70%)	$23	$38	$12	$25
BTF-ACI (50%)	$41	$60	$18	$38
BTF-ACI (70%)	$33	$53	$16	$35

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. Average on-site incinerator compliance costs include direct costs of meeting the new emission levels. Indirect costs to facilities that stop burning wastes and must ship them off-site for management are not included.
3. Only private systems, and not governmental systems, are reflected in the average compliance costs per ton for on-site incinerators.
4. On-site incinerator compliance costs per ton are high due to a number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger volumes of hazardous waste, compliance costs per ton for on-site incinerators will be lower.
5. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specific firm's marginal tax bracket.

PRELIMINARY ECONOMIC IMPACT RESULTS

PERCENTAGE OF COMBUSTION SYSTEMS MEETING SHORT TERM BEQ AFTER CONSOLIDATION
(Percentage of combustion systems; includes systems currently burning below their break-even quantity)

Price pass through assumed: 25%

	Cement Kilns			LWAKs			Commercial Incinerators			Private On-site Incinerators		
	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below
Floor (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
Floor (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
Rec (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
Rec (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
BTF-ACI (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	58%	0%	42%
BTF-ACI (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	58%	0%	42%

Notes:

1. Percent of systems currently not meeting short term baseline break-even quantity:

Cement Kilns	0%
LWAKs	0%
Commercial Incinerators	10%
Private On-site Incinerators	15%

PRELIMINARY ECONOMIC IMPACT RESULTS

PERCENTAGE OF COMBUSTION SYSTEMS MEETING LONG TERM BEQ AFTER CONSOLIDATION
(Percentage of combustion systems; includes systems currently burning below their break-even quantity)

Price pass through assumed: 25%

	Cement Kilns			LWAKs			Commercial Incinerators			Private On-site Incinerators		
	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below
Floor (50%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Floor (70%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Rec (50%)	94%	0%	6%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Rec (70%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	50%	0%	50%
BTF-ACI (50%)	94%	0%	6%	75%	0%	25%	90%	0%	10%	48%	0%	52%
BTF-ACI (70%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	48%	0%	52%

Notes:

1. Percent of systems currently not meeting long term baseline break-even quantity:

Cement Kilns	0%
LWAKs	0%
Commercial Incinerators	10%
Private On-site Incinerators	35%

PRELIMINARY ECONOMIC IMPACT RESULTS

NUMBER OF COMBUSTION FACILITIES LIKELY TO STOP BURNING HAZARDOUS WASTE IN THE SHORT TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **25%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0	0	3	26
Incremental Facilities Likely to Stop Burning Waste				
Floor (50%)	0	0	0	16
Floor (70%)	0	0	0	16
Rec (50%)	0	0	0	16
Rec (70%)	0	0	0	16
BTF-ACI (50%)	0	0	0	20
BTF-ACI (70%)	0	0	0	20

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PRELIMINARY ECONOMIC IMPACT RESULTS

NUMBER OF COMBUSTION FACILITIES LIKELY TO STOP BURNING HAZARDOUS WASTE IN THE LONG TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **25%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0	0	3	42
Incremental Facilities Likely to Stop Burning Waste				
Floor (50%)	1	0	0	13
Floor (70%)	1	0	0	13
Rec (50%)	2	0	0	13
Rec (70%)	1	0	0	13
BTF-ACI (50%)	2	0	0	16
BTF-ACI (70%)	1	0	0	16

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PERCENTAGE OF FACILITIES LIKELY TO STOP BURNING WASTE IN THE SHORT TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **25%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0%	0%	13%	24%
Floor (50%)	0%	0%	0%	15%
Floor (70%)	0%	0%	0%	15%
Rec (50%)	0%	0%	0%	15%
Rec (70%)	0%	0%	0%	15%
BTF-ACI (50%)	0%	0%	0%	18%
BTF-ACI (70%)	0%	0%	0%	18%

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PERCENTAGE OF FACILITIES LIKELY TO STOP BURNING WASTE IN THE LONG TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **25%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0%	0%	13%	38%
Floor (50%)	6%	0%	0%	12%
Floor (70%)	6%	0%	0%	12%
Rec (50%)	11%	0%	0%	12%
Rec (70%)	6%	0%	0%	12%
BTF-ACI (50%)	11%	0%	0%	15%
BTF-ACI (70%)	6%	0%	0%	15%

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of th Hazardous Waste Combustion MACT.

PRELIMINARY ECONOMIC IMPACT RESULTS

QUANTITY OF HAZARDOUS WASTE THAT COULD BE DIVERTED FROM COMBUSTION FACILITIES IN THE SHORT TERM

Price pass through assumed: **25%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	TOTAL	Percentage of all BRS Combusted Hazardous Waste
Baseline	0	0	3,170	45,770	48,940	1%
Floor (50%)	0	0	3,170	46,210	49,380	1%
Floor (70%)	0	0	3,170	46,210	49,380	1%
Rec (50%)	0	0	3,170	46,210	49,380	1%
Rec (70%)	0	0	3,170	46,210	49,380	1%
BTF-ACI (50%)	0	0	3,170	51,040	54,210	2%
BTF-ACI (70%)	0	0	3,170	51,040	54,210	2%

Notes:

1. Combusted hazardous waste reported to BRS in 1995 excluding tonnage burned in on-site boilers: 3,300,000
2. Estimates do not include waste diverted from systems that consolidate waste into other systems at the same facility.
3. Quantities of waste diverted under each option are upper-bound, total estimates. They are not incremental and may include waste from facilities non-viable in the baseline.
4. Baseline quantities of waste diverted resulting from consolidation and market exit likely to occur in the baseline (i.e., without the MACT standards) are shown in the first row of the exhibit.
5. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

QUANTITY OF HAZARDOUS WASTE THAT COULD BE DIVERTED FROM COMBUSTION FACILITIES IN THE LONG TERM

Price pass through assumed: **25%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	TOTAL	Percentage of all BRS Combusted Hazardous Waste
Baseline	0	0	3,170	97,760	100,930	3%
Floor (50%)	11,530	0	3,170	111,330	126,030	4%
Floor (70%)	11,530	0	3,170	111,330	126,030	4%
Rec (50%)	28,490	0	3,170	111,330	142,990	4%
Rec (70%)	11,530	0	3,170	111,330	126,030	4%
BTF-ACI (50%)	28,490	7,380	3,170	123,210	162,250	5%
BTF-ACI (70%)	16,960	2,730	3,170	123,210	146,070	4%

Notes:

1. Combusted hazardous waste reported to BRS in 1995 excluding tonnage burned in on-site boilers: 3,300,000
2. Estimates do not include waste diverted from systems that consolidate waste into other systems at the same facility.
3. Quantities of waste diverted under each option are upper-bound, total estimates. They are not incremental and may include waste from facilities non-viable in the baseline.
4. Baseline quantities of waste diverted resulting from consolidation and market exit likely to occur in the baseline (i.e., without the MACT standards) are shown in the first row of the exhibit.
5. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED SHORT-TERM EMPLOYMENT LOSSES AT COMBUSTION SYSTEMS
(net of systems currently burning below their break-even quantity)

Price pass through assumed: **25%**

MACT Option	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators		TOTAL	
	Low End	High End	Low End	High End	Low End	High End	Low End	High End	Low End	High End
Baseline	0	0	0	0	80	80	182	182	262	262
Floor (50%)	0	0	0	0	0	0	131	231	131	231
Floor (70%)	0	0	0	0	0	0	131	231	131	231
Rec (50%)	0	0	0	0	0	0	131	231	131	231
Rec (70%)	0	0	0	0	0	0	131	231	131	231
BTF-ACI (50%)	0	0	0	0	0	0	139	252	139	252
BTF-ACI (70%)	0	0	0	0	0	0	139	252	139	252

Notes:

1. Low-end estimates include employment losses associated only with those systems located at facilities where all systems stop burning. High-end estimates reflect all employment losses, including those associated with closing systems located at facilities where at least one system remains open. The low-end estimate assumes the possibility for employee reassignment within a facility that has combustion systems remaining open.
2. Estimates are sensitive to a number of assumptions, including the estimated number of employees associated with waste burning for each system.
3. Estimates are based on primary employment impacts only, and ignore secondary spill-over effects.
4. Employment impacts are national estimates.
5. Employment loss estimates are incremental, or directly attributable to compliance with the proposed MACT standards. These estimates do not include losses that are associated with systems that are non-viable in the baseline and therefore not directly attributable to compliance with the proposed MACT standards. Those baseline losses are provided separately in the first row of the above exhibit.
6. Compliance costs include CEM costs.
7. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED LONG-TERM EMPLOYMENT LOSSES AT COMBUSTION SYSTEMS
(net of systems currently burning below their break-even quantity)

Price pass through assumed: **25%**

MACT Option	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators		TOTAL	
	Low End	High End	Low End	High End	Low End	High End	Low End	High End	Low End	High End
Baseline	0	0	0	0	80	80	345	408	425	488
Floor (50%)	21	21	0	0	0	0	98	116	119	137
Floor (70%)	21	21	0	0	0	0	98	116	119	137
Rec (50%)	42	42	0	0	0	0	98	116	140	158
Rec (70%)	21	21	0	0	0	0	98	116	119	137
BTF-ACI (50%)	42	42	0	5	0	0	106	124	148	171
BTF-ACI (70%)	21	21	0	3	0	0	106	124	127	148

Notes:

1. Low-end estimates include employment losses associated only with those systems located at facilities where all systems stop burning. High-end estimates reflect all employment losses, including those associated with closing systems located at facilities where at least one system remains open. The low-end estimate assumes the possibility for employee reassignment within a facility that has combustion systems remaining open.
2. Estimates are sensitive to a number of assumptions, including the estimated number of employees associated with waste burning for each system.
3. Estimates are based on primary employment impacts only, and ignore secondary spill-over effects.
4. Employment impacts are national estimates.
5. Employment loss estimates are incremental, or directly attributable to compliance with the proposed MACT standards. These estimates do not include losses that are associated with systems that are non-viable in the baseline and therefore not directly attributable to compliance with the proposed MACT standards. Those baseline losses are provided separately in the first row of the above exhibit.
6. Compliance costs include CEM costs.
7. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **FIr(50%)**
Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	77	5	10	31	5	128
CEMs/Monitoring Equipment	6	0	0	2	1	8
Labor Within Combustion Sector						
O&M	50	4	9	84	8	156
Permitting	1	0	1	4	1	7
Total	**134**	**10**	**20**	**121**	**15**	300

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **FIr(70%)**
Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	51	5	8	28	5	96
CEMs/Monitoring Equipment	6	0	0	2	1	8
Labor Within Combustion Sector						
O&M	35	4	7	76	7	130
Permitting	1	0	1	4	1	7
Total	**94**	**9**	**16**	**109**	**14**	242

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **Rec(50%)**
Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	77	7	12	37	5	138
CEMs/Monitoring Equipment	6	0	0	2	1	8
Labor Within Combustion Sector						
O&M	50	5	13	98	8	175
Permitting	1	0	1	4	1	7
Total	**134**	**13**	**26**	**141**	**15**	329

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **Rec(70%)**
Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	51	6	10	34	5	106
CEMs/Monitoring Equipment	6	0	0	2	1	8
Labor Within Combustion Sector						
O&M	35	5	12	90	7	149
Permitting	1	0	1	3	1	7
Total	**94**	**11**	**23**	**128**	**14**	270

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **BTF(50%)**
Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	99	10	22	86	13	230
CEMs/Monitoring Equipment	6	0	0	2	1	8
Labor Within Combustion Sector						
O&M	84	17	35	193	24	353
Permitting	1	0	1	4	1	8
Total	**190**	**27**	**59**	**285**	**39**	600

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **BTF(70%)**
Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	78	9	20	74	13	194
CEMs/Monitoring Equipment	6	0	0	2	1	8
Labor Within Combustion Sector						
O&M	67	14	35	170	22	308
Permitting	1	0	1	4	1	8
Total	**152**	**23**	**56**	**249**	**37**	518

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

WEIGHTED AVERAGE COMBUSTION PRICE PER TON AND INCREASE IN PRICES DUE TO ASSUMED PRICE PASS THROUGH

Price pass through assumed: **25%**
(percentage of median compliance costs for the most efficient sector)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Current weighted average price	$172	$136	$689	$729
Increase in price due to compliance costs passed through				
Floor (50%)	$5	$5	$4	$5
Floor (70%)	$3	$3	$3	$3
Rec (50%)	$5	$5	$4	$5
Rec (70%)	$4	$4	$3	$3
BTF-ACI (50%)	$11	$11	$8	$9
BTF-ACI (70%)	$8	$8	$7	$7

Notes:

1. Compliance costs include CEM costs.
2. Median compliance costs per ton exclude systems currently not burning hazardous waste.
3. **The commercial sector with the lowest total cost per ton (baseline + compliance cost) drives the assumed increase in combustion prices of waste categories managed by that sector.**
4. Prices for on-site incinerators reflect the cost per ton of off-site treatment that generators avoid by burning the waste on-site.
5. **Weighted average price per ton = (solids percentage of total waste burned in each sector x solids price) + (liquids percentage of total waste burned in each sector x liquids price) + (sludges percentage of total waste burned in each sector x sludges price).**

PRELIMINARY ECONOMIC IMPACT RESULTS

NEW COMPLIANCE COSTS AS A PERCENTAGE OF BASELINE COSTS OF HAZARDOUS WASTE BURNING
(percentage of permitted combustion systems; see Note 3)

	Cement Kilns					LWAKs					Commercial Incinerators					On-site Incinerators					Government On-sites				
	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%
Floor (50%)	18%	9%	42%	21%	9%	13%	13%	50%	25%	0%	80%	10%	10%	0%	0%	46%	13%	35%	4%	2%	33%	33%	19%	5%	10%
Floor (70%)	33%	18%	30%	15%	3%	13%	38%	38%	13%	0%	85%	5%	10%	0%	0%	46%	19%	29%	4%	2%	48%	19%	19%	5%	10%
Rec (50%)	15%	12%	39%	21%	12%	0%	0%	75%	25%	0%	80%	15%	5%	0%	0%	40%	13%	40%	4%	2%	33%	33%	19%	5%	10%
Rec (70%)	30%	18%	27%	18%	6%	0%	0%	88%	13%	0%	85%	10%	5%	0%	0%	40%	17%	37%	4%	2%	48%	19%	19%	5%	10%
BTF-ACI (50%)	6%	3%	33%	33%	24%	0%	0%	63%	13%	25%	70%	25%	5%	0%	0%	21%	21%	46%	6%	6%	24%	14%	38%	10%	14%
BTF-ACI (70%)	24%	9%	18%	33%	15%	0%	0%	63%	25%	13%	70%	25%	5%	0%	0%	23%	25%	40%	6%	6%	33%	10%	33%	10%	14%

Notes:

1. Compliance costs as a percent of baseline costs = [Total annual compliance costs/Total annual baseline costs]
2. Total annual baseline costs = Annualized fixed capital and fixed operating costs + (Variable operating costs * Hazardous waste burned).
3. Percentages include systems not currently burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

NEW COMPLIANCE COSTS AS A PERCENTAGE OF HAZARDOUS WASTE BURNING REVENUES
(percentage of permitted combustion systems; see Note 3)

	Cement Kilns					LWAKs					Commercial Incinerators					On-site Incinerators				
	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%
Floor (50%)	48%	21%	30%	0%	0%	25%	50%	25%	0%	0%	90%	0%	0%	5%	5%	52%	13%	19%	4%	12%
Floor (70%)	64%	18%	18%	0%	0%	38%	50%	13%	0%	0%	90%	0%	0%	5%	5%	56%	12%	17%	8%	8%
Rec (50%)	48%	21%	30%	0%	0%	0%	38%	63%	0%	0%	90%	0%	0%	5%	5%	52%	12%	17%	4%	15%
Rec (70%)	52%	30%	18%	0%	0%	0%	63%	38%	0%	0%	90%	0%	5%	0%	5%	56%	10%	15%	8%	12%
BTF-ACI (50%)	27%	27%	45%	0%	0%	0%	13%	75%	13%	0%	90%	0%	0%	5%	5%	40%	13%	23%	12%	12%
BTF-ACI (70%)	39%	30%	30%	0%	0%	0%	38%	63%	0%	0%	90%	0%	0%	5%	5%	44%	15%	19%	10%	12%

Notes:

1. Compliance costs as a percent of revenues = [Total compliance costs per ton]/[Waste burning revenues per ton + Energy savings per ton]
2. On-site incinerator revenues are equal to the costs generators avoid by not shipping the waste to a commercial incinerator (waste fees charged + transportation costs).
3. High-end of range (>75 percent) includes systems not currently burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

CHANGE IN AVERAGE OPERATING PROFITS PER TON OF HAZARDOUS WASTE BURNED FROM THE PROPOSED MACT

Price pass through assumed: **25%**

Options	Cement Kilns			LWA Kilns			Commercial Incinerators			On-site Incinerators		
	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule
	$ Change	% Change		$ Change	% Change		$ Change	% Change		$ Change	% Change	
Floor (50%)	($15)	-14%	70%	($25)	-31%	45%	($9)	-3%	57%	($23)	-7%	61%
Floor (70%)	($10)	-9%	74%	($21)	-25%	48%	($8)	-2%	57%	($21)	-6%	61%
Rec (50%)	($15)	-14%	70%	($37)	-44%	36%	($9)	-3%	57%	($23)	-7%	60%
Rec (70%)	($11)	-10%	73%	($34)	-41%	38%	($8)	-2%	57%	($22)	-6%	61%
BTF-ACI (50%)	($34)	-29%	57%	($48)	-58%	27%	($7)	-3%	57%	($27)	-8%	62%
BTF-ACI (70%)	($25)	-22%	63%	($44)	-53%	30%	($7)	-3%	57%	($26)	-8%	63%

Notes:

1. Operating Profits = (weighted average price per ton + weighted average energy savings per ton + assumed price increase due to compliance costs passed through) - (average baseline costs per ton + average total annual compliance cost per ton). Assumed price pass-through is a set percentage (shown at the top of this exhibit) of the median compliance cost for the most efficient combustion sector. As this is a static model, we have capped the price pass-through using the combustion systems expected to remain burning hazardous waste even though the original pass-through value included some systems expected to stop burning. This is a better approximation of the impetus combustors have to raise prices, though it is not a precise predictor. To address uncertainty regarding the amount prices will rise, a variety of price increase scenarios were used. All other averages were calculated after consolidation, and include only those systems that continue to burn hazardous waste.
2. Operating profits exclude overhead, other administrative costs, and taxes. Actual after-tax profits will be lower.
3. Percentage Operating Profit Margin = average operating profits per ton / (weighted average price per ton + assumed price increase due to compliance costs passed through). Percentage profit margin after the rule is calculated using the same formula with post-rule operating profits and prices.
4. Change in operating profits per ton = Post-rule operating profits per ton - baseline operating profits per ton. Percentage change in operating profits margin = (post-rule operating profits margin - baseline operating profits margin) / baseline operating profits margin. Baseline operating profit margins for systems remaining open after consolidation can be calculated by dividing the percentage profit margin after the rule by one plus the percentage change in the operating profit margin. For consistency, baseline values have been calculated using the median compliance cost per ton for facilities that remain in operation after the rule for each MACT option.

LIST OF EXHIBITS

(75% Price Pass-Through; PM CEM Option 1: Required for All Facilities)

Total Annual Compliance Costs (Assuming no Market Exit)
Average Total Annual Compliance Costs per Combustion System (Assuming no Market Exit)
Average Total Annual Compliance Costs Per Ton (Before Consolidation)
Average Total Annual Baseline Cost of Burning Waste and Compliance Costs per Ton of Hazardous Waste Burned (Before Consolidation)
Baseline Operating Profits per Ton of Hazardous Waste Burned and as Percentage of Baseline Weighted Average Prices per Ton
Percent of Systems Requiring Control Measures (Before Consolidation)
Percent of New Compliance Costs by Control Measure (Before Consolidation)
Percentage of Combustion Systems Burning Below Static BEQs
Total Annual Pre-Tax Compliance Costs (After Combustion System Consolidations)
Total Cost of Waste Diverted from On-Site Systems
Total Annual Pre-Tax Compliance Costs (After Combustion System Consolidations) (Includes Cost of Waste Diversion)
Average Total Annual Pre-Tax Compliance Cost per Combustion System After Consolidation
Average Total Annual Pre-Tax Compliance Costs per Ton (Short Term - After Consolidation)
Percentage of Combustion Systems Meeting Short Term BEQ After Consolidation
Percentage of Combustion Systems Meeting Long Term BEQ After Consolidation
Number of Combustion Facilities Likely to Stop Burning Hazardous Waste in the Short Term
Number of Combustion Facilities Likely to Stop Burning Hazardous Waste in the Long Term
Percentage of Facilities Likely to Stop Burning Waste in the Short Term
Percentage of Facilities Likely to Stop Burning Waste in the Long Term
Quantity of Hazardous Waste that could be Diverted from Combustion Facilities in the Short Term
Quantity of Hazardous Waste that could be Diverted from Combustion Facilities in the Long Term
Estimated Short-Term Employment Losses at Combustion Systems
Estimated Long-Term Employment Losses at Combustion Systems
Estimated Employment Increases Associated with Compliance Requirements After System Consolidation
-- Floor (50%)
-- Floor (70%)
-- Rec (50%)
-- Rec (70%)
-- BTF-ACI (50%)
-- BTF-ACI (70%)
Weighted Average Combustion Price per Ton and Increase in Prices Due to Assumed Price Pass-Through
New Compliance Costs as a Percentage of Baseline Costs of Hazardous Waste Burning
New Compliance Costs as a Percentage of Hazardous Waste Burning Revenues
Change in Average Operating Profits Per Ton of Hazardous Waste Burned

PRELIMINARY ECONOMIC IMPACT RESULTS

TOTAL ANNUAL COMPLIANCE COSTS (millions)
(Assuming no Market Exit)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites	Total
Floor (50%)	$24	$3	$8	$40	$7	$83
Floor (70%)	$16	$3	$8	$36	$7	$69
Rec (50%)	$26	$4	$8	$44	$7	$89
Rec (70%)	$19	$4	$8	$40	$7	$77
BTF-ACI (50%)	$34	$5	$11	$67	$27	$144
BTF-ACI (70%)	$27	$5	$11	$62	$26	$130

Notes:

1. Estimates assume that all facilities comply. Facilities non-viable in the baseline are included.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER COMBUSTION SYSTEM
(Assuming no Market Exit)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites
Estimated Number of Combustion Systems	33	10	26	138	25
Floor (50%)	$728,353	$312,665	$322,837	$292,830	$281,064
Floor (70%)	$495,465	$265,102	$294,313	$259,041	$261,146
Rec (50%)	$773,990	$394,025	$323,198	$321,088	$281,064
Rec (70%)	$578,418	$360,261	$297,774	$289,350	$261,146
BTF-ACI (50%)	$1,043,019	$508,367	$435,023	$484,470	$1,061,809
BTF-ACI (70%)	$818,226	$464,470	$411,798	$447,559	$1,042,619

Notes:

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER TON
(Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$31	$37	$134	$20,110
Floor (70%)	$23	$31	$129	$19,447
Rec (50%)	$33	$49	$147	$20,225
Rec (70%)	$26	$45	$139	$19,575
BTF-ACI (50%)	$44	$66	$154	$18,185
BTF-ACI (70%)	$35	$59	$145	$18,085

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. Average on-site incinerator compliance costs include direct costs of meeting the new emission levels. Indirect costs to facilities that stop burning wastes and must ship them off-site for management are not included.
3. Only private systems, and not governmental systems, are reflected in the average compliance costs per ton for on-site incinerators.
4. On-site incinerator compliance costs per ton are high due to a number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger volumes of hazardous waste, compliance costs per ton for on-site incinerators will be lower.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL BASELINE COST OF BURNING WASTE AND COMPLIANCE COSTS PER TON OF HAZARDOUS WASTE BURNED (Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Baseline	$74	$114	$658	$36,325
Compliance Costs				
Floor (50%)	$31	$37	$134	$20,110
Floor (70%)	$23	$31	$129	$19,447
Rec (50%)	$33	$49	$147	$20,225
Rec (70%)	$26	$45	$139	$19,575
BTF-ACI (50%)	$44	$66	$154	$18,185
BTF-ACI (70%)	$35	$59	$145	$18,085

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. On-site incinerator baseline and compliance costs per ton are high due to the large number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger quantities of hazardous waste compliance costs per ton would actually be lower. If facilities are burning large volumes of non hazardous waste in addition to the hazardous waste, baseline costs per ton would be lower.

PRELIMINARY ECONOMIC IMPACT RESULTS

BASELINE OPERATING PROFITS PER TON OF HAZARDOUS WASTE BURNED
(Number of Combustion systems Falling in Range)

	<$0	$0 - $50	$51 - $100	$101 - $150	>$150
Cement Kilns	0	0	8	15	10
LWA Kilns	0	0	8	3	0
Commercial Incinerators	3	1	1	1	20
On-site Incinerators	48	13	11	11	56

BASELINE OPERATING PROFITS AS A PERCENTAGE OF BASELINE WEIGHTED AVERAGE PRICES PER TON
(Number of Combustion systems Falling in Range)

	<0%	0% - 10%	11% - 25%	26% - 50%	>50%
Cement Kilns	0	0	0	2	31
LWA Kilns	0	0	0	0	10
Commercial Incinerators	3	0	3	8	13
On-site Incinerators	48	8	24	19	40

Notes:

1. Baseline Operating Profits = (weighted average price per ton + weighted average energy savings per ton) - total annual baseline costs per ton. Total annual baseline costs include fixed annual capital costs, fixed annual operating and maintenance costs, and annual variable costs.
2. Baseline operating profits exclude overhead, other administrative costs, and taxes. Actual after-tax profits will be lower.
3. Number of systems with average operating profits less than $0 (or <0%) includes those burning very little or no waste.
4. Baseline operating profits are calculated at the system level. Consolidating burning into fewer systems may reduce facility closures, explaining why the system estimates presented in this exhibit appear higher than the facility closure presented in later exhibits.
5. Includes combustion systems not currently burning waste in the cement kiln, LWAK, and commercial incinerator sectors; or burning less than 50 tons per year in the on-site incinerator sector.

PERCENT OF SYSTEMS REQUIRING CONTROL MEASURES
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%)	BTF-ACI(70%
Cement Kilns						
New Fabric Filters	33%	27%	33%	27%	61%	52%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	45%	36%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	45%	33%	45%	33%	39%	30%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	3%	3%	3%	3%	0%	0%
Fabric Filter DOM, mod	9%	6%	9%	6%	6%	6%
DESP DOM, small	6%	0%	6%	0%	3%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	3%	3%	3%	3%	3%	3%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	55%	42%	64%	52%	73%	55%
None	12%	27%	3%	21%	3%	18%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	63%	50%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	63%	50%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	88%	88%	88%	88%	50%	50%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	25%	13%	25%	13%	13%	0%
Fabric Filter DOM, mod	13%	0%	13%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	75%	75%	75%	75%
Feed Control	100%	75%	63%	63%	50%	63%
None	0%	13%	0%	0%	0%	0%

PERCENT OF SYSTEMS REQUIRING CONTROL MEASURES cont.
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%)	BTF-ACI(70%
Commercial Incinerators						
New Fabric Filters	15%	10%	15%	15%	40%	40%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	20%	20%	85%	85%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	55%	50%	45%	40%	20%	15%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	5%	5%	35%	35%
Fabric Filter DOM, small	5%	5%	5%	5%	5%	5%
Fabric Filter DOM, mod	10%	5%	10%	5%	10%	5%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	5%	0%	5%	0%	0%	0%
IWS DOM, mod	5%	5%	5%	5%	0%	0%
HEWS DOM, small	0%	5%	0%	5%	0%	0%
HEWS DOM, mod	15%	10%	15%	10%	5%	5%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	5%	0%	5%	0%	5%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	85%	80%	80%	75%	70%	65%
None	5%	5%	5%	5%	5%	5%
On-Site Incinerators						
New Fabric Filters	67%	65%	71%	69%	85%	81%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	15%	15%	71%	60%
New Carbon Bed	0%	0%	2%	2%	6%	6%
New Quencher	17%	17%	12%	12%	10%	10%
New Afterburner	6%	2%	6%	2%	6%	2%
New Reheater	0%	0%	8%	8%	60%	48%
Fabric Filter DOM, small	0%	2%	0%	2%	0%	2%
Fabric Filter DOM, mod	2%	0%	2%	0%	2%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	2%	2%	2%	2%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	2%	2%	2%	2%	0%	0%
HEWS DOM, small	0%	2%	0%	2%	0%	2%
HEWS DOM, mod	10%	10%	8%	8%	2%	2%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	2%	4%	2%	4%	2%	4%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	46%	40%	42%	37%	42%	52%
None	6%	8%	4%	6%	2%	2%
Government On-site Incinerators						
New Fabric Filters	29%	24%	29%	24%	38%	33%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	48%	43%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	5%
New Afterburner	5%	5%	5%	5%	5%	5%
New Reheater	0%	0%	0%	0%	19%	19%
Fabric Filter DOM, small	0%	5%	0%	5%	0%	5%
Fabric Filter DOM, mod	14%	10%	14%	10%	14%	10%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	5%	5%	5%	5%	5%	5%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	14%	14%	14%	14%	14%	14%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	57%	52%	57%	52%	57%	52%
None	19%	19%	19%	19%	14%	14%

PERCENT OF NEW COMPLIANCE COSTS BY CONTROL MEASURE
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%	BTF-ACI(70%
Cement Kilns						
New Fabric Filters	35%	35%	33%	30%	39%	39%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	24%	24%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	24%	32%	23%	27%	13%	15%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	3%	2%	3%	2%	1%	1%
DESP DOM, small	4%	0%	4%	0%	1%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	33%	30%	37%	40%	22%	21%
Total	100%	100%	100%	100%	100%	100%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	27%	24%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	31%	27%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	38%	47%	28%	29%	10%	11%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	1%	1%	1%	1%	0%	0%
Fabric Filter DOM, mod	3%	0%	2%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	38%	42%	27%	30%
Feed Control	58%	52%	31%	29%	4%	8%
Total	100%	100%	100%	100%	100%	100%

PERCENT OF NEW COMPLIANCE COSTS BY CONTROL MEASURE, cont.
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%	BTF-ACI(70%
Commercial Incinerators						
New Fabric Filters	10%	8%	9%	11%	19%	20%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	16%	18%	47%	50%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	21%	23%	17%	17%	4%	3%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	3%	3%	19%	20%
Fabric Filter DOM, small	0%	1%	0%	1%	0%	0%
Fabric Filter DOM, mod	3%	1%	3%	1%	2%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	1%	0%	1%	0%	0%	0%
IWS DOM, mod	1%	1%	1%	1%	0%	0%
HEWS DOM, small	0%	2%	0%	2%	0%	0%
HEWS DOM, mod	7%	3%	6%	3%	1%	1%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	57%	61%	44%	44%	8%	5%
Total	100%	100%	100%	100%	100%	100%
On-Site Incinerators						
New Fabric Filters	39%	54%	36%	48%	28%	33%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	9%	12%	28%	30%
New Carbon Bed	0%	0%	0%	1%	1%	1%
New Quencher	5%	7%	3%	4%	2%	2%
New Afterburner	30%	7%	27%	6%	17%	3%
New Reheater	0%	0%	4%	5%	20%	21%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	0%	0%	0%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	2%	4%	1%	3%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	1%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	23%	26%	18%	20%	4%	8%
Total	100%	100%	100%	100%	100%	100%
Government On-Site Incinerators						
New Fabric Filters	22%	21%	22%	21%	22%	21%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	32%	31%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	2%
New Afterburner	6%	7%	6%	7%	4%	4%
New Reheater	0%	0%	0%	0%	12%	13%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	0%	0%	0%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	8%	9%	8%	9%	5%	6%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	2%	2%	2%	2%	1%	1%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	62%	61%	62%	61%	24%	22%
Total	100%	100%	100%	100%	100%	100%

PERCENTAGE OF COMBUSTION SYSTEMS BURNING BELOW STATIC BEQs

	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators			
	Short Term	Long Term	Short Term	Long Term	Short Term	Long Term	Short Term		Long Term	
							<20% below	>20% below	<20% below	>20% below
Floor (50%)	0%	3%	0%	0%	10%	10%	0%	31%	4%	40%
Floor (70%)	0%	3%	0%	0%	10%	10%	2%	29%	4%	40%
Rec (50%)	0%	6%	0%	0%	10%	10%	0%	31%	4%	40%
Rec (70%)	0%	6%	0%	0%	10%	10%	2%	29%	4%	40%
BTF-ACI (50%)	0%	6%	13%	25%	10%	10%	2%	33%	8%	46%
BTF-ACI (70%)	0%	6%	0%	25%	10%	10%	2%	31%	8%	46%

Notes:

PRELIMINARY ECONOMIC IMPACT RESULTS

TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS (millions)
AFTER COMBUSTION SYSTEM CONSOLIDATIONS

Price pass through assumed: **75%**

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-Sites	Total	% Difference from Compliance Costs with No System Consolidation
Floor (50%)	$24	$3	$7	$27	$7	$68	-18%
Floor (70%)	$16	$3	$6	$23	$7	$55	-20%
Rec (50%)	$26	$4	$7	$28	$7	$72	-19%
Rec (70%)	$19	$4	$6	$25	$7	$60	-21%
BTF-ACI (50%)	$34	$5	$10	$48	$27	$124	-14%
BTF-ACI (70%)	$27	$5	$9	$44	$26	$111	-15%

Notes:

1. Compliance costs after consolidation include only the costs for those systems that will continue to burn waste, and do not include shipping and disposal costs (after the assumed price increase) for on-site incinerators that decide to stop burning waste on-site.
2. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specific firm's marginal tax bracket.
3. "Consolidation" allows for non-viable combustion systems to consolidate waste flows with other systems at the same facility, or to exit the waste burning market. As a result, the number of combustion systems incurring compliance costs is reduced.

TOTAL COST OF WASTE DIVERTED FROM
ON-SITE SYSTEMS THAT STOP BURNING (millions)

Price pass through assumed: **75%**

Option	On-site Incinerators
Floor (50%)	$0.19
Floor (70%)	$0.19
Rec (50%)	$0.19
Rec (70%)	$0.19
BTF-ACI (50%)	$2.27
BTF-ACI (70%)	$2.27

Notes:

1. On-site incinerator estimates are for private facilities only. We assume that government facilities continue burning post-MACT and therefore no waste will be diverted from these facilities.
2. Waste diversion costs include both transportation and disposal costs (after the assumed price increase).

TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS AFTER COMBUSTION SYSTEM CONSOLIDATIONS
(millions)
(Includes Cost of Waste Diversion)

Price pass through assumed: 75%

Option	Total
Floor (50%)	$68
Floor (70%)	$55
Rec (50%)	$72
Rec (70%)	$61
BTF-ACI (50%)	$126
BTF-ACI (70%)	$113

Notes:

1. Compliance costs after consolidation include the costs for those systems that will continue to burn waste, as well as the shipping and disposal costs (after the assumed price increase) for on-site incinerators that decide to stop burning wastes on-site. Other types of combustion systems that stop burning wastes do not incur compliance costs and therefore are excluded.
2. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specfic firm's marginal tax bracket.
3. "Consolidation" allows for non-viable combustion systems to consolidate waste flows with other systems at the same facility, or to exit the waste burning market. As a result, the number of combustion systems incurring compliance costs is reduced.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS PER COMBUSTION SYSTEM AFTER CONSOLIDATION

Price pass through assumed: **75%**

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites
Floor (50%)	$728,353	$312,665	$298,694	$306,987	$281,064
Floor (70%)	$495,465	$265,102	$268,924	$265,247	$261,146
Rec (50%)	$773,990	$394,025	$303,414	$322,844	$281,064
Rec (70%)	$578,418	$360,261	$277,499	$282,653	$261,146
BTF-ACI (50%)	$1,043,019	$508,367	$426,560	$562,538	$1,061,809
BTF-ACI (70%)	$818,226	$464,470	$403,222	$514,958	$1,042,619

Notes:

1. Average annual pre-tax compliance costs per system are based on the number of combustion systems that remain open after consolidation. The number of combustion systems that remain open in the sectors may vary by option.
2. Total annual pre-tax compliance costs for the on-site incinerator sector do not include the cost of diverting waste to alternative management for those systems that stop burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS PER TON
(Short Term - After Consolidation)

Price pass through assumed: **75%**

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$31	$37	$17	$36
Floor (70%)	$23	$31	$14	$32
Rec (50%)	$33	$49	$17	$36
Rec (70%)	$26	$45	$15	$33
BTF-ACI (50%)	$44	$66	$21	$49
BTF-ACI (70%)	$35	$59	$19	$45

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. Average on-site incinerator compliance costs include direct costs of meeting the new emission levels. Indirect costs to facilities that stop burning wastes and must ship them off-site for management are not included.
3. Only private systems, and not governmental systems, are reflected in the average compliance costs per ton for on-site incinerators.
4. On-site incinerator compliance costs per ton are high due to a number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger volumes of hazardous waste, compliance costs per ton for on-site incinerators will be lower.
5. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specific firm's marginal tax bracket.

PRELIMINARY ECONOMIC IMPACT RESULTS

PERCENTAGE OF COMBUSTION SYSTEMS MEETING SHORT TERM BEQ AFTER CONSOLIDATION
(Percentage of combustion systems; includes systems currently burning below their break-even quantity)

Price pass through assumed: 75%

	Cement Kilns			LWAKs			Commercial Incinerators			Private On-site Incinerators		
	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below
Floor (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
Floor (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
Rec (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
Rec (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
BTF-ACI (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	62%	0%	38%
BTF-ACI (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	62%	0%	38%

Notes:

1. Percent of systems currently not meeting short term baseline break-even quantity:

Cement Kilns	0%
LWAKs	0%
Commercial Incinerators	10%
Private On-site Incinerators	15%

PRELIMINARY ECONOMIC IMPACT RESULTS

PERCENTAGE OF COMBUSTION SYSTEMS MEETING LONG TERM BEQ AFTER CONSOLIDATION
(Percentage of combustion systems; includes systems currently burning below their break-even quantity)

Price pass through assumed: 75%

	Cement Kilns			LWAKs			Commercial Incinerators			Private On-site Incinerators		
	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below
Floor (50%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Floor (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Rec (50%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Rec (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	50%	0%	50%
BTF-ACI (50%)	100%	0%	0%	88%	0%	13%	90%	0%	10%	50%	0%	50%
BTF-ACI (70%)	100%	0%	0%	88%	0%	13%	90%	0%	10%	50%	0%	50%

Notes:

1. Percent of systems currently not meeting long term baseline break-even quantity:

Cement Kilns	0%
LWAKs	0%
Commercial Incinerators	10%
Private On-site Incinerators	35%

PRELIMINARY ECONOMIC IMPACT RESULTS

NUMBER OF COMBUSTION FACILITIES LIKELY TO STOP BURNING HAZARDOUS WASTE IN THE SHORT TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **75%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0	0	3	26
Incremental Facilities Likely to Stop Burning Waste				
Floor (50%)	0	0	0	16
Floor (70%)	0	0	0	16
Rec (50%)	0	0	0	16
Rec (70%)	0	0	0	16
BTF-ACI (50%)	0	0	0	20
BTF-ACI (70%)	0	0	0	20

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PRELIMINARY ECONOMIC IMPACT RESULTS

NUMBER OF COMBUSTION FACILITIES LIKELY TO STOP BURNING HAZARDOUS WASTE IN THE LONG TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **75%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0	0	3	42
Incremental Facilities Likely to Stop Burning Waste				
Floor (50%)	1	0	0	13
Floor (70%)	0	0	0	13
Rec (50%)	1	0	0	13
Rec (70%)	0	0	0	13
BTF-ACI (50%)	0	0	0	13
BTF-ACI (70%)	0	0	0	13

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PERCENTAGE OF FACILITIES LIKELY TO STOP BURNING WASTE IN THE SHORT TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **75%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0%	0%	13%	24%
Floor (50%)	0%	0%	0%	15%
Floor (70%)	0%	0%	0%	15%
Rec (50%)	0%	0%	0%	15%
Rec (70%)	0%	0%	0%	15%
BTF-ACI (50%)	0%	0%	0%	18%
BTF-ACI (70%)	0%	0%	0%	18%

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PERCENTAGE OF FACILITIES LIKELY TO STOP BURNING WASTE IN THE LONG TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **75%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0%	0%	13%	38%
Floor (50%)	6%	0%	0%	12%
Floor (70%)	0%	0%	0%	12%
Rec (50%)	6%	0%	0%	12%
Rec (70%)	0%	0%	0%	12%
BTF-ACI (50%)	0%	0%	0%	12%
BTF-ACI (70%)	0%	0%	0%	12%

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of th Hazardous Waste Combustion MACT.

PRELIMINARY ECONOMIC IMPACT RESULTS

QUANTITY OF HAZARDOUS WASTE THAT COULD BE DIVERTED FROM COMBUSTION FACILITIES IN THE SHORT TERM

Price pass through assumed: **75%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	TOTAL	Percentage of all BRS Combusted Hazardous Waste
Baseline	0	0	3,170	45,770	48,940	1%
Floor (50%)	0	0	3,170	46,210	49,380	1%
Floor (70%)	0	0	3,170	46,210	49,380	1%
Rec (50%)	0	0	3,170	46,210	49,380	1%
Rec (70%)	0	0	3,170	46,210	49,380	1%
BTF-ACI (50%)	0	0	3,170	51,040	54,210	2%
BTF-ACI (70%)	0	0	3,170	51,040	54,210	2%

Notes:

1. Combusted hazardous waste reported to BRS in 1995 excluding tonnage burned in on-site boilers: 3,300,000
2. Estimates do not include waste diverted from systems that consolidate waste into other systems at the same facility.
3. Quantities of waste diverted under each option are upper-bound, total estimates. They are not incremental and may include waste from facilities non-viable in the baseline.
4. Baseline quantities of waste diverted resulting from consolidation and market exit likely to occur in the baseline (i.e., without the MACT standards) are shown in the first row of the exhibit.
5. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

QUANTITY OF HAZARDOUS WASTE THAT COULD BE DIVERTED FROM COMBUSTION FACILITIES IN THE LONG TERM

Price pass through assumed: **75%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	TOTAL	Percentage of all BRS Combusted Hazardous Waste
Baseline	0	0	3,170	97,760	100,930	3%
Floor (50%)	11,530	0	3,170	111,330	126,030	4%
Floor (70%)	0	0	3,170	111,330	114,500	3%
Rec (50%)	11,530	0	3,170	111,330	126,030	4%
Rec (70%)	0	0	3,170	111,330	114,500	3%
BTF-ACI (50%)	0	0	3,170	111,330	114,500	3%
BTF-ACI (70%)	0	2,730	3,170	111,330	117,230	4%

Notes:

1. Combusted hazardous waste reported to BRS in 1995 excluding tonnage burned in on-site boilers: 3,300,000
2. Estimates do not include waste diverted from systems that consolidate waste into other systems at the same facility.
3. Quantities of waste diverted under each option are upper-bound, total estimates. They are not incremental and may include waste from facilities non-viable in the baseline.
4. Baseline quantities of waste diverted resulting from consolidation and market exit likely to occur in the baseline (i.e., without the MACT standards) are shown in the first row of the exhibit.
5. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED SHORT-TERM EMPLOYMENT LOSSES AT COMBUSTION SYSTEMS
(net of systems currently burning below their break-even quantity)

Price pass through assumed: **75%**

MACT Option	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators		TOTAL	
	Low End	High End	Low End	High End	Low End	High End	Low End	High End	Low End	High End
Baseline	0	0	0	0	80	80	182	182	262	262
Floor (50%)	0	0	0	0	0	0	131	231	131	231
Floor (70%)	0	0	0	0	0	0	131	231	131	231
Rec (50%)	0	0	0	0	0	0	131	231	131	231
Rec (70%)	0	0	0	0	0	0	131	231	131	231
BTF-ACI (50%)	0	0	0	0	0	0	139	239	139	239
BTF-ACI (70%)	0	0	0	0	0	0	139	239	139	239

Notes:

1. Low-end estimates include employment losses associated only with those systems located at facilities where all systems stop burning. High-end estimates reflect all employment losses, including those associated with closing systems located at facilities where at least one system remains open. The low-end estimate assumes the possibility for employee reassignment within a facility that has combustion systems remaining open.
2. Estimates are sensitive to a number of assumptions, including the estimated number of employees associated with waste burning for each system.
3. Estimates are based on primary employment impacts only, and ignore secondary spill-over effects.
4. Employment impacts are national estimates.
5. Employment loss estimates are incremental, or directly attributable to compliance with the proposed MACT standards. These estimates do not include losses that are associated with systems that are non-viable in the baseline and therefore not directly attributable to compliance with the proposed MACT standards. Those baseline losses are provided separately in the first row of the above exhibit.
6. Compliance costs include CEM costs.
7. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED LONG-TERM EMPLOYMENT LOSSES AT COMBUSTION SYSTEMS
(net of systems currently burning below their break-even quantity)

Price pass through assumed: **75%**

MACT Option	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators		TOTAL	
	Low End	High End	Low End	High End	Low End	High End	Low End	High End	Low End	High End
Baseline	0	0	0	0	80	80	345	408	425	488
Floor (50%)	21	21	0	0	0	0	98	116	119	137
Floor (70%)	0	0	0	0	0	0	98	116	98	116
Rec (50%)	21	21	0	0	0	0	98	116	119	137
Rec (70%)	0	0	0	0	0	0	98	116	98	116
BTF-ACI (50%)	0	0	0	3	0	0	98	116	98	119
BTF-ACI (70%)	0	0	0	3	0	0	98	116	98	119

Notes:

1. Low-end estimates include employment losses associated only with those systems located at facilities where all systems stop burning. High-end estimates reflect all employment losses, including those associated with closing systems located at facilities where at least one system remains open. The low-end estimate assumes the possibility for employee reassignment within a facility that has combustion systems remaining open.
2. Estimates are sensitive to a number of assumptions, including the estimated number of employees associated with waste burning for each system.
3. Estimates are based on primary employment impacts only, and ignore secondary spill-over effects.
4. Employment impacts are national estimates.
5. Employment loss estimates are incremental, or directly attributable to compliance with the proposed MACT standards. These estimates do not include losses that are associated with systems that are non-viable in the baseline and therefore not directly attributable to compliance with the proposed MACT standards. Those baseline losses are provided separately in the first row of the above exhibit.
6. Compliance costs include CEM costs.
7. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **FIr(50%)**
Price pass through assumed: **75%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	77	5	10	31	5	128
CEMs/Monitoring Equipment	25	6	14	59	29	132
Labor Within Combustion Sector						
O&M	50	4	9	83	8	155
Permitting	1	0	1	4	1	7
Total	**153**	**16**	**34**	**176**	**43**	423

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **FIr(70%)**
Price pass through assumed: **75%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	51	5	8	28	5	96
CEMs/Monitoring Equipment	25	6	14	57	29	131
Labor Within Combustion Sector						
O&M	35	4	8	76	7	130
Permitting	1	0	1	4	1	7
Total	**113**	**15**	**30**	**164**	**42**	364

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **Rec(50%)**
Price pass through assumed: **75%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	77	7	12	37	5	138
CEMs/Monitoring Equipment	25	6	14	56	29	130
Labor Within Combustion Sector						
O&M	50	5	13	98	8	175
Permitting	1	0	1	4	1	7
Total	**153**	**19**	**40**	**195**	**43**	450

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **Rec(70%)**
Price pass through assumed: **75%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	51	6	10	34	5	106
CEMs/Monitoring Equipment	25	6	14	55	29	128
Labor Within Combustion Sector						
O&M	35	5	12	90	7	150
Permitting	1	0	1	3	1	7
Total	**113**	**17**	**37**	**182**	**42**	391

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **BTF(50%)**
Price pass through assumed: **75%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	99	10	22	90	13	234
CEMs/Monitoring Equipment	25	6	15	63	29	137
Labor Within Combustion Sector						
O&M	84	17	35	201	24	361
Permitting	1	0	1	4	1	8
Total	**209**	**33**	**73**	**358**	**67**	740

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **BTF(70%)**
Price pass through assumed: **75%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	78	9	20	77	13	197
CEMs/Monitoring Equipment	25	6	14	62	29	137
Labor Within Combustion Sector						
O&M	67	14	35	176	22	314
Permitting	1	0	1	4	1	8
Total	**171**	**29**	**71**	**319**	**65**	655

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

WEIGHTED AVERAGE COMBUSTION PRICE PER TON AND INCREASE IN PRICES DUE TO ASSUMED PRICE PASS THROUGH

Price pass through assumed: **75%**
(percentage of median compliance costs for the most efficient sector)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Current weighted average price	$172	$136	$689	$729
Increase in price due to compliance costs passed through				
Floor (50%)	$16	$16	$15	$15
Floor (70%)	$11	$11	$11	$11
Rec (50%)	$16	$16	$15	$15
Rec (70%)	$12	$12	$12	$12
BTF-ACI (50%)	$36	$36	$28	$30
BTF-ACI (70%)	$26	$26	$22	$23

Notes:

1. Compliance costs include CEM costs.
2. Median compliance costs per ton exclude systems currently not burning hazardous waste.
3. **The commercial sector with the lowest total cost per ton (baseline + compliance cost) drives the assumed increase in combustion prices of waste categories managed by that sector.**
4. Prices for on-site incinerators reflect the cost per ton of off-site treatment that generators avoid by burning the waste on-site.
5. **Weighted average price per ton = (solids percentage of total waste burned in each sector x solids price) + (liquids percentage of total waste burned in each sector x liquids price) + (sludges percentage of total waste burned in each sector x sludges price).**

PRELIMINARY ECONOMIC IMPACT RESULTS

NEW COMPLIANCE COSTS AS A PERCENTAGE OF BASELINE COSTS OF HAZARDOUS WASTE BURNING
(percentage of permitted combustion systems; see Note 3)

	Cement Kilns					LWAKs					Commercial Incinerators					On-site Incinerators					Government On-sites				
	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%
Floor (50%)	15%	9%	39%	24%	12%	0%	25%	50%	25%	0%	80%	10%	10%	0%	0%	33%	21%	37%	6%	4%	24%	14%	43%	10%	10%
Floor (70%)	30%	9%	36%	21%	3%	13%	13%	50%	25%	0%	85%	5%	10%	0%	0%	38%	25%	27%	6%	4%	33%	14%	33%	5%	14%
Rec (50%)	3%	21%	36%	21%	18%	0%	0%	75%	25%	0%	80%	10%	10%	0%	0%	27%	19%	48%	0%	6%	24%	14%	43%	10%	10%
Rec (70%)	27%	12%	30%	24%	6%	0%	0%	75%	25%	0%	85%	10%	5%	0%	0%	33%	23%	38%	2%	4%	33%	14%	33%	5%	14%
BTF-ACI (50%)	3%	6%	30%	30%	30%	0%	0%	38%	38%	25%	60%	30%	10%	0%	0%	13%	25%	46%	8%	8%	19%	10%	33%	24%	14%
BTF-ACI (70%)	21%	6%	15%	36%	21%	0%	0%	38%	50%	13%	70%	25%	5%	0%	0%	15%	31%	38%	10%	6%	24%	14%	24%	19%	19%

Notes:

1. Compliance costs as a percent of baseline costs = [Total annual compliance costs/Total annual baseline costs]
2. Total annual baseline costs = Annualized fixed capital and fixed operating costs + (Variable operating costs * Hazardous waste burned).
3. Percentages include systems not currently burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

NEW COMPLIANCE COSTS AS A PERCENTAGE OF HAZARDOUS WASTE BURNING REVENUES
(percentage of permitted combustion systems; see Note 3)

	Cement Kilns					LWAKs					Commercial Incinerators					On-site Incinerators				
	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%
Floor (50%)	39%	30%	30%	0%	0%	13%	50%	38%	0%	0%	90%	0%	0%	0%	10%	48%	13%	10%	15%	13%
Floor (70%)	61%	18%	21%	0%	0%	25%	50%	25%	0%	0%	90%	0%	0%	5%	5%	52%	10%	10%	19%	10%
Rec (50%)	39%	30%	30%	0%	0%	0%	25%	75%	0%	0%	90%	0%	0%	5%	5%	48%	13%	12%	12%	15%
Rec (70%)	52%	27%	21%	0%	0%	0%	25%	75%	0%	0%	90%	0%	0%	5%	5%	52%	10%	12%	15%	12%
BTF-ACI (50%)	24%	27%	45%	3%	0%	0%	13%	63%	25%	0%	90%	0%	0%	5%	5%	37%	10%	19%	23%	12%
BTF-ACI (70%)	36%	24%	36%	3%	0%	0%	13%	75%	13%	0%	90%	0%	0%	5%	5%	37%	21%	12%	19%	12%

Notes:

1. Compliance costs as a percent of revenues = [Total compliance costs per ton]/[Waste burning revenues per ton + Energy savings per ton]
2. On-site incinerator revenues are equal to the costs generators avoid by not shipping the waste to a commercial incinerator (waste fees charged + transportation costs).
3. High-end of range (>75 percent) includes systems not currently burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

CHANGE IN AVERAGE OPERATING PROFITS PER TON OF HAZARDOUS WASTE BURNED FROM THE PROPOSED MACT

Price pass through assumed: **75%**

Options	Cement Kilns			LWA Kilns			Commercial Incinerators			On-site Incinerators		
	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule
	$ Change	% Change		$ Change	% Change		$ Change	% Change		$ Change	% Change	
Floor (50%)	($5)	-12%	71%	($20)	-31%	44%	($1)	-2%	57%	($19)	-8%	60%
Floor (70%)	($4)	-9%	74%	($19)	-28%	46%	($3)	-2%	57%	($21)	-7%	60%
Rec (50%)	($5)	-12%	71%	($32)	-43%	36%	($1)	-2%	57%	($20)	-8%	60%
Rec (70%)	($4)	-9%	73%	($32)	-42%	37%	($3)	-2%	57%	($21)	-8%	60%
BTF-ACI (50%)	($12)	-24%	61%	($31)	-48%	34%	$14	-1%	58%	($14)	-9%	60%
BTF-ACI (70%)	($9)	-18%	66%	($34)	-48%	33%	$7	-2%	57%	($19)	-9%	60%

Notes:

1. Operating Profits = (weighted average price per ton + weighted average energy savings per ton + assumed price increase due to compliance costs passed through) - (average baseline costs per ton + average total annual compliance cost per ton). Assumed price pass-through is a set percentage (shown at the top of this exhibit) of the median compliance cost for the most efficient combustion sector. As this is a static model, we have capped the price pass-through using the combustion systems expected to remain burning hazardous waste even though the original pass-through value included some systems expected to stop burning. This is a better approximation of the impetus combustors have to raise prices, though it is not a precise predictor. To address uncertainty regarding the amount prices will rise, a variety of price increase scenarios were used. All other averages were calculated after consolidation, and include only those systems that continue to burn hazardous waste.
2. Operating profits exclude overhead, other administrative costs, and taxes. Actual after-tax profits will be lower.
3. Percentage Operating Profit Margin = average operating profits per ton / (weighted average price per ton + assumed price increase due to compliance costs passed through). Percentage profit margin after the rule is calculated using the same formula with post-rule operating profits and prices.
4. Change in operating profits per ton = Post-rule operating profits per ton - baseline operating profits per ton. Percentage change in operating profits margin = (post-rule operating profits margin - baseline operating profits margin) / baseline operating profits margin. Baseline operating profit margins for systems remaining open after consolidation can be calculated by dividing the percentage profit margin after the rule by one plus the percentage change in the operating profit margin. For consistency, baseline values have been calculated using the median compliance cost per ton for facilities that remain in operation after the rule for each MACT option.

LIST OF EXHIBITS

(75% Price Pass-Through; PM CEM Option 2: Not Required for Any Facilities)

Total Annual Compliance Costs (Assuming no Market Exit)
Average Total Annual Compliance Costs per Combustion System (Assuming no Market Exit)
Average Total Annual Compliance Costs Per Ton (Before Consolidation)
Average Total Annual Baseline Cost of Burning Waste and Compliance Costs per Ton of Hazardous Waste Burned (Before Consolidation)
Baseline Operating Profits per Ton of Hazardous Waste Burned and as Percentage of Baseline Weighted Average Prices per Ton
Percent of Systems Requiring Control Measures (Before Consolidation)
Percent of New Compliance Costs by Control Measure (Before Consolidation)
Percentage of Combustion Systems Burning Below Static BEQs
Total Annual Pre-Tax Compliance Costs (After Combustion System Consolidations)
Average Total Annual Pre-Tax Compliance Cost per Combustion System After Consolidation
Average Total Annual Pre-Tax Compliance Costs per Ton (Short Term - After Consolidation)
Percentage of Combustion Systems Meeting Short Term BEQ After Consolidation
Percentage of Combustion Systems Meeting Long Term BEQ After Consolidation
Number of Combustion Facilities Likely to Stop Burning Hazardous Waste in the Short Term
Number of Combustion Facilities Likely to Stop Burning Hazardous Waste in the Long Term
Percentage of Facilities Likely to Stop Burning Waste in the Short Term
Percentage of Facilities Likely to Stop Burning Waste in the Long Term
Quantity of Hazardous Waste that could be Diverted from Combustion Facilities in the Short Term
Quantity of Hazardous Waste that could be Diverted from Combustion Facilities in the Long Term
Estimated Short-Term Employment Losses at Combustion Systems
Estimated Long-Term Employment Losses at Combustion Systems
Estimated Employment Increases Associated with Compliance Requirements After System Consolidation
-- Floor (50%)
-- Floor (70%)
-- Rec (50%)
-- Rec (70%)
-- BTF-ACI (50%)
-- BTF-ACI (70%)
Weighted Average Combustion Price per Ton and Increase in Prices Due to Assumed Price Pass-Through
New Compliance Costs as a Percentage of Baseline Costs of Hazardous Waste Burning
New Compliance Costs as a Percentage of Hazardous Waste Burning Revenues
Change in Average Operating Profits Per Ton of Hazardous Waste Burned

PRELIMINARY ECONOMIC IMPACT RESULTS

TOTAL ANNUAL COMPLIANCE COSTS (millions)
(Assuming no Market Exit)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites	Total
Floor (50%)	$22	$3	$7	$33	$4	$69
Floor (70%)	$15	$2	$6	$28	$4	$55
Rec (50%)	$24	$3	$7	$37	$4	$75
Rec (70%)	$17	$3	$6	$32	$4	$63
BTF-ACI (50%)	$33	$5	$10	$59	$24	$130
BTF-ACI (70%)	$25	$4	$9	$54	$24	$116

Notes:

1. Estimates assume that all facilities comply. Facilities non-viable in the baseline are included.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER COMBUSTION SYSTEM
(Assuming no Market Exit)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites
Estimated Number of Combustion Systems	33	10	26	138	25
Floor (50%)	$677,373	$260,252	$267,273	$237,552	$179,565
Floor (70%)	$444,485	$212,689	$238,749	$203,763	$159,648
Rec (50%)	$723,010	$341,613	$267,634	$265,811	$179,565
Rec (70%)	$527,438	$307,849	$242,210	$234,073	$159,648
BTF-ACI (50%)	$992,039	$455,955	$379,459	$429,193	$960,310
BTF-ACI (70%)	$767,246	$412,058	$356,234	$392,281	$941,121

Notes:

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER TON
(Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$29	$30	$116	$17,853
Floor (70%)	$21	$24	$111	$17,190
Rec (50%)	$31	$42	$129	$17,968
Rec (70%)	$23	$38	$121	$17,318
BTF-ACI (50%)	$41	$60	$135	$15,929
BTF-ACI (70%)	$33	$53	$127	$15,828

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. Average on-site incinerator compliance costs include direct costs of meeting the new emission levels. Indirect costs to facilities that stop burning wastes and must ship them off-site for management are not included.
3. Only private systems, and not governmental systems, are reflected in the average compliance costs per ton for on-site incinerators.
4. On-site incinerator compliance costs per ton are high due to a number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger volumes of hazardous waste, compliance costs per ton for on-site incinerators will be lower.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL BASELINE COST OF BURNING WASTE AND COMPLIANCE COSTS PER TON OF HAZARDOUS WASTE BURNED (Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Baseline	$74	$114	$658	$36,325
Compliance Costs				
Floor (50%)	$29	$30	$116	$17,853
Floor (70%)	$21	$24	$111	$17,190
Rec (50%)	$31	$42	$129	$17,968
Rec (70%)	$23	$38	$121	$17,318
BTF-ACI (50%)	$41	$60	$135	$15,929
BTF-ACI (70%)	$33	$53	$127	$15,828

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. On-site incinerator baseline and compliance costs per ton are high due to the large number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger quantities of hazardous waste compliance costs per ton would actually be lower. If facilities are burning large volumes of non hazardous waste in addition to the hazardous waste, baseline costs per ton would be lower.

PRELIMINARY ECONOMIC IMPACT RESULTS

BASELINE OPERATING PROFITS PER TON OF HAZARDOUS WASTE BURNED
(Number of Combustion systems Falling in Range)

	<$0	$0 - $50	$51 - $100	$101 - $150	>$150
Cement Kilns	0	0	8	15	10
LWA Kilns	0	0	8	3	0
Commercial Incinerators	3	1	1	1	20
On-site Incinerators	48	13	11	11	56

BASELINE OPERATING PROFITS AS A PERCENTAGE OF BASELINE WEIGHTED AVERAGE PRICES PER TON
(Number of Combustion systems Falling in Range)

	<0%	0% - 10%	11% - 25%	26% - 50%	>50%
Cement Kilns	0	0	0	2	31
LWA Kilns	0	0	0	0	10
Commercial Incinerators	3	0	3	8	13
On-site Incinerators	48	8	24	19	40

Notes:

1. Baseline Operating Profits = (weighted average price per ton + weighted average energy savings per ton) - total annual baseline costs per ton. Total annual baseline costs include fixed annual capital costs, fixed annual operating and maintenance costs, and annual variable costs.
2. Baseline operating profits exclude overhead, other administrative costs, and taxes. Actual after-tax profits will be lower.
3. Number of systems with average operating profits less than $0 (or <0%) includes those burning very little or no waste.
4. Baseline operating profits are calculated at the system level. Consolidating burning into fewer systems may reduce facility closures, explaining why the system estimates presented in this exhibit appear higher than the facility closure presented in later exhibits.
5. Includes combustion systems not currently burning waste in the cement kiln, LWAK, and commercial incinerator sectors; or burning less than 50 tons per year in the on-site incinerator sector.

PERCENT OF SYSTEMS REQUIRING CONTROL MEASURES
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%)	BTF-ACI(70%
Cement Kilns						
New Fabric Filters	33%	27%	33%	27%	61%	52%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	45%	36%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	45%	33%	45%	33%	39%	30%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	3%	3%	3%	3%	0%	0%
Fabric Filter DOM, mod	9%	6%	9%	6%	6%	6%
DESP DOM, small	6%	0%	6%	0%	3%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	3%	3%	3%	3%	3%	3%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	55%	42%	64%	52%	73%	55%
None	12%	27%	3%	21%	3%	18%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	63%	50%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	63%	50%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	88%	88%	88%	88%	50%	50%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	25%	13%	25%	13%	13%	0%
Fabric Filter DOM, mod	13%	0%	13%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	75%	75%	75%	75%
Feed Control	100%	75%	63%	63%	50%	63%
None	0%	13%	0%	0%	0%	0%

PERCENT OF SYSTEMS REQUIRING CONTROL MEASURES cont.
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%)	BTF-ACI(70%
Commercial Incinerators						
New Fabric Filters	15%	10%	15%	15%	40%	40%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	20%	20%	85%	85%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	55%	50%	45%	40%	20%	15%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	5%	5%	35%	35%
Fabric Filter DOM, small	5%	5%	5%	5%	5%	5%
Fabric Filter DOM, mod	10%	5%	10%	5%	10%	5%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	5%	0%	5%	0%	0%	0%
IWS DOM, mod	5%	5%	5%	5%	0%	0%
HEWS DOM, small	0%	5%	0%	5%	0%	0%
HEWS DOM, mod	15%	10%	15%	10%	5%	5%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	5%	0%	5%	0%	5%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	85%	80%	80%	75%	70%	65%
None	5%	5%	5%	5%	5%	5%
On-Site Incinerators						
New Fabric Filters	67%	65%	71%	69%	85%	81%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	15%	15%	71%	60%
New Carbon Bed	0%	0%	2%	2%	6%	6%
New Quencher	17%	17%	12%	12%	10%	10%
New Afterburner	6%	2%	6%	2%	6%	2%
New Reheater	0%	0%	8%	8%	60%	48%
Fabric Filter DOM, small	0%	2%	0%	2%	0%	2%
Fabric Filter DOM, mod	2%	0%	2%	0%	2%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	2%	2%	2%	2%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	2%	2%	2%	2%	0%	0%
HEWS DOM, small	0%	2%	0%	2%	0%	2%
HEWS DOM, mod	10%	10%	8%	8%	2%	2%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	2%	4%	2%	4%	2%	4%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	46%	40%	42%	37%	42%	52%
None	6%	8%	4%	6%	2%	2%
Government On-site Incinerators						
New Fabric Filters	29%	24%	29%	24%	38%	33%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	48%	43%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	5%
New Afterburner	5%	5%	5%	5%	5%	5%
New Reheater	0%	0%	0%	0%	19%	19%
Fabric Filter DOM, small	0%	5%	0%	5%	0%	5%
Fabric Filter DOM, mod	14%	10%	14%	10%	14%	10%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	5%	5%	5%	5%	5%	5%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	14%	14%	14%	14%	14%	14%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	57%	52%	57%	52%	57%	52%
None	19%	19%	19%	19%	14%	14%

PERCENT OF NEW COMPLIANCE COSTS BY CONTROL MEASURE
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%	BTF-ACI(70%
Cement Kilns						
New Fabric Filters	35%	35%	33%	30%	39%	39%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	24%	24%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	24%	32%	23%	27%	13%	15%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	3%	2%	3%	2%	1%	1%
DESP DOM, small	4%	0%	4%	0%	1%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	33%	30%	37%	40%	22%	21%
Total	100%	100%	100%	100%	100%	100%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	27%	24%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	31%	27%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	38%	47%	28%	29%	10%	11%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	1%	1%	1%	1%	0%	0%
Fabric Filter DOM, mod	3%	0%	2%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	38%	42%	27%	30%
Feed Control	58%	52%	31%	29%	4%	8%
Total	100%	100%	100%	100%	100%	100%

PERCENT OF NEW COMPLIANCE COSTS BY CONTROL MEASURE, cont.
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%	BTF-ACI(70%
Commercial Incinerators						
New Fabric Filters	10%	8%	9%	11%	19%	20%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	16%	18%	47%	50%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	21%	23%	17%	17%	4%	3%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	3%	3%	19%	20%
Fabric Filter DOM, small	0%	1%	0%	1%	0%	0%
Fabric Filter DOM, mod	3%	1%	3%	1%	2%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	1%	0%	1%	0%	0%	0%
IWS DOM, mod	1%	1%	1%	1%	0%	0%
HEWS DOM, small	0%	2%	0%	2%	0%	0%
HEWS DOM, mod	7%	3%	6%	3%	1%	1%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	57%	61%	44%	44%	8%	5%
Total	100%	100%	100%	100%	100%	100%
On-Site Incinerators						
New Fabric Filters	39%	54%	36%	48%	28%	33%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	9%	12%	28%	30%
New Carbon Bed	0%	0%	0%	1%	1%	1%
New Quencher	5%	7%	3%	4%	2%	2%
New Afterburner	30%	7%	27%	6%	17%	3%
New Reheater	0%	0%	4%	5%	20%	21%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	0%	0%	0%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	2%	4%	1%	3%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	1%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	23%	26%	18%	20%	4%	8%
Total	100%	100%	100%	100%	100%	100%
Government On-Site Incinerators						
New Fabric Filters	22%	21%	22%	21%	22%	21%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	32%	31%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	2%
New Afterburner	6%	7%	6%	7%	4%	4%
New Reheater	0%	0%	0%	0%	12%	13%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	0%	0%	0%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	8%	9%	8%	9%	5%	6%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	2%	2%	2%	2%	1%	1%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	62%	61%	62%	61%	24%	22%
Total	100%	100%	100%	100%	100%	100%

PERCENTAGE OF COMBUSTION SYSTEMS BURNING BELOW STATIC BEQs

	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators			
							Short Term		Long Term	
	Short Term	Long Term	Short Term	Long Term	Short Term	Long Term	<20% below	>20% below	<20% below	>20% below
Floor (50%)	0%	3%	0%	0%	10%	10%	10%	21%	4%	38%
Floor (70%)	0%	3%	0%	0%	10%	10%	10%	21%	2%	38%
Rec (50%)	0%	6%	0%	0%	10%	10%	10%	21%	4%	38%
Rec (70%)	0%	6%	0%	0%	10%	10%	10%	21%	2%	38%
BTF-ACI (50%)	0%	6%	13%	25%	10%	10%	10%	23%	12%	42%
BTF-ACI (70%)	0%	6%	0%	13%	10%	10%	12%	21%	12%	42%

Notes:

PRELIMINARY ECONOMIC IMPACT RESULTS

TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS (millions)
AFTER COMBUSTION SYSTEM CONSOLIDATIONS

Price pass through assumed: 75%

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-Sites	Total	% Difference from Compliance Costs with No System Consolidation
Floor (50%)	$22	$3	$6	$22	$4	$58	-17%
Floor (70%)	$15	$2	$5	$18	$4	$44	-20%
Rec (50%)	$24	$3	$6	$24	$4	$61	-19%
Rec (70%)	$17	$3	$5	$20	$4	$50	-21%
BTF-ACI (50%)	$33	$5	$9	$44	$24	$114	-13%
BTF-ACI (70%)	$25	$4	$8	$40	$24	$101	-13%

Notes:

1. Compliance costs after consolidation include only the costs for those systems that will continue to burn waste, and do not include shipping and disposal costs (after the assumed price increase) for on-site incinerators that decide to stop burning waste on-site.
2. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specific firm's marginal tax bracket.
3. "Consolidation" allows for non-viable combustion systems to consolidate waste flows with other systems at the same facility, or to exit the waste burning market. As a result, the number of combustion systems incurring compliance costs is reduced.

TOTAL COST OF WASTE DIVERTED FROM ON-SITE SYSTEMS THAT STOP BURNING (millions)

Price pass through assumed: **75%**

Option	On-site Incinerators
Floor (50%)	$0.19
Floor (70%)	$0.19
Rec (50%)	$0.19
Rec (70%)	$0.19
BTF-ACI (50%)	-$0.73
BTF-ACI (70%)	$0.19

Notes:

1. On-site incinerator estimates are for private facilities only. We assume that government facilities continue burning post-MACT and therefore no waste will be diverted from these facilities.
2. Waste diversion costs include both transportation and disposal costs (after the assumed price increase).

TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS AFTER COMBUSTION SYSTEM CONSOLIDATIONS
(millions)
(Includes Cost of Waste Diversion)

Price pass through assumed: 75%

Option	Total
Floor (50%)	$58
Floor (70%)	$44
Rec (50%)	$62
Rec (70%)	$50
BTF-ACI (50%)	$113
BTF-ACI (70%)	$101

Notes:

1. Compliance costs after consolidation include the costs for those systems that will continue to burn waste, as well as the shipping and disposal costs (after the assumed price increase) for on-site incinerators that decide to stop burning wastes on-site. Other types of combustion systems that stop burning wastes do not incur compliance costs and therefore are excluded.
2. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specfic firm's marginal tax bracket.
3. "Consolidation" allows for non-viable combustion systems to consolidate waste flows with other systems at the same facility, or to exit the waste burning market. As a result, the number of combustion systems incurring compliance costs is reduced.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS PER COMBUSTION SYSTEM AFTER CONSOLIDATION

Price pass through assumed: **75%**

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites
Floor (50%)	$677,373	$260,252	$243,257	$248,774	$179,565
Floor (70%)	$444,485	$212,689	$213,488	$210,100	$159,648
Rec (50%)	$723,010	$341,613	$247,977	$264,165	$179,565
Rec (70%)	$527,438	$307,849	$222,062	$227,506	$159,648
BTF-ACI (50%)	$992,039	$455,955	$371,123	$502,744	$960,310
BTF-ACI (70%)	$767,246	$412,058	$347,785	$456,605	$941,121

Notes:

1. Average annual pre-tax compliance costs per system are based on the number of combustion systems that remain open after consolidation. The number of combustion systems that remain open in the sectors may vary by option.
2. Total annual pre-tax compliance costs for the on-site incinerator sector do not include the cost of diverting waste to alternative management for those systems that stop burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS PER TON
(Short Term - After Consolidation)

Price pass through assumed: **75%**

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$29	$30	$14	$28
Floor (70%)	$21	$24	$11	$24
Rec (50%)	$31	$42	$14	$29
Rec (70%)	$23	$38	$12	$25
BTF-ACI (50%)	$41	$60	$18	$47
BTF-ACI (70%)	$33	$53	$16	$43

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. Average on-site incinerator compliance costs include direct costs of meeting the new emission levels. Indirect costs to facilities that stop burning wastes and must ship them off-site for management are not included.
3. Only private systems, and not governmental systems, are reflected in the average compliance costs per ton for on-site incinerators.
4. On-site incinerator compliance costs per ton are high due to a number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger volumes of hazardous waste, compliance costs per ton for on-site incinerators will be lower.
5. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specific firm's marginal tax bracket.

PRELIMINARY ECONOMIC IMPACT RESULTS

PERCENTAGE OF COMBUSTION SYSTEMS MEETING SHORT TERM BEQ AFTER CONSOLIDATION
(Percentage of combustion systems; includes systems currently burning below their break-even quantity)

Price pass through assumed: 75%

	Cement Kilns			LWAKs			Commercial Incinerators			Private On-site Incinerators		
	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below
Floor (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	65%	0%	35%
Floor (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
Rec (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	65%	0%	35%
Rec (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
BTF-ACI (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
BTF-ACI (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%

Notes:

1. Percent of systems currently not meeting short term baseline break-even quantity:

Cement Kilns	0%
LWAKs	0%
Commercial Incinerators	10%
Private On-site Incinerators	15%

PRELIMINARY ECONOMIC IMPACT RESULTS

PERCENTAGE OF COMBUSTION SYSTEMS MEETING LONG TERM BEQ AFTER CONSOLIDATION

(Percentage of combustion systems; includes systems currently burning below their break-even quantity)

Price pass through assumed: 75%

	Cement Kilns			LWAKs			Commercial Incinerators			Private On-site Incinerators		
	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below
Floor (50%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Floor (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Rec (50%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Rec (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	50%	0%	50%
BTF-ACI (50%)	100%	0%	0%	88%	0%	13%	90%	0%	10%	52%	0%	48%
BTF-ACI (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	52%	0%	48%

Notes:

1. Percent of systems currently not meeting long term baseline break-even quantity:

Cement Kilns	0%
LWAKs	0%
Commercial Incinerators	10%
Private On-site Incinerators	35%

PRELIMINARY ECONOMIC IMPACT RESULTS

NUMBER OF COMBUSTION FACILITIES LIKELY TO STOP BURNING HAZARDOUS WASTE IN THE SHORT TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **75%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0	0	3	26
Incremental Facilities Likely to Stop Burning Waste				
Floor (50%)	0	0	0	16
Floor (70%)	0	0	0	16
Rec (50%)	0	0	0	16
Rec (70%)	0	0	0	16
BTF-ACI (50%)	0	0	0	16
BTF-ACI (70%)	0	0	0	16

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PRELIMINARY ECONOMIC IMPACT RESULTS

NUMBER OF COMBUSTION FACILITIES LIKELY TO STOP BURNING HAZARDOUS WASTE IN THE LONG TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **75%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0	0	3	42
Incremental Facilities Likely to Stop Burning Waste				
Floor (50%)	1	0	0	13
Floor (70%)	0	0	0	13
Rec (50%)	1	0	0	13
Rec (70%)	0	0	0	13
BTF-ACI (50%)	0	0	0	10
BTF-ACI (70%)	0	0	0	10

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PERCENTAGE OF FACILITIES LIKELY TO STOP BURNING WASTE IN THE SHORT TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **75%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0%	0%	13%	24%
Floor (50%)	0%	0%	0%	15%
Floor (70%)	0%	0%	0%	15%
Rec (50%)	0%	0%	0%	15%
Rec (70%)	0%	0%	0%	15%
BTF-ACI (50%)	0%	0%	0%	15%
BTF-ACI (70%)	0%	0%	0%	15%

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PERCENTAGE OF FACILITIES LIKELY TO STOP BURNING WASTE IN THE LONG TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **75%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0%	0%	13%	38%
Floor (50%)	6%	0%	0%	12%
Floor (70%)	0%	0%	0%	12%
Rec (50%)	6%	0%	0%	12%
Rec (70%)	0%	0%	0%	12%
BTF-ACI (50%)	0%	0%	0%	9%
BTF-ACI (70%)	0%	0%	0%	9%

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of th Hazardous Waste Combustion MACT.

PRELIMINARY ECONOMIC IMPACT RESULTS

QUANTITY OF HAZARDOUS WASTE THAT COULD BE DIVERTED FROM COMBUSTION FACILITIES IN THE SHORT TERM

Price pass through assumed: **75%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	TOTAL	Percentage of all BRS Combusted Hazardous Waste
Baseline	0	0	3,170	45,770	48,940	1%
Floor (50%)	0	0	3,170	46,210	49,380	1%
Floor (70%)	0	0	3,170	46,210	49,380	1%
Rec (50%)	0	0	3,170	46,210	49,380	1%
Rec (70%)	0	0	3,170	46,210	49,380	1%
BTF-ACI (50%)	0	0	3,170	44,070	47,240	1%
BTF-ACI (70%)	0	0	3,170	46,210	49,380	1%

Notes:

1. Combusted hazardous waste reported to BRS in 1995 excluding tonnage burned in on-site boilers: 3,300,000
2. Estimates do not include waste diverted from systems that consolidate waste into other systems at the same facility.
3. Quantities of waste diverted under each option are upper-bound, total estimates. They are not incremental and may include waste from facilities non-viable in the baseline.
4. Baseline quantities of waste diverted resulting from consolidation and market exit likely to occur in the baseline (i.e., without the MACT standards) are shown in the first row of the exhibit.
5. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

QUANTITY OF HAZARDOUS WASTE THAT COULD BE DIVERTED FROM COMBUSTION FACILITIES IN THE LONG TERM

Price pass through assumed: **75%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	TOTAL	Percentage of all BRS Combusted Hazardous Waste
Baseline	0	0	3,170	97,760	100,930	3%
Floor (50%)	11,530	0	3,170	111,330	126,030	4%
Floor (70%)	0	0	3,170	111,330	114,500	3%
Rec (50%)	11,530	0	3,170	111,330	126,030	4%
Rec (70%)	0	0	3,170	111,330	114,500	3%
BTF-ACI (50%)	0	0	3,170	106,270	109,440	3%
BTF-ACI (70%)	0	0	3,170	106,270	109,440	3%

Notes:

1. Combusted hazardous waste reported to BRS in 1995 excluding tonnage burned in on-site boilers: 3,300,000
2. Estimates do not include waste diverted from systems that consolidate waste into other systems at the same facility.
3. Quantities of waste diverted under each option are upper-bound, total estimates. They are not incremental and may include waste from facilities non-viable in the baseline.
4. Baseline quantities of waste diverted resulting from consolidation and market exit likely to occur in the baseline (i.e., without the MACT standards) are shown in the first row of the exhibit.
5. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED SHORT-TERM EMPLOYMENT LOSSES AT COMBUSTION SYSTEMS
(net of systems currently burning below their break-even quantity)

Price pass through assumed: 75%

MACT Option	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators		TOTAL	
	Low End	High End	Low End	High End	Low End	High End	Low End	High End	Low End	High End
Baseline	0	0	0	0	80	80	182	182	262	262
Floor (50%)	0	0	0	0	0	0	131	226	131	226
Floor (70%)	0	0	0	0	0	0	131	231	131	231
Rec (50%)	0	0	0	0	0	0	131	226	131	226
Rec (70%)	0	0	0	0	0	0	131	231	131	231
BTF-ACI (50%)	0	0	0	0	0	0	131	231	131	231
BTF-ACI (70%)	0	0	0	0	0	0	131	231	131	231

Notes:

1. Low-end estimates include employment losses associated only with those systems located at facilities where all systems stop burning. High-end estimates reflect all employment losses, including those associated with closing systems located at facilities where at least one system remains open. The low-end estimate assumes the possibility for employee reassignment within a facility that has combustion systems remaining open.
2. Estimates are sensitive to a number of assumptions, including the estimated number of employees associated with waste burning for each system.
3. Estimates are based on primary employment impacts only, and ignore secondary spill-over effects.
4. Employment impacts are national estimates.
5. Employment loss estimates are incremental, or directly attributable to compliance with the proposed MACT standards. These estimates do not include losses that are associated with systems that are non-viable in the baseline and therefore not directly attributable to compliance with the proposed MACT standards. Those baseline losses are provided separately in the first row of the above exhibit.
6. Compliance costs include CEM costs.
7. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED LONG-TERM EMPLOYMENT LOSSES AT COMBUSTION SYSTEMS
(net of systems currently burning below their break-even quantity)

Price pass through assumed: **75%**

MACT Option	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators		TOTAL	
	Low End	High End	Low End	High End	Low End	High End	Low End	High End	Low End	High End
Baseline	0	0	0	0	80	80	345	408	425	488
Floor (50%)	21	21	0	0	0	0	98	116	119	137
Floor (70%)	0	0	0	0	0	0	98	116	98	116
Rec (50%)	21	21	0	0	0	0	98	116	119	137
Rec (70%)	0	0	0	0	0	0	98	116	98	116
BTF-ACI (50%)	0	0	0	3	0	0	90	108	90	111
BTF-ACI (70%)	0	0	0	0	0	0	90	108	90	108

Notes:

1. Low-end estimates include employment losses associated only with those systems located at facilities where all systems stop burning. High-end estimates reflect all employment losses, including those associated with closing systems located at facilities where at least one system remains open. The low-end estimate assumes the possibility for employee reassignment within a facility that has combustion systems remaining open.
2. Estimates are sensitive to a number of assumptions, including the estimated number of employees associated with waste burning for each system.
3. Estimates are based on primary employment impacts only, and ignore secondary spill-over effects.
4. Employment impacts are national estimates.
5. Employment loss estimates are incremental, or directly attributable to compliance with the proposed MACT standards. These estimates do not include losses that are associated with systems that are non-viable in the baseline and therefore not directly attributable to compliance with the proposed MACT standards. Those baseline losses are provided separately in the first row of the above exhibit.
6. Compliance costs include CEM costs.
7. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **FIr(50%)**
Price pass through assumed: **75%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	77	5	10	32	5	129
CEMs/Monitoring Equipment	6	0	0	2	1	8
Labor Within Combustion Sector						
O&M	50	4	9	86	8	157
Permitting	1	0	1	4	1	7
Total	**134**	**10**	**20**	**123**	**15**	302

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **FIr(70%)**
Price pass through assumed: **75%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	51	5	8	28	5	96
CEMs/Monitoring Equipment	6	0	0	2	1	8
Labor Within Combustion Sector						
O&M	35	4	7	76	7	130
Permitting	1	0	1	4	1	7
Total	**94**	**9**	**16**	**109**	**14**	242

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **Rec(50%)**
Price pass through assumed: **75%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	77	7	12	38	5	139
CEMs/Monitoring Equipment	6	0	0	2	1	8
Labor Within Combustion Sector						
O&M	50	5	13	100	8	176
Permitting	1	0	1	4	1	7
Total	**134**	**13**	**26**	**143**	**15**	331

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **Rec(70%)**
Price pass through assumed: **75%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	51	6	10	34	5	106
CEMs/Monitoring Equipment	6	0	0	2	1	8
Labor Within Combustion Sector						
O&M	35	5	12	90	7	149
Permitting	1	0	1	3	1	7
Total	**94**	**11**	**23**	**128**	**14**	270

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **BTF(50%)**
Price pass through assumed: **75%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	99	10	22	93	13	237
CEMs/Monitoring Equipment	6	0	0	2	1	9
Labor Within Combustion Sector						
O&M	84	17	35	209	24	369
Permitting	1	0	1	4	1	8
Total	**190**	**27**	**59**	**308**	**39**	623

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **BTF(70%)**
Price pass through assumed: **75%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	78	9	20	80	13	200
CEMs/Monitoring Equipment	6	0	0	2	1	9
Labor Within Combustion Sector						
O&M	67	14	35	183	22	322
Permitting	1	0	1	4	1	8
Total	**152**	**23**	**56**	**269**	**37**	538

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

WEIGHTED AVERAGE COMBUSTION PRICE PER TON AND INCREASE IN PRICES DUE TO ASSUMED PRICE PASS THROUGH

Price pass through assumed: **75%**
(percentage of median compliance costs for the most efficient sector)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Current weighted average price	$172	$136	$689	$729
Increase in price due to compliance costs passed through				
Floor (50%)	$15	$15	$13	$14
Floor (70%)	$10	$10	$9	$9
Rec (50%)	$15	$15	$13	$14
Rec (70%)	$11	$11	$10	$10
BTF-ACI (50%)	$34	$34	$25	$28
BTF-ACI (70%)	$25	$25	$20	$22

Notes:

1. Compliance costs include CEM costs.
2. Median compliance costs per ton exclude systems currently not burning hazardous waste.
3. **The commercial sector with the lowest total cost per ton (baseline + compliance cost) drives the assumed increase in combustion prices of waste categories managed by that sector.**
4. Prices for on-site incinerators reflect the cost per ton of off-site treatment that generators avoid by burning the waste on-site.
5. **Weighted average price per ton = (solids percentage of total waste burned in each sector x solids price) + (liquids percentage of total waste burned in each sector x liquids price) + (sludges percentage of total waste burned in each sector x sludges price).**

PRELIMINARY ECONOMIC IMPACT RESULTS

NEW COMPLIANCE COSTS AS A PERCENTAGE OF BASELINE COSTS OF HAZARDOUS WASTE BURNING
(percentage of permitted combustion systems; see Note 3)

	Cement Kilns					LWAKs					Commercial Incinerators					On-site Incinerators					Government On-sites				
	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%
Floor (50%)	18%	9%	42%	21%	9%	13%	13%	50%	25%	0%	80%	10%	10%	0%	0%	46%	13%	35%	4%	2%	33%	33%	19%	5%	10%
Floor (70%)	33%	18%	30%	15%	3%	13%	38%	38%	13%	0%	85%	5%	10%	0%	0%	46%	19%	29%	4%	2%	48%	19%	19%	5%	10%
Rec (50%)	15%	12%	39%	21%	12%	0%	0%	75%	25%	0%	80%	15%	5%	0%	0%	40%	13%	40%	4%	2%	33%	33%	19%	5%	10%
Rec (70%)	30%	18%	27%	18%	6%	0%	0%	88%	13%	0%	85%	10%	5%	0%	0%	40%	17%	37%	4%	2%	48%	19%	19%	5%	10%
BTF-ACI (50%)	6%	3%	33%	33%	24%	0%	0%	63%	13%	25%	70%	25%	5%	0%	0%	21%	21%	46%	6%	6%	24%	14%	38%	10%	14%
BTF-ACI (70%)	24%	9%	18%	33%	15%	0%	0%	63%	25%	13%	70%	25%	5%	0%	0%	23%	25%	40%	6%	6%	33%	10%	33%	10%	14%

Notes:

1. Compliance costs as a percent of baseline costs = [Total annual compliance costs/Total annual baseline costs]
2. Total annual baseline costs = Annualized fixed capital and fixed operating costs + (Variable operating costs * Hazardous waste burned).
3. Percentages include systems not currently burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

NEW COMPLIANCE COSTS AS A PERCENTAGE OF HAZARDOUS WASTE BURNING REVENUES
(percentage of permitted combustion systems; see Note 3)

	Cement Kilns					LWAKs					Commercial Incinerators					On-site Incinerators				
	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%
Floor (50%)	48%	21%	30%	0%	0%	25%	50%	25%	0%	0%	90%	0%	0%	5%	5%	52%	13%	19%	4%	12%
Floor (70%)	64%	18%	18%	0%	0%	38%	50%	13%	0%	0%	90%	0%	0%	5%	5%	56%	12%	17%	8%	8%
Rec (50%)	48%	21%	30%	0%	0%	0%	38%	63%	0%	0%	90%	0%	0%	5%	5%	52%	12%	17%	4%	15%
Rec (70%)	52%	30%	18%	0%	0%	0%	63%	38%	0%	0%	90%	0%	5%	0%	5%	56%	10%	15%	8%	12%
BTF-ACI (50%)	27%	27%	45%	0%	0%	0%	13%	75%	13%	0%	90%	0%	0%	5%	5%	40%	13%	23%	12%	12%
BTF-ACI (70%)	39%	30%	30%	0%	0%	0%	38%	63%	0%	0%	90%	0%	0%	5%	5%	44%	15%	19%	10%	12%

Notes:

1. Compliance costs as a percent of revenues = [Total compliance costs per ton]/[Waste burning revenues per ton + Energy savings per ton]
2. On-site incinerator revenues are equal to the costs generators avoid by not shipping the waste to a commercial incinerator (waste fees charged + transportation costs).
3. High-end of range (>75 percent) includes systems not currently burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

CHANGE IN AVERAGE OPERATING PROFITS PER TON OF HAZARDOUS WASTE BURNED FROM THE PROPOSED MACT

Price pass through assumed: **75%**

Options	Cement Kilns			LWA Kilns			Commercial Incinerators			On-site Incinerators		
	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule
	$ Change	% Change		$ Change	% Change		$ Change	% Change		$ Change	% Change	
Floor (50%)	($5)	-12%	71%	($14)	-25%	48%	$2	-2%	57%	($13)	-6%	60%
Floor (70%)	($3)	-8%	75%	($14)	-22%	51%	($1)	-2%	57%	($14)	-5%	62%
Rec (50%)	($5)	-12%	71%	($26)	-37%	41%	$1	-2%	57%	($14)	-6%	60%
Rec (70%)	($4)	-8%	74%	($27)	-36%	41%	($1)	-2%	57%	($14)	-6%	61%
BTF-ACI (50%)	($11)	-23%	62%	($26)	-43%	37%	$16	-1%	58%	($13)	-8%	60%
BTF-ACI (70%)	($8)	-18%	66%	($27)	-42%	38%	$10	-1%	58%	($18)	-9%	60%

Notes:

1. Operating Profits = (weighted average price per ton + weighted average energy savings per ton + assumed price increase due to compliance costs passed through) - (average baseline costs per ton + average total annual compliance cost per ton). Assumed price pass-through is a set percentage (shown at the top of this exhibit) of the median compliance cost for the most efficient combustion sector. As this is a static model, we have capped the price pass-through using the combustion systems expected to remain burning hazardous waste even though the original pass-through value included some systems expected to stop burning. This is a better approximation of the impetus combustors have to raise prices, though it is not a precise predictor. To address uncertainty regarding the amount prices will rise, a variety of price increase scenarios were used. All other averages were calculated after consolidation, and include only those systems that continue to burn hazardous waste.
2. Operating profits exclude overhead, other administrative costs, and taxes. Actual after-tax profits will be lower.
3. Percentage Operating Profit Margin = average operating profits per ton / (weighted average price per ton + assumed price increase due to compliance costs passed through). Percentage profit margin after the rule is calculated using the same formula with post-rule operating profits and prices.
4. Change in operating profits per ton = Post-rule operating profits per ton - baseline operating profits per ton. Percentage change in operating profits margin = (post-rule operating profits margin - baseline operating profits margin) / baseline operating profits margin. Baseline operating profit margins for systems remaining open after consolidation can be calculated by dividing the percentage profit margin after the rule by one plus the percentage change in the operating profit margin. For consistency, baseline values have been calculated using the median compliance cost per ton for facilities that remain in operation after the rule for each MACT option.

LIST OF EXHIBITS

(100% Price Pass-Through; PM CEM Option 1: Required for All Facilities)

Total Annual Compliance Costs (Assuming no Market Exit)
Average Total Annual Compliance Costs per Combustion System (Assuming no Market Exit)
Average Total Annual Compliance Costs Per Ton (Before Consolidation)
Average Total Annual Baseline Cost of Burning Waste and Compliance Costs per Ton of Hazardous Waste Burned (Before Consolidation)
Baseline Operating Profits per Ton of Hazardous Waste Burned and as Percentage of Baseline Weighted Average Prices per Ton
Percent of Systems Requiring Control Measures (Before Consolidation)
Percent of New Compliance Costs by Control Measure (Before Consolidation)
Percentage of Combustion Systems Burning Below Static BEQs
Total Annual Pre-Tax Compliance Costs (After Combustion System Consolidations)
Average Total Annual Pre-Tax Compliance Cost per Combustion System After Consolidation
Average Total Annual Pre-Tax Compliance Costs per Ton (Short Term - After Consolidation)
Percentage of Combustion Systems Meeting Short Term BEQ After Consolidation
Percentage of Combustion Systems Meeting Long Term BEQ After Consolidation
Number of Combustion Facilities Likely to Stop Burning Hazardous Waste in the Short Term
Number of Combustion Facilities Likely to Stop Burning Hazardous Waste in the Long Term
Percentage of Facilities Likely to Stop Burning Waste in the Short Term
Percentage of Facilities Likely to Stop Burning Waste in the Long Term
Quantity of Hazardous Waste that could be Diverted from Combustion Facilities in the Short Term
Quantity of Hazardous Waste that could be Diverted from Combustion Facilities in the Long Term
Estimated Short-Term Employment Losses at Combustion Systems
Estimated Long-Term Employment Losses at Combustion Systems
Estimated Employment Increases Associated with Compliance Requirements After System Consolidation
-- Floor (50%)
-- Floor (70%)
-- Rec (50%)
-- Rec (70%)
-- BTF-ACI (50%)
-- BTF-ACI (70%)
Weighted Average Combustion Price per Ton and Increase in Prices Due to Assumed Price Pass-Through
New Compliance Costs as a Percentage of Baseline Costs of Hazardous Waste Burning
New Compliance Costs as a Percentage of Hazardous Waste Burning Revenues
Change in Average Operating Profits Per Ton of Hazardous Waste Burned

PRELIMINARY ECONOMIC IMPACT RESULTS

TOTAL ANNUAL COMPLIANCE COSTS (millions)
(Assuming no Market Exit)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites	Total
Floor (50%)	$24	$3	$8	$40	$7	$83
Floor (70%)	$16	$3	$8	$36	$7	$69
Rec (50%)	$26	$4	$8	$44	$7	$89
Rec (70%)	$19	$4	$8	$40	$7	$77
BTF-ACI (50%)	$34	$5	$11	$67	$27	$144
BTF-ACI (70%)	$27	$5	$11	$62	$26	$130

Notes:

1. Estimates assume that all facilities comply. Facilities non-viable in the baseline are included.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER COMBUSTION SYSTEM
(Assuming no Market Exit)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites
Estimated Number of Combustion Systems	33	10	26	138	25
Floor (50%)	$728,353	$312,665	$322,837	$292,830	$281,064
Floor (70%)	$495,465	$265,102	$294,313	$259,041	$261,146
Rec (50%)	$773,990	$394,025	$323,198	$321,088	$281,064
Rec (70%)	$578,418	$360,261	$297,774	$289,350	$261,146
BTF-ACI (50%)	$1,043,019	$508,367	$435,023	$484,470	$1,061,809
BTF-ACI (70%)	$818,226	$464,470	$411,798	$447,559	$1,042,619

Notes:

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER TON
(Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$31	$37	$134	$20,110
Floor (70%)	$23	$31	$129	$19,447
Rec (50%)	$33	$49	$147	$20,225
Rec (70%)	$26	$45	$139	$19,575
BTF-ACI (50%)	$44	$66	$154	$18,185
BTF-ACI (70%)	$35	$59	$145	$18,085

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. Average on-site incinerator compliance costs include direct costs of meeting the new emission levels. Indirect costs to facilities that stop burning wastes and must ship them off-site for management are not included.
3. Only private systems, and not governmental systems, are reflected in the average compliance costs per ton for on-site incinerators.
4. On-site incinerator compliance costs per ton are high due to a number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger volumes of hazardous waste, compliance costs per ton for on-site incinerators will be lower.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL BASELINE COST OF BURNING WASTE AND COMPLIANCE COSTS PER TON OF HAZARDOUS WASTE BURNED (Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Baseline	$74	$114	$658	$36,325
Compliance Costs				
Floor (50%)	$31	$37	$134	$20,110
Floor (70%)	$23	$31	$129	$19,447
Rec (50%)	$33	$49	$147	$20,225
Rec (70%)	$26	$45	$139	$19,575
BTF-ACI (50%)	$44	$66	$154	$18,185
BTF-ACI (70%)	$35	$59	$145	$18,085

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. On-site incinerator baseline and compliance costs per ton are high due to the large number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger quantities of hazardous waste compliance costs per ton would actually be lower. If facilities are burning large volumes of non hazardous waste in addition to the hazardous waste, baseline costs per ton would be lower.

PRELIMINARY ECONOMIC IMPACT RESULTS

BASELINE OPERATING PROFITS PER TON OF HAZARDOUS WASTE BURNED
(Number of Combustion systems Falling in Range)

	<$0	$0 - $50	$51 - $100	$101 - $150	>$150
Cement Kilns	0	0	8	15	10
LWA Kilns	0	0	8	3	0
Commercial Incinerators	3	1	1	1	20
On-site Incinerators	48	13	11	11	56

BASELINE OPERATING PROFITS AS A PERCENTAGE OF BASELINE WEIGHTED AVERAGE PRICES PER TON
(Number of Combustion systems Falling in Range)

	<0%	0% - 10%	11% - 25%	26% - 50%	>50%
Cement Kilns	0	0	0	2	31
LWA Kilns	0	0	0	0	10
Commercial Incinerators	3	0	3	8	13
On-site Incinerators	48	8	24	19	40

Notes:

1. Baseline Operating Profits = (weighted average price per ton + weighted average energy savings per ton) - total annual baseline costs per ton. Total annual baseline costs include fixed annual capital costs, fixed annual operating and maintenance costs, and annual variable costs.
2. Baseline operating profits exclude overhead, other administrative costs, and taxes. Actual after-tax profits will be lower.
3. Number of systems with average operating profits less than $0 (or <0%) includes those burning very little or no waste.
4. Baseline operating profits are calculated at the system level. Consolidating burning into fewer systems may reduce facility closures, explaining why the system estimates presented in this exhibit appear higher than the facility closure presented in later exhibits.
5. Includes combustion systems not currently burning waste in the cement kiln, LWAK, and commercial incinerator sectors; or burning less than 50 tons per year in the on-site incinerator sector.

PERCENT OF SYSTEMS REQUIRING CONTROL MEASURES
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%)	BTF-ACI(70%
Cement Kilns						
New Fabric Filters	33%	27%	33%	27%	61%	52%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	45%	36%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	45%	33%	45%	33%	39%	30%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	3%	3%	3%	3%	0%	0%
Fabric Filter DOM, mod	9%	6%	9%	6%	6%	6%
DESP DOM, small	6%	0%	6%	0%	3%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	3%	3%	3%	3%	3%	3%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	55%	42%	64%	52%	73%	55%
None	12%	27%	3%	21%	3%	18%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	63%	50%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	63%	50%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	88%	88%	88%	88%	50%	50%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	25%	13%	25%	13%	13%	0%
Fabric Filter DOM, mod	13%	0%	13%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	75%	75%	75%	75%
Feed Control	100%	75%	63%	63%	50%	63%
None	0%	13%	0%	0%	0%	0%

PERCENT OF SYSTEMS REQUIRING CONTROL MEASURES cont.
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%)	BTF-ACI(70%
Commercial Incinerators						
New Fabric Filters	15%	10%	15%	15%	40%	40%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	20%	20%	85%	85%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	55%	50%	45%	40%	20%	15%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	5%	5%	35%	35%
Fabric Filter DOM, small	5%	5%	5%	5%	5%	5%
Fabric Filter DOM, mod	10%	5%	10%	5%	10%	5%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	5%	0%	5%	0%	0%	0%
IWS DOM, mod	5%	5%	5%	5%	0%	0%
HEWS DOM, small	0%	5%	0%	5%	0%	0%
HEWS DOM, mod	15%	10%	15%	10%	5%	5%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	5%	0%	5%	0%	5%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	85%	80%	80%	75%	70%	65%
None	5%	5%	5%	5%	5%	5%
On-Site Incinerators						
New Fabric Filters	67%	65%	71%	69%	85%	81%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	15%	15%	71%	60%
New Carbon Bed	0%	0%	2%	2%	6%	6%
New Quencher	17%	17%	12%	12%	10%	10%
New Afterburner	6%	2%	6%	2%	6%	2%
New Reheater	0%	0%	8%	8%	60%	48%
Fabric Filter DOM, small	0%	2%	0%	2%	0%	2%
Fabric Filter DOM, mod	2%	0%	2%	0%	2%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	2%	2%	2%	2%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	2%	2%	2%	2%	0%	0%
HEWS DOM, small	0%	2%	0%	2%	0%	2%
HEWS DOM, mod	10%	10%	8%	8%	2%	2%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	2%	4%	2%	4%	2%	4%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	46%	40%	42%	37%	42%	52%
None	6%	8%	4%	6%	2%	2%
Government On-site Incinerators						
New Fabric Filters	29%	24%	29%	24%	38%	33%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	48%	43%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	5%
New Afterburner	5%	5%	5%	5%	5%	5%
New Reheater	0%	0%	0%	0%	19%	19%
Fabric Filter DOM, small	0%	5%	0%	5%	0%	5%
Fabric Filter DOM, mod	14%	10%	14%	10%	14%	10%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	5%	5%	5%	5%	5%	5%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	14%	14%	14%	14%	14%	14%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	57%	52%	57%	52%	57%	52%
None	19%	19%	19%	19%	14%	14%

PERCENT OF NEW COMPLIANCE COSTS BY CONTROL MEASURE
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%	BTF-ACI(70%
Cement Kilns						
New Fabric Filters	35%	35%	33%	30%	39%	39%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	24%	24%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	24%	32%	23%	27%	13%	15%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	3%	2%	3%	2%	1%	1%
DESP DOM, small	4%	0%	4%	0%	1%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	33%	30%	37%	40%	22%	21%
Total	100%	100%	100%	100%	100%	100%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	27%	24%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	31%	27%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	38%	47%	28%	29%	10%	11%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	1%	1%	1%	1%	0%	0%
Fabric Filter DOM, mod	3%	0%	2%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	38%	42%	27%	30%
Feed Control	58%	52%	31%	29%	4%	8%
Total	100%	100%	100%	100%	100%	100%

PERCENT OF NEW COMPLIANCE COSTS BY CONTROL MEASURE, cont.
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%	BTF-ACI(70%
Commercial Incinerators						
New Fabric Filters	10%	8%	9%	11%	19%	20%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	16%	18%	47%	50%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	21%	23%	17%	17%	4%	3%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	3%	3%	19%	20%
Fabric Filter DOM, small	0%	1%	0%	1%	0%	0%
Fabric Filter DOM, mod	3%	1%	3%	1%	2%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	1%	0%	1%	0%	0%	0%
IWS DOM, mod	1%	1%	1%	1%	0%	0%
HEWS DOM, small	0%	2%	0%	2%	0%	0%
HEWS DOM, mod	7%	3%	6%	3%	1%	1%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	57%	61%	44%	44%	8%	5%
Total	100%	100%	100%	100%	100%	100%
On-Site Incinerators						
New Fabric Filters	39%	54%	36%	48%	28%	33%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	9%	12%	28%	30%
New Carbon Bed	0%	0%	0%	1%	1%	1%
New Quencher	5%	7%	3%	4%	2%	2%
New Afterburner	30%	7%	27%	6%	17%	3%
New Reheater	0%	0%	4%	5%	20%	21%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	0%	0%	0%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	2%	4%	1%	3%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	1%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	23%	26%	18%	20%	4%	8%
Total	100%	100%	100%	100%	100%	100%
Government On-Site Incinerators						
New Fabric Filters	22%	21%	22%	21%	22%	21%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	32%	31%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	2%
New Afterburner	6%	7%	6%	7%	4%	4%
New Reheater	0%	0%	0%	0%	12%	13%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	0%	0%	0%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	8%	9%	8%	9%	5%	6%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	2%	2%	2%	2%	1%	1%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	62%	61%	62%	61%	24%	22%
Total	100%	100%	100%	100%	100%	100%

PERCENTAGE OF COMBUSTION SYSTEMS BURNING BELOW STATIC BEQs

	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators			
	Short Term	Long Term	Short Term	Long Term	Short Term	Long Term	Short Term		Long Term	
							<20% below	>20% below	<20% below	>20% below
Floor (50%)	0%	3%	0%	0%	10%	10%	0%	31%	4%	40%
Floor (70%)	0%	3%	0%	0%	10%	10%	2%	29%	4%	40%
Rec (50%)	0%	6%	0%	0%	10%	10%	0%	31%	4%	40%
Rec (70%)	0%	6%	0%	0%	10%	10%	2%	29%	4%	40%
BTF-ACI (50%)	0%	6%	13%	25%	10%	10%	2%	33%	8%	46%
BTF-ACI (70%)	0%	6%	0%	25%	10%	10%	2%	31%	8%	46%

Notes:

PRELIMINARY ECONOMIC IMPACT RESULTS

TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS (millions)
AFTER COMBUSTION SYSTEM CONSOLIDATIONS

Price pass through assumed: **100%**

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-Sites	Total	% Difference from Compliance Costs with No System Consolidation
Floor (50%)	$24	$3	$7	$27	$7	$69	-17%
Floor (70%)	$16	$3	$6	$23	$7	$55	-20%
Rec (50%)	$26	$4	$7	$29	$7	$72	-19%
Rec (70%)	$19	$4	$6	$25	$7	$60	-21%
BTF-ACI (50%)	$34	$5	$10	$49	$27	$125	-13%
BTF-ACI (70%)	$27	$5	$9	$44	$26	$111	-15%

Notes:

1. Compliance costs after consolidation include only the costs for those systems that will continue to burn waste, and do not include shipping and disposal costs (after the assumed price increase) for on-site incinerators that decide to stop burning waste on-site.
2. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specific firm's marginal tax bracket.
3. "Consolidation" allows for non-viable combustion systems to consolidate waste flows with other systems at the same facility, or to exit the waste burning market. As a result, the number of combustion systems incurring compliance costs is reduced.

TOTAL COST OF WASTE DIVERTED FROM ON-SITE SYSTEMS THAT STOP BURNING (millions)

Price pass through assumed: **100%**

Option	On-site Incinerators
Floor (50%)	$0.19
Floor (70%)	$0.19
Rec (50%)	$0.19
Rec (70%)	$0.19
BTF-ACI (50%)	$0.19
BTF-ACI (70%)	$2.27

Notes:

1. On-site incinerator estimates are for private facilities only. We assume that government facilities continue burning post-MACT and therefore no waste will be diverted from these facilities.
2. Waste diversion costs include both transportation and disposal costs (after the assumed price increase).

TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS AFTER COMBUSTION SYSTEM CONSOLIDATIONS
(millions)
(Includes Cost of Waste Diversion)

Price pass through assumed: **100%**

Option	Total
Floor (50%)	$69
Floor (70%)	$55
Rec (50%)	$73
Rec (70%)	$61
BTF-ACI (50%)	$125
BTF-ACI (70%)	$113

Notes:

1. Compliance costs after consolidation include the costs for those systems that will continue to burn waste, as well as the shipping and disposal costs (after the assumed price increase) for on-site incinerators that decide to stop burning wastes on-site. Other types of combustion systems that stop burning wastes do not incur compliance costs and therefore are excluded.
2. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specfic firm's marginal tax bracket.
3. "Consolidation" allows for non-viable combustion systems to consolidate waste flows with other systems at the same facility, or to exit the waste burning market. As a result, the number of combustion systems incurring compliance costs is reduced.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS PER COMBUSTION SYSTEM AFTER CONSOLIDATION

Price pass through assumed: **100%**

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites
Floor (50%)	$728,353	$312,665	$298,694	$303,967	$281,064
Floor (70%)	$495,465	$265,102	$268,924	$265,247	$261,146
Rec (50%)	$773,990	$394,025	$303,414	$319,358	$281,064
Rec (70%)	$578,418	$360,261	$277,499	$282,653	$261,146
BTF-ACI (50%)	$1,043,019	$508,367	$426,560	$557,891	$1,061,809
BTF-ACI (70%)	$818,226	$464,470	$403,222	$514,958	$1,042,619

Notes:

1. Average annual pre-tax compliance costs per system are based on the number of combustion systems that remain open after consolidation. The number of combustion systems that remain open in the sectors may vary by option.
2. Total annual pre-tax compliance costs for the on-site incinerator sector do not include the cost of diverting waste to alternative management for those systems that stop burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS PER TON
(Short Term - After Consolidation)

Price pass through assumed: **100%**

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$31	$37	$17	$36
Floor (70%)	$23	$31	$14	$32
Rec (50%)	$33	$49	$17	$37
Rec (70%)	$26	$45	$15	$33
BTF-ACI (50%)	$44	$66	$21	$55
BTF-ACI (70%)	$35	$59	$19	$45

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. Average on-site incinerator compliance costs include direct costs of meeting the new emission levels. Indirect costs to facilities that stop burning wastes and must ship them off-site for management are not included.
3. Only private systems, and not governmental systems, are reflected in the average compliance costs per ton for on-site incinerators.
4. On-site incinerator compliance costs per ton are high due to a number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger volumes of hazardous waste, compliance costs per ton for on-site incinerators will be lower.
5. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specific firm's marginal tax bracket.

PRELIMINARY ECONOMIC IMPACT RESULTS

PERCENTAGE OF COMBUSTION SYSTEMS MEETING SHORT TERM BEQ AFTER CONSOLIDATION
(Percentage of combustion systems; includes systems currently burning below their break-even quantity)

Price pass through assumed: 100%

	Cement Kilns			LWAKs			Commercial Incinerators			Private On-site Incinerators		
	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below
Floor (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	65%	0%	35%
Floor (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
Rec (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	65%	0%	35%
Rec (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
BTF-ACI (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	63%	0%	37%
BTF-ACI (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	62%	0%	38%

Notes:

1. Percent of systems currently not meeting short term baseline break-even quantity:

Cement Kilns	0%
LWAKs	0%
Commercial Incinerators	10%
Private On-site Incinerators	15%

PRELIMINARY ECONOMIC IMPACT RESULTS

PERCENTAGE OF COMBUSTION SYSTEMS MEETING LONG TERM BEQ AFTER CONSOLIDATION
(Percentage of combustion systems; includes systems currently burning below their break-even quantity)

Price pass through assumed: 100%

	Cement Kilns			LWAKs			Commercial Incinerators			Private On-site Incinerators		
	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below
Floor (50%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Floor (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Rec (50%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Rec (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	50%	0%	50%
BTF-ACI (50%)	100%	0%	0%	88%	0%	13%	90%	0%	10%	52%	0%	48%
BTF-ACI (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	50%	0%	50%

Notes:

1. Percent of systems currently not meeting long term baseline break-even quantity:

Cement Kilns	0%
LWAKs	0%
Commercial Incinerators	10%
Private On-site Incinerators	35%

PRELIMINARY ECONOMIC IMPACT RESULTS

NUMBER OF COMBUSTION FACILITIES LIKELY TO STOP BURNING HAZARDOUS WASTE IN THE SHORT TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **100%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0	0	3	26
Incremental Facilities Likely to Stop Burning Waste				
Floor (50%)	0	0	0	16
Floor (70%)	0	0	0	16
Rec (50%)	0	0	0	16
Rec (70%)	0	0	0	16
BTF-ACI (50%)	0	0	0	16
BTF-ACI (70%)	0	0	0	20

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PRELIMINARY ECONOMIC IMPACT RESULTS

NUMBER OF COMBUSTION FACILITIES LIKELY TO STOP BURNING HAZARDOUS WASTE IN THE LONG TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **100%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0	0	3	42
Incremental Facilities Likely to Stop Burning Waste				
Floor (50%)	1	0	0	13
Floor (70%)	0	0	0	13
Rec (50%)	1	0	0	13
Rec (70%)	0	0	0	13
BTF-ACI (50%)	0	0	0	10
BTF-ACI (70%)	0	0	0	13

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PERCENTAGE OF FACILITIES LIKELY TO STOP BURNING WASTE IN THE SHORT TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **100%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0%	0%	13%	24%
Floor (50%)	0%	0%	0%	15%
Floor (70%)	0%	0%	0%	15%
Rec (50%)	0%	0%	0%	15%
Rec (70%)	0%	0%	0%	15%
BTF-ACI (50%)	0%	0%	0%	15%
BTF-ACI (70%)	0%	0%	0%	18%

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PERCENTAGE OF FACILITIES LIKELY TO STOP BURNING WASTE IN THE LONG TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **100%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0%	0%	13%	38%
Floor (50%)	6%	0%	0%	12%
Floor (70%)	0%	0%	0%	12%
Rec (50%)	6%	0%	0%	12%
Rec (70%)	0%	0%	0%	12%
BTF-ACI (50%)	0%	0%	0%	9%
BTF-ACI (70%)	0%	0%	0%	12%

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of th Hazardous Waste Combustion MACT.

PRELIMINARY ECONOMIC IMPACT RESULTS

QUANTITY OF HAZARDOUS WASTE THAT COULD BE DIVERTED FROM COMBUSTION FACILITIES IN THE SHORT TERM

Price pass through assumed: **100%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	TOTAL	Percentage of all BRS Combusted Hazardous Waste
Baseline	0	0	3,170	45,770	48,940	1%
Floor (50%)	0	0	3,170	46,210	49,380	1%
Floor (70%)	0	0	3,170	46,210	49,380	1%
Rec (50%)	0	0	3,170	46,210	49,380	1%
Rec (70%)	0	0	3,170	46,210	49,380	1%
BTF-ACI (50%)	0	0	3,170	46,210	49,380	1%
BTF-ACI (70%)	0	0	3,170	51,040	54,210	2%

Notes:

1. Combusted hazardous waste reported to BRS in 1995 excluding tonnage burned in on-site boilers: 3,300,000
2. Estimates do not include waste diverted from systems that consolidate waste into other systems at the same facility.
3. Quantities of waste diverted under each option are upper-bound, total estimates. They are not incremental and may include waste from facilities non-viable in the baseline.
4. Baseline quantities of waste diverted resulting from consolidation and market exit likely to occur in the baseline (i.e., without the MACT standards) are shown in the first row of the exhibit.
5. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

QUANTITY OF HAZARDOUS WASTE THAT COULD BE DIVERTED FROM COMBUSTION FACILITIES IN THE LONG TERM

Price pass through assumed: **100%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	TOTAL	Percentage of all BRS Combusted Hazardous Waste
Baseline	0	0	3,170	97,760	100,930	3%
Floor (50%)	11,530	0	3,170	111,330	126,030	4%
Floor (70%)	0	0	3,170	111,330	114,500	3%
Rec (50%)	11,530	0	3,170	111,330	126,030	4%
Rec (70%)	0	0	3,170	111,330	114,500	3%
BTF-ACI (50%)	0	0	3,170	106,270	109,440	3%
BTF-ACI (70%)	0	0	3,170	111,330	114,500	3%

Notes:

1. Combusted hazardous waste reported to BRS in 1995 excluding tonnage burned in on-site boilers: 3,300,000
2. Estimates do not include waste diverted from systems that consolidate waste into other systems at the same facility.
3. Quantities of waste diverted under each option are upper-bound, total estimates. They are not incremental and may include waste from facilities non-viable in the baseline.
4. Baseline quantities of waste diverted resulting from consolidation and market exit likely to occur in the baseline (i.e., without the MACT standards) are shown in the first row of the exhibit.
5. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED SHORT-TERM EMPLOYMENT LOSSES AT COMBUSTION SYSTEMS
(net of systems currently burning below their break-even quantity)

Price pass through assumed: 100%

MACT Option	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators		TOTAL	
	Low End	High End	Low End	High End	Low End	High End	Low End	High End	Low End	High End
Baseline	0	0	0	0	80	80	182	182	262	262
Floor (50%)	0	0	0	0	0	0	131	226	131	226
Floor (70%)	0	0	0	0	0	0	131	231	131	231
Rec (50%)	0	0	0	0	0	0	131	226	131	226
Rec (70%)	0	0	0	0	0	0	131	231	131	231
BTF-ACI (50%)	0	0	0	0	0	0	131	231	131	231
BTF-ACI (70%)	0	0	0	0	0	0	139	239	139	239

Notes:

1. Low-end estimates include employment losses associated only with those systems located at facilities where all systems stop burning. High-end estimates reflect all employment losses, including those associated with closing systems located at facilities where at least one system remains open. The low-end estimate assumes the possibility for employee reassignment within a facility that has combustion systems remaining open.
2. Estimates are sensitive to a number of assumptions, including the estimated number of employees associated with waste burning for each system.
3. Estimates are based on primary employment impacts only, and ignore secondary spill-over effects.
4. Employment impacts are national estimates.
5. Employment loss estimates are incremental, or directly attributable to compliance with the proposed MACT standards. These estimates do not include losses that are associated with systems that are non-viable in the baseline and therefore not directly attributable to compliance with the proposed MACT standards. Those baseline losses are provided separately in the first row of the above exhibit.
6. Compliance costs include CEM costs.
7. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **FIr(50%)**
Price pass through assumed: **100%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	77	5	10	31	5	129
CEMs/Monitoring Equipment	25	6	14	60	29	133
Labor Within Combustion Sector						
O&M	50	4	9	85	8	157
Permitting	1	0	1	4	1	7
Total	**153**	**16**	**34**	**180**	**43**	426

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **FIr(70%)**
Price pass through assumed: **100%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	51	5	8	28	5	96
CEMs/Monitoring Equipment	25	6	14	57	29	131
Labor Within Combustion Sector						
O&M	35	4	8	76	7	130
Permitting	1	0	1	4	1	7
Total	**113**	**15**	**30**	**164**	**42**	364

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **Rec(50%)**
Price pass through assumed: **100%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	77	7	12	38	5	139
CEMs/Monitoring Equipment	25	6	14	57	29	131
Labor Within Combustion Sector						
O&M	50	5	13	100	8	177
Permitting	1	0	1	4	1	7
Total	**153**	**19**	**40**	**199**	**43**	454

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **Rec(70%)**
Price pass through assumed: **100%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	51	6	10	34	5	106
CEMs/Monitoring Equipment	25	6	14	55	29	128
Labor Within Combustion Sector						
O&M	35	5	12	90	7	150
Permitting	1	0	1	3	1	7
Total	**113**	**17**	**37**	**182**	**42**	391

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **BTF(50%)**
Price pass through assumed: **100%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	99	10	22	92	13	236
CEMs/Monitoring Equipment	25	6	15	64	29	139
Labor Within Combustion Sector						
O&M	84	17	35	205	24	366
Permitting	1	0	1	4	1	8
Total	**209**	**33**	**73**	**366**	**67**	748

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **BTF(70%)**
Price pass through assumed: **100%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	78	9	20	77	13	197
CEMs/Monitoring Equipment	25	6	14	62	29	137
Labor Within Combustion Sector						
O&M	67	14	35	176	22	314
Permitting	1	0	1	4	1	8
Total	**171**	**29**	**71**	**319**	**65**	655

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

WEIGHTED AVERAGE COMBUSTION PRICE PER TON AND INCREASE IN PRICES DUE TO ASSUMED PRICE PASS THROUGH

Price pass through assumed: **100%**
(percentage of median compliance costs for the most efficient sector)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Current weighted average price	$172	$136	$689	$729
Increase in price due to compliance costs passed through				
Floor (50%)	$22	$22	$20	$20
Floor (70%)	$15	$15	$15	$15
Rec (50%)	$22	$22	$20	$20
Rec (70%)	$16	$16	$16	$16
BTF-ACI (50%)	$47	$47	$37	$40
BTF-ACI (70%)	$35	$35	$29	$31

Notes:

1. Compliance costs include CEM costs.
2. Median compliance costs per ton exclude systems currently not burning hazardous waste.
3. **The commercial sector with the lowest total cost per ton (baseline + compliance cost) drives the assumed increase in combustion prices of waste categories managed by that sector.**
4. Prices for on-site incinerators reflect the cost per ton of off-site treatment that generators avoid by burning the waste on-site.
5. **Weighted average price per ton = (solids percentage of total waste burned in each sector x solids price) + (liquids percentage of total waste burned in each sector x liquids price) + (sludges percentage of total waste burned in each sector x sludges price).**

PRELIMINARY ECONOMIC IMPACT RESULTS

NEW COMPLIANCE COSTS AS A PERCENTAGE OF BASELINE COSTS OF HAZARDOUS WASTE BURNING
(percentage of permitted combustion systems; see Note 3)

	Cement Kilns					LWAKs					Commercial Incinerators					On-site Incinerators					Government On-sites				
	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%
Floor (50%)	15%	9%	39%	24%	12%	0%	25%	50%	25%	0%	80%	10%	10%	0%	0%	33%	21%	37%	6%	4%	24%	14%	43%	10%	10%
Floor (70%)	30%	9%	36%	21%	3%	13%	13%	50%	25%	0%	85%	5%	10%	0%	0%	38%	25%	27%	6%	4%	33%	14%	33%	5%	14%
Rec (50%)	3%	21%	36%	21%	18%	0%	0%	75%	25%	0%	80%	10%	10%	0%	0%	27%	19%	48%	0%	6%	24%	14%	43%	10%	10%
Rec (70%)	27%	12%	30%	24%	6%	0%	0%	75%	25%	0%	85%	10%	5%	0%	0%	33%	23%	38%	2%	4%	33%	14%	33%	5%	14%
BTF-ACI (50%)	3%	6%	30%	30%	30%	0%	0%	38%	38%	25%	60%	30%	10%	0%	0%	13%	25%	46%	8%	8%	19%	10%	33%	24%	14%
BTF-ACI (70%)	21%	6%	15%	36%	21%	0%	0%	38%	50%	13%	70%	25%	5%	0%	0%	15%	31%	38%	10%	6%	24%	14%	24%	19%	19%

Notes:

1. Compliance costs as a percent of baseline costs = [Total annual compliance costs/Total annual baseline costs]
2. Total annual baseline costs = Annualized fixed capital and fixed operating costs + (Variable operating costs * Hazardous waste burned).
3. Percentages include systems not currently burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

NEW COMPLIANCE COSTS AS A PERCENTAGE OF HAZARDOUS WASTE BURNING REVENUES
(percentage of permitted combustion systems; see Note 3)

	Cement Kilns					LWAKs					Commercial Incinerators					On-site Incinerators				
	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%
Floor (50%)	39%	30%	30%	0%	0%	13%	50%	38%	0%	0%	90%	0%	0%	0%	10%	48%	13%	10%	15%	13%
Floor (70%)	61%	18%	21%	0%	0%	25%	50%	25%	0%	0%	90%	0%	0%	5%	5%	52%	10%	10%	19%	10%
Rec (50%)	39%	30%	30%	0%	0%	0%	25%	75%	0%	0%	90%	0%	0%	5%	5%	48%	13%	12%	12%	15%
Rec (70%)	52%	27%	21%	0%	0%	0%	25%	75%	0%	0%	90%	0%	0%	5%	5%	52%	10%	12%	15%	12%
BTF-ACI (50%)	24%	27%	45%	3%	0%	0%	13%	63%	25%	0%	90%	0%	0%	5%	5%	37%	10%	19%	23%	12%
BTF-ACI (70%)	36%	24%	36%	3%	0%	0%	13%	75%	13%	0%	90%	0%	0%	5%	5%	37%	21%	12%	19%	12%

Notes:

1. Compliance costs as a percent of revenues = [Total compliance costs per ton]/[Waste burning revenues per ton + Energy savings per ton]
2. On-site incinerator revenues are equal to the costs generators avoid by not shipping the waste to a commercial incinerator (waste fees charged + transportation costs).
3. High-end of range (>75 percent) includes systems not currently burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

CHANGE IN AVERAGE OPERATING PROFITS PER TON OF HAZARDOUS WASTE BURNED FROM THE PROPOSED MACT

Price pass through assumed: **100%**

Options	Cement Kilns			LWA Kilns			Commercial Incinerators			On-site Incinerators		
	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule
	$ Change	% Change		$ Change	% Change		$ Change	% Change		$ Change	% Change	
Floor (50%)	$0	-11%	72%	($15)	-28%	46%	$5	-2%	57%	($15)	-8%	59%
Floor (70%)	$0	-8%	74%	($16)	-26%	48%	$1	-2%	57%	($17)	-7%	61%
Rec (50%)	$0	-11%	72%	($27)	-40%	39%	$4	-2%	57%	($15)	-8%	59%
Rec (70%)	$0	-9%	74%	($28)	-40%	39%	$2	-2%	57%	($17)	-7%	60%
BTF-ACI (50%)	$0	-22%	63%	($19)	-41%	38%	$26	0%	58%	($7)	-9%	59%
BTF-ACI (70%)	$0	-17%	67%	($25)	-43%	37%	$16	-1%	58%	($11)	-8%	60%

Notes:

1. Operating Profits = (weighted average price per ton + weighted average energy savings per ton + assumed price increase due to compliance costs passed through) - (average baseline costs per ton + average total annual compliance cost per ton). Assumed price pass-through is a set percentage (shown at the top of this exhibit) of the median compliance cost for the most efficient combustion sector. As this is a static model, we have capped the price pass-through using the combustion systems expected to remain burning hazardous waste even though the original pass-through value included some systems expected to stop burning. This is a better approximation of the impetus combustors have to raise prices, though it is not a precise predictor. To address uncertainty regarding the amount prices will rise, a variety of price increase scenarios were used. All other averages were calculated after consolidation, and include only those systems that continue to burn hazardous waste.
2. Operating profits exclude overhead, other administrative costs, and taxes. Actual after-tax profits will be lower.
3. Percentage Operating Profit Margin = average operating profits per ton / (weighted average price per ton + assumed price increase due to compliance costs passed through). Percentage profit margin after the rule is calculated using the same formula with post-rule operating profits and prices.
4. Change in operating profits per ton = Post-rule operating profits per ton - baseline operating profits per ton. Percentage change in operating profits margin = (post-rule operating profits margin - baseline operating profits margin) / baseline operating profits margin. Baseline operating profit margins for systems remaining open after consolidation can be calculated by dividing the percentage profit margin after the rule by one plus the percentage change in the operating profit margin. For consistency, baseline values have been calculated using the median compliance cost per ton for facilities that remain in operation after the rule for each MACT option.

LIST OF EXHIBITS

(100% Price Pass-Through; PM CEM Option 2: Not Required for Any Facilities)

Total Annual Compliance Costs (Assuming no Market Exit)
Average Total Annual Compliance Costs per Combustion System (Assuming no Market Exit)
Average Total Annual Compliance Costs Per Ton (Before Consolidation)
Average Total Annual Baseline Cost of Burning Waste and Compliance Costs per Ton of Hazardous Waste Burned (Before Consolidation)
Baseline Operating Profits per Ton of Hazardous Waste Burned and as Percentage of Baseline Weighted Average Prices per Ton
Percent of Systems Requiring Control Measures (Before Consolidation)
Percent of New Compliance Costs by Control Measure (Before Consolidation)
Percentage of Combustion Systems Burning Below Static BEQs
Total Annual Pre-Tax Compliance Costs (After Combustion System Consolidations)
Average Total Annual Pre-Tax Compliance Cost per Combustion System After Consolidation
Average Total Annual Pre-Tax Compliance Costs per Ton (Short Term - After Consolidation)
Percentage of Combustion Systems Meeting Short Term BEQ After Consolidation
Percentage of Combustion Systems Meeting Long Term BEQ After Consolidation
Number of Combustion Facilities Likely to Stop Burning Hazardous Waste in the Short Term
Number of Combustion Facilities Likely to Stop Burning Hazardous Waste in the Long Term
Percentage of Facilities Likely to Stop Burning Waste in the Short Term
Percentage of Facilities Likely to Stop Burning Waste in the Long Term
Quantity of Hazardous Waste that could be Diverted from Combustion Facilities in the Short Term
Quantity of Hazardous Waste that could be Diverted from Combustion Facilities in the Long Term
Estimated Short-Term Employment Losses at Combustion Systems
Estimated Long-Term Employment Losses at Combustion Systems
Estimated Employment Increases Associated with Compliance Requirements After System Consolidation
-- Floor (50%)
-- Floor (70%)
-- Rec (50%)
-- Rec (70%)
-- BTF-ACI (50%)
-- BTF-ACI (70%)
Weighted Average Combustion Price per Ton and Increase in Prices Due to Assumed Price Pass-Through
New Compliance Costs as a Percentage of Baseline Costs of Hazardous Waste Burning
New Compliance Costs as a Percentage of Hazardous Waste Burning Revenues
Change in Average Operating Profits Per Ton of Hazardous Waste Burned

PRELIMINARY ECONOMIC IMPACT RESULTS

TOTAL ANNUAL COMPLIANCE COSTS (millions)
(Assuming no Market Exit)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites	Total
Floor (50%)	$22	$3	$7	$33	$4	$69
Floor (70%)	$15	$2	$6	$28	$4	$55
Rec (50%)	$24	$3	$7	$37	$4	$75
Rec (70%)	$17	$3	$6	$32	$4	$63
BTF-ACI (50%)	$33	$5	$10	$59	$24	$130
BTF-ACI (70%)	$25	$4	$9	$54	$24	$116

Notes:

1. Estimates assume that all facilities comply. Facilities non-viable in the baseline are included.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER COMBUSTION SYSTEM
(Assuming no Market Exit)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites
Estimated Number of Combustion Systems	33	10	26	138	25
Floor (50%)	$677,373	$260,252	$267,273	$237,552	$179,565
Floor (70%)	$444,485	$212,689	$238,749	$203,763	$159,648
Rec (50%)	$723,010	$341,613	$267,634	$265,811	$179,565
Rec (70%)	$527,438	$307,849	$242,210	$234,073	$159,648
BTF-ACI (50%)	$992,039	$455,955	$379,459	$429,193	$960,310
BTF-ACI (70%)	$767,246	$412,058	$356,234	$392,281	$941,121

Notes:

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER COMBUSTION SYSTEM
(Assuming no Market Exit)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites
Estimated Number of Combustion Systems	33	10	26	138	25
Floor (50%)	$677,373	$260,252	$267,273	$237,552	$179,565
Floor (70%)	$444,485	$212,689	$238,749	$203,763	$159,648
Rec (50%)	$723,010	$341,613	$267,634	$265,811	$179,565
Rec (70%)	$527,438	$307,849	$242,210	$234,073	$159,648
BTF-ACI (50%)	$992,039	$455,955	$379,459	$429,193	$960,310
BTF-ACI (70%)	$767,246	$412,058	$356,234	$392,281	$941,121

Notes:

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER TON
(Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$29	$30	$116	$17,853
Floor (70%)	$21	$24	$111	$17,190
Rec (50%)	$31	$42	$129	$17,968
Rec (70%)	$23	$38	$121	$17,318
BTF-ACI (50%)	$41	$60	$135	$15,929
BTF-ACI (70%)	$33	$53	$127	$15,828

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. Average on-site incinerator compliance costs include direct costs of meeting the new emission levels. Indirect costs to facilities that stop burning wastes and must ship them off-site for management are not included.
3. Only private systems, and not governmental systems, are reflected in the average compliance costs per ton for on-site incinerators.
4. On-site incinerator compliance costs per ton are high due to a number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger volumes of hazardous waste, compliance costs per ton for on-site incinerators will be lower.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL BASELINE COST OF BURNING WASTE AND COMPLIANCE COSTS PER TON OF HAZARDOUS WASTE BURNED (Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Baseline	$74	$114	$658	$36,325
Compliance Costs				
Floor (50%)	$29	$30	$116	$17,853
Floor (70%)	$21	$24	$111	$17,190
Rec (50%)	$31	$42	$129	$17,968
Rec (70%)	$23	$38	$121	$17,318
BTF-ACI (50%)	$41	$60	$135	$15,929
BTF-ACI (70%)	$33	$53	$127	$15,828

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. On-site incinerator baseline and compliance costs per ton are high due to the large number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger quantities of hazardous waste compliance costs per ton would actually be lower. If facilities are burning large volumes of non hazardous waste in addition to the hazardous waste, baseline costs per ton would be lower.

PRELIMINARY ECONOMIC IMPACT RESULTS

BASELINE OPERATING PROFITS PER TON OF HAZARDOUS WASTE BURNED
(Number of Combustion systems Falling in Range)

	<$0	$0 - $50	$51 - $100	$101 - $150	>$150
Cement Kilns	0	0	8	15	10
LWA Kilns	0	0	8	3	0
Commercial Incinerators	3	1	1	1	20
On-site Incinerators	48	13	11	11	56

BASELINE OPERATING PROFITS AS A PERCENTAGE OF BASELINE WEIGHTED AVERAGE PRICES PER TON
(Number of Combustion systems Falling in Range)

	<0%	0% - 10%	11% - 25%	26% - 50%	>50%
Cement Kilns	0	0	0	2	31
LWA Kilns	0	0	0	0	10
Commercial Incinerators	3	0	3	8	13
On-site Incinerators	48	8	24	19	40

Notes:

1. Baseline Operating Profits = (weighted average price per ton + weighted average energy savings per ton) - total annual baseline costs per ton. Total annual baseline costs include fixed annual capital costs, fixed annual operating and maintenance costs, and annual variable costs.
2. Baseline operating profits exclude overhead, other administrative costs, and taxes. Actual after-tax profits will be lower.
3. Number of systems with average operating profits less than $0 (or <0%) includes those burning very little or no waste.
4. Baseline operating profits are calculated at the system level. Consolidating burning into fewer systems may reduce facility closures, explaining why the system estimates presented in this exhibit appear higher than the facility closure presented in later exhibits.
5. Includes combustion systems not currently burning waste in the cement kiln, LWAK, and commercial incinerator sector; or burning less than 50 tons per year in the on-site incinerator sector.

PERCENT OF SYSTEMS REQUIRING CONTROL MEASURES
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%)	BTF-ACI(70%
Cement Kilns						
New Fabric Filters	33%	27%	33%	27%	61%	52%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	45%	36%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	45%	33%	45%	33%	39%	30%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	3%	3%	3%	3%	0%	0%
Fabric Filter DOM, mod	9%	6%	9%	6%	6%	6%
DESP DOM, small	6%	0%	6%	0%	3%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	3%	3%	3%	3%	3%	3%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	55%	42%	64%	52%	73%	55%
None	12%	27%	3%	21%	3%	18%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	63%	50%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	63%	50%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	88%	88%	88%	88%	50%	50%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	25%	13%	25%	13%	13%	0%
Fabric Filter DOM, mod	13%	0%	13%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	75%	75%	75%	75%
Feed Control	100%	75%	63%	63%	50%	63%
None	0%	13%	0%	0%	0%	0%

PERCENT OF SYSTEMS REQUIRING CONTROL MEASURES cont.
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%)	BTF-ACI(70%
Commercial Incinerators						
New Fabric Filters	15%	10%	15%	15%	40%	40%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	20%	20%	85%	85%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	55%	50%	45%	40%	20%	15%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	5%	5%	35%	35%
Fabric Filter DOM, small	5%	5%	5%	5%	5%	5%
Fabric Filter DOM, mod	10%	5%	10%	5%	10%	5%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	5%	0%	5%	0%	0%	0%
IWS DOM, mod	5%	5%	5%	5%	0%	0%
HEWS DOM, small	0%	5%	0%	5%	0%	0%
HEWS DOM, mod	15%	10%	15%	10%	5%	5%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	5%	0%	5%	0%	5%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	85%	80%	80%	75%	70%	65%
None	5%	5%	5%	5%	5%	5%
On-Site Incinerators						
New Fabric Filters	67%	65%	71%	69%	85%	81%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	15%	15%	71%	60%
New Carbon Bed	0%	0%	2%	2%	6%	6%
New Quencher	17%	17%	12%	12%	10%	10%
New Afterburner	6%	2%	6%	2%	6%	2%
New Reheater	0%	0%	8%	8%	60%	48%
Fabric Filter DOM, small	0%	2%	0%	2%	0%	2%
Fabric Filter DOM, mod	2%	0%	2%	0%	2%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	2%	2%	2%	2%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	2%	2%	2%	2%	0%	0%
HEWS DOM, small	0%	2%	0%	2%	0%	2%
HEWS DOM, mod	10%	10%	8%	8%	2%	2%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	2%	4%	2%	4%	2%	4%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	46%	40%	42%	37%	42%	52%
None	6%	8%	4%	6%	2%	2%
Government On-site Incinerators						
New Fabric Filters	29%	24%	29%	24%	38%	33%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	48%	43%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	5%
New Afterburner	5%	5%	5%	5%	5%	5%
New Reheater	0%	0%	0%	0%	19%	19%
Fabric Filter DOM, small	0%	5%	0%	5%	0%	5%
Fabric Filter DOM, mod	14%	10%	14%	10%	14%	10%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	5%	5%	5%	5%	5%	5%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	14%	14%	14%	14%	14%	14%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	57%	52%	57%	52%	57%	52%
None	19%	19%	19%	19%	14%	14%

PERCENT OF NEW COMPLIANCE COSTS BY CONTROL MEASURE
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%	BTF-ACI(70%
Cement Kilns						
New Fabric Filters	35%	35%	33%	30%	39%	39%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	24%	24%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	24%	32%	23%	27%	13%	15%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	3%	2%	3%	2%	1%	1%
DESP DOM, small	4%	0%	4%	0%	1%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	33%	30%	37%	40%	22%	21%
Total	100%	100%	100%	100%	100%	100%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	27%	24%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	31%	27%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	38%	47%	28%	29%	10%	11%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	1%	1%	1%	1%	0%	0%
Fabric Filter DOM, mod	3%	0%	2%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	38%	42%	27%	30%
Feed Control	58%	52%	31%	29%	4%	8%
Total	100%	100%	100%	100%	100%	100%

PERCENT OF NEW COMPLIANCE COSTS BY CONTROL MEASURE, cont.
(Before Consolidation)

	Floor(50%)	Floor(70%)	Rec(50%)	Rec(70%)	BTF-ACI(50%	BTF-ACI(70%
Commercial Incinerators						
New Fabric Filters	10%	8%	9%	11%	19%	20%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	16%	18%	47%	50%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	21%	23%	17%	17%	4%	3%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	3%	3%	19%	20%
Fabric Filter DOM, small	0%	1%	0%	1%	0%	0%
Fabric Filter DOM, mod	3%	1%	3%	1%	2%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	1%	0%	1%	0%	0%	0%
IWS DOM, mod	1%	1%	1%	1%	0%	0%
HEWS DOM, small	0%	2%	0%	2%	0%	0%
HEWS DOM, mod	7%	3%	6%	3%	1%	1%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	0%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	57%	61%	44%	44%	8%	5%
Total	100%	100%	100%	100%	100%	100%
On-Site Incinerators						
New Fabric Filters	39%	54%	36%	48%	28%	33%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	9%	12%	28%	30%
New Carbon Bed	0%	0%	0%	1%	1%	1%
New Quencher	5%	7%	3%	4%	2%	2%
New Afterburner	30%	7%	27%	6%	17%	3%
New Reheater	0%	0%	4%	5%	20%	21%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	0%	0%	0%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	0%	0%	0%	0%	0%	0%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	2%	4%	1%	3%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	0%	1%	0%	0%	0%	0%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	23%	26%	18%	20%	4%	8%
Total	100%	100%	100%	100%	100%	100%
Government On-Site Incinerators						
New Fabric Filters	22%	21%	22%	21%	22%	21%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	32%	31%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	2%
New Afterburner	6%	7%	6%	7%	4%	4%
New Reheater	0%	0%	0%	0%	12%	13%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	0%	0%	0%	0%	0%	0%
DESP DOM, small	0%	0%	0%	0%	0%	0%
DESP DOM, mod	0%	0%	0%	0%	0%	0%
WESP DOM, small	0%	0%	0%	0%	0%	0%
WESP DOM, mod	0%	0%	0%	0%	0%	0%
IWS DOM, small	0%	0%	0%	0%	0%	0%
IWS DOM, mod	8%	9%	8%	9%	5%	6%
HEWS DOM, small	0%	0%	0%	0%	0%	0%
HEWS DOM, mod	0%	0%	0%	0%	0%	0%
LEWS DOM, small	0%	0%	0%	0%	0%	0%
LEWS DOM, mod	0%	0%	0%	0%	0%	0%
Combination DOM	2%	2%	2%	2%	1%	1%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	62%	61%	62%	61%	24%	22%
Total	100%	100%	100%	100%	100%	100%

PERCENTAGE OF COMBUSTION SYSTEMS BURNING BELOW STATIC BEQs

	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators			
	Short Term	Long Term	Short Term	Long Term	Short Term	Long Term	Short Term		Long Term	
							<20% below	>20% below	<20% below	>20% below
Floor (50%)	0%	3%	0%	0%	10%	10%	10%	21%	4%	38%
Floor (70%)	0%	3%	0%	0%	10%	10%	10%	21%	2%	38%
Rec (50%)	0%	6%	0%	0%	10%	10%	10%	21%	4%	38%
Rec (70%)	0%	6%	0%	0%	10%	10%	10%	21%	2%	38%
BTF-ACI (50%)	0%	6%	13%	25%	10%	10%	10%	23%	12%	42%
BTF-ACI (70%)	0%	6%	0%	13%	10%	10%	12%	21%	12%	42%

Notes:

PRELIMINARY ECONOMIC IMPACT RESULTS

TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS (millions)
AFTER COMBUSTION SYSTEM CONSOLIDATIONS

Price pass through assumed: **100%**

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-Sites	Total	% Difference from Compliance Costs with No System Consolidation
Floor (50%)	$22	$3	$6	$22	$4	$58	-17%
Floor (70%)	$15	$2	$5	$19	$4	$45	-19%
Rec (50%)	$24	$3	$6	$24	$4	$61	-19%
Rec (70%)	$17	$3	$5	$20	$4	$50	-21%
BTF-ACI (50%)	$33	$5	$9	$44	$24	$114	-12%
BTF-ACI (70%)	$25	$4	$8	$41	$24	$102	-12%

Notes:

1. Compliance costs after consolidation include only the costs for those systems that will continue to burn waste, and do not include shipping and disposal costs (after the assumed price increase) for on-site incinerators that decide to stop burning waste on-site.
2. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specific firm's marginal tax bracket.
3. "Consolidation" allows for non-viable combustion systems to consolidate waste flows with other systems at the same facility, or to exit the waste burning market. As a result, the number of combustion systems incurring compliance costs is reduced.

TOTAL COST OF WASTE DIVERTED FROM ON-SITE SYSTEMS THAT STOP BURNING (millions)

Price pass through assumed: **100%**

Option	On-site Incinerators
Floor (50%)	$0.19
Floor (70%)	$0.19
Rec (50%)	$0.19
Rec (70%)	$0.19
BTF-ACI (50%)	$0.19
BTF-ACI (70%)	-$0.73

Notes:

1. On-site incinerator estimates are for private facilities only. We assume that government facilities continue burning post-MACT and therefore no waste will be diverted from these facilities.
2. Waste diversion costs include both transportation and disposal costs (after the assumed price increase).

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS PER COMBUSTION SYSTEM AFTER CONSOLIDATION

Price pass through assumed: **100%**

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators	Government On-sites
Floor (50%)	$677,373	$260,252	$243,257	$248,774	$179,565
Floor (70%)	$444,485	$212,689	$213,488	$208,262	$159,648
Rec (50%)	$723,010	$341,613	$247,977	$264,165	$179,565
Rec (70%)	$527,438	$307,849	$222,062	$225,156	$159,648
BTF-ACI (50%)	$992,039	$455,955	$371,123	$491,946	$960,310
BTF-ACI (70%)	$767,246	$412,058	$347,785	$451,316	$941,121

Notes:

1. Average annual pre-tax compliance costs per system are based on the number of combustion systems that remain open after consolidation. The number of combustion systems that remain open in the sectors may vary by option.
2. Total annual pre-tax compliance costs for the on-site incinerator sector do not include the cost of diverting waste to alternative management for those systems that stop burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

AVERAGE TOTAL ANNUAL PRE-TAX COMPLIANCE COSTS PER TON
(Short Term - After Consolidation)

Price pass through assumed: **100%**

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$29	$30	$14	$28
Floor (70%)	$21	$24	$11	$25
Rec (50%)	$31	$42	$14	$29
Rec (70%)	$23	$38	$12	$26
BTF-ACI (50%)	$41	$60	$18	$50
BTF-ACI (70%)	$33	$53	$16	$44

Notes:

1. Average compliance costs per ton exclude systems currently not burning hazardous waste.
2. Average on-site incinerator compliance costs include direct costs of meeting the new emission levels. Indirect costs to facilities that stop burning wastes and must ship them off-site for management are not included.
3. Only private systems, and not governmental systems, are reflected in the average compliance costs per ton for on-site incinerators.
4. On-site incinerator compliance costs per ton are high due to a number of on-site incinerators that reported low tons burned data to BRS in 1995. If facilities are burning larger volumes of hazardous waste, compliance costs per ton for on-site incinerators will be lower.
5. Because compliance costs are tax-deductible, the portion of pre-tax costs borne by the firm would be between 70 and 80 percent of the values shown above, depending on the specific firm's marginal tax bracket.

PRELIMINARY ECONOMIC IMPACT RESULTS

PERCENTAGE OF COMBUSTION SYSTEMS MEETING SHORT TERM BEQ AFTER CONSOLIDATION
(Percentage of combustion systems; includes systems currently burning below their break-even quantity)

Price pass through assumed: 100%

	Cement Kilns			LWAKs			Commercial Incinerators			Private On-site Incinerators		
	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below
Floor (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	65%	0%	35%
Floor (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	65%	0%	35%
Rec (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	65%	0%	35%
Rec (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	65%	0%	35%
BTF-ACI (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	65%	0%	35%
BTF-ACI (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	65%	0%	35%

Notes:

1. Percent of systems currently not meeting short term baseline break-even quantity:

Cement Kilns	0%
LWAKs	0%
Commercial Incinerators	10%
Private On-site Incinerators	15%

PRELIMINARY ECONOMIC IMPACT RESULTS

PERCENTAGE OF COMBUSTION SYSTEMS MEETING LONG TERM BEQ AFTER CONSOLIDATION
(Percentage of combustion systems; includes systems currently burning below their break-even quantity)

Price pass through assumed: 100%

	Cement Kilns			LWAKs			Commercial Incinerators			Private On-site Incinerators		
	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below	Above	<20% below	>20% below
Floor (50%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	52%	0%	48%
Floor (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	50%	0%	50%
Rec (50%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	52%	0%	48%
Rec (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	50%	0%	50%
BTF-ACI (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	52%	0%	48%
BTF-ACI (70%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	52%	0%	48%

Notes:

1. Percent of systems currently not meeting long term baseline break-even quantity:

Cement Kilns	0%
LWAKs	0%
Commercial Incinerators	10%
Private On-site Incinerators	35%

PRELIMINARY ECONOMIC IMPACT RESULTS

NUMBER OF COMBUSTION FACILITIES LIKELY TO STOP BURNING HAZARDOUS WASTE IN THE SHORT TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **100%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0	0	3	26
Incremental Facilities Likely to Stop Burning Waste				
Floor (50%)	0	0	0	16
Floor (70%)	0	0	0	16
Rec (50%)	0	0	0	16
Rec (70%)	0	0	0	16
BTF-ACI (50%)	0	0	0	16
BTF-ACI (70%)	0	0	0	16

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PRELIMINARY ECONOMIC IMPACT RESULTS

NUMBER OF COMBUSTION FACILITIES LIKELY TO STOP BURNING HAZARDOUS WASTE IN THE LONG TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **100%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0	0	3	42
Incremental Facilities Likely to Stop Burning Waste				
Floor (50%)	1	0	0	10
Floor (70%)	0	0	0	13
Rec (50%)	1	0	0	10
Rec (70%)	0	0	0	13
BTF-ACI (50%)	0	0	0	10
BTF-ACI (70%)	0	0	0	10

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PERCENTAGE OF FACILITIES LIKELY TO STOP BURNING WASTE IN THE SHORT TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **100%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0%	0%	13%	24%
Floor (50%)	0%	0%	0%	15%
Floor (70%)	0%	0%	0%	15%
Rec (50%)	0%	0%	0%	15%
Rec (70%)	0%	0%	0%	15%
BTF-ACI (50%)	0%	0%	0%	15%
BTF-ACI (70%)	0%	0%	0%	15%

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of the Hazardous Waste Combustion MACT.

PERCENTAGE OF FACILITIES LIKELY TO STOP BURNING WASTE IN THE LONG TERM
(net of facilities currently burning below their break-even quantity)

Price pass through assumed: **100%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0%	0%	13%	38%
Floor (50%)	6%	0%	0%	9%
Floor (70%)	0%	0%	0%	12%
Rec (50%)	6%	0%	0%	9%
Rec (70%)	0%	0%	0%	12%
BTF-ACI (50%)	0%	0%	0%	9%
BTF-ACI (70%)	0%	0%	0%	9%

Notes:

1. On-site incinerator estimates are for private facilities only. Government facilities are analyzed separately and are not expected to close as a result of th Hazardous Waste Combustion MACT.

PRELIMINARY ECONOMIC IMPACT RESULTS

QUANTITY OF HAZARDOUS WASTE THAT COULD BE DIVERTED FROM COMBUSTION FACILITIES IN THE SHORT TERM

Price pass through assumed: **100%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	TOTAL	Percentage of all BRS Combusted Hazardous Waste
Baseline	0	0	3,170	45,770	48,940	1%
Floor (50%)	0	0	3,170	46,210	49,380	1%
Floor (70%)	0	0	3,170	46,210	49,380	1%
Rec (50%)	0	0	3,170	46,210	49,380	1%
Rec (70%)	0	0	3,170	46,210	49,380	1%
BTF-ACI (50%)	0	0	3,170	46,210	49,380	1%
BTF-ACI (70%)	0	0	3,170	44,070	47,240	1%

Notes:

1. Combusted hazardous waste reported to BRS in 1995 excluding tonnage burned in on-site boilers: 3,300,000
2. Estimates do not include waste diverted from systems that consolidate waste into other systems at the same facility.
3. Quantities of waste diverted under each option are upper-bound, total estimates. They are not incremental and may include waste from facilities non-viable in the baseline.
4. Baseline quantities of waste diverted resulting from consolidation and market exit likely to occur in the baseline (i.e., without the MACT standards) are shown in the first row of the exhibit.
5. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

QUANTITY OF HAZARDOUS WASTE THAT COULD BE DIVERTED FROM COMBUSTION FACILITIES IN THE LONG TERM

Price pass through assumed: **100%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	TOTAL	Percentage of all BRS Combusted Hazardous Waste
Baseline	0	0	3,170	97,760	100,930	3%
Floor (50%)	11,530	0	3,170	106,270	120,970	4%
Floor (70%)	0	0	3,170	111,330	114,500	3%
Rec (50%)	11,530	0	3,170	106,270	120,970	4%
Rec (70%)	0	0	3,170	111,330	114,500	3%
BTF-ACI (50%)	0	0	3,170	106,270	109,440	3%
BTF-ACI (70%)	0	0	3,170	106,270	109,440	3%

Notes:

1. Combusted hazardous waste reported to BRS in 1995 excluding tonnage burned in on-site boilers: 3,300,000
2. Estimates do not include waste diverted from systems that consolidate waste into other systems at the same facility.
3. Quantities of waste diverted under each option are upper-bound, total estimates. They are not incremental and may include waste from facilities non-viable in the baseline.
4. Baseline quantities of waste diverted resulting from consolidation and market exit likely to occur in the baseline (i.e., without the MACT standards) are shown in the first row of the exhibit.
5. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED SHORT-TERM EMPLOYMENT LOSSES AT COMBUSTION SYSTEMS
(net of systems currently burning below their break-even quantity)

Price pass through assumed: 100%

MACT Option	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators		TOTAL	
	Low End	High End	Low End	High End	Low End	High End	Low End	High End	Low End	High End
Baseline	0	0	0	0	80	80	182	182	262	262
Floor (50%)	0	0	0	0	0	0	131	226	131	226
Floor (70%)	0	0	0	0	0	0	131	226	131	226
Rec (50%)	0	0	0	0	0	0	131	226	131	226
Rec (70%)	0	0	0	0	0	0	131	226	131	226
BTF-ACI (50%)	0	0	0	0	0	0	131	215	131	215
BTF-ACI (70%)	0	0	0	0	0	0	131	226	131	226

Notes:

1. Low-end estimates include employment losses associated only with those systems located at facilities where all systems stop burning. High-end estimates reflect all employment losses, including those associated with closing systems located at facilities where at least one system remains open. The low-end estimate assumes the possibility for employee reassignment within a facility that has combustion systems remaining open.
2. Estimates are sensitive to a number of assumptions, including the estimated number of employees associated with waste burning for each system.
3. Estimates are based on primary employment impacts only, and ignore secondary spill-over effects.
4. Employment impacts are national estimates.
5. Employment loss estimates are incremental, or directly attributable to compliance with the proposed MACT standards. These estimates do not include losses that are associated with systems that are non-viable in the baseline and therefore not directly attributable to compliance with the proposed MACT standards. Those baseline losses are provided separately in the first row of the above exhibit.
6. Compliance costs include CEM costs.
7. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED LONG-TERM EMPLOYMENT LOSSES AT COMBUSTION SYSTEMS
(net of systems currently burning below their break-even quantity)

Price pass through assumed: **100%**

MACT Option	Cement Kilns		LWAKs		Commercial Incinerators		On-site Incinerators		TOTAL	
	Low End	High End	Low End	High End	Low End	High End	Low End	High End	Low End	High End
Baseline	0	0	0	0	80	80	345	408	425	488
Floor (50%)	21	21	0	0	0	0	90	108	111	129
Floor (70%)	0	0	0	0	0	0	98	116	98	116
Rec (50%)	21	21	0	0	0	0	90	108	111	129
Rec (70%)	0	0	0	0	0	0	98	116	98	116
BTF-ACI (50%)	0	0	0	0	0	0	90	108	90	108
BTF-ACI (70%)	0	0	0	0	0	0	90	108	90	108

Notes:

1. Low-end estimates include employment losses associated only with those systems located at facilities where all systems stop burning. High-end estimates reflect all employment losses, including those associated with closing systems located at facilities where at least one system remains open. The low-end estimate assumes the possibility for employee reassignment within a facility that has combustion systems remaining open.
2. Estimates are sensitive to a number of assumptions, including the estimated number of employees associated with waste burning for each system.
3. Estimates are based on primary employment impacts only, and ignore secondary spill-over effects.
4. Employment impacts are national estimates.
5. Employment loss estimates are incremental, or directly attributable to compliance with the proposed MACT standards. These estimates do not include losses that are associated with systems that are non-viable in the baseline and therefore not directly attributable to compliance with the proposed MACT standards. Those baseline losses are provided separately in the first row of the above exhibit.
6. Compliance costs include CEM costs.
7. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **FIr(50%)**
Price pass through assumed: **100%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	77	5	10	32	5	129
CEMs/Monitoring Equipment	6	0	0	2	1	8
Labor Within Combustion Sector						
O&M	50	4	9	86	8	157
Permitting	1	0	1	4	1	7
Total	**134**	**10**	**20**	**123**	**15**	302

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **FIr(70%)**
Price pass through assumed: **100%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	51	5	8	28	5	97
CEMs/Monitoring Equipment	6	0	0	2	1	8
Labor Within Combustion Sector						
O&M	35	4	7	78	7	132
Permitting	1	0	1	4	1	7
Total	**94**	**9**	**16**	**112**	**14**	245

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **Rec(50%)**
Price pass through assumed: **100%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	77	7	12	38	5	139
CEMs/Monitoring Equipment	6	0	0	2	1	8
Labor Within Combustion Sector						
O&M	50	5	13	100	8	176
Permitting	1	0	1	4	1	7
Total	**134**	**13**	**26**	**143**	**15**	331

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **Rec(70%)**
Price pass through assumed: **100%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	51	6	10	34	5	106
CEMs/Monitoring Equipment	6	0	0	2	1	8
Labor Within Combustion Sector						
O&M	35	5	12	91	7	151
Permitting	1	0	1	4	1	7
Total	**94**	**11**	**23**	**131**	**14**	273

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **BTF(50%)**
Price pass through assumed: **100%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	99	10	22	94	13	238
CEMs/Monitoring Equipment	6	0	0	2	1	9
Labor Within Combustion Sector						
O&M	84	17	35	211	24	371
Permitting	1	0	1	4	1	8
Total	**190**	**27**	**59**	**311**	**39**	626

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

ESTIMATED EMPLOYMENT INCREASES ASSOCIATED WITH COMPLIANCE REQUIREMENTS AFTER SYSTEM CONSOLIDATION

MACT Option: **BTF(50%)**
Price pass through assumed: **100%**
(percentage of median compliance costs for the most efficient sector)

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators	Government On-site Incinerators	Total
Labor Within Pollution Control Industry						
Pollution Control Equipment	99	10	22	94	13	238
CEMs/Monitoring Equipment	6	0	0	2	1	9
Labor Within Combustion Sector						
O&M	84	17	35	211	24	371
Permitting	1	0	1	4	1	8
Total	**190**	**27**	**59**	**311**	**39**	626

Notes:

1. Estimates are sensitive to a number of assumptions, including the wage rates associated with compliance requirements and the percent of revenues generated due to each of the compliance requirements.
2. Estimates are based on primary employment impacts only and ignore any secondary spill-over effects. Therefore, they do not account for job displacement across sectors as investment funds are diverted from other areas of the larger economy and should not be interpreted as net gains.
3. Employment impacts are national estimates.
4. Compliance costs include CEM costs.
5. Employment gains associated with systems currently not burning waste or that are currently non-viable in the baseline are not included in these estimates. Some additional systems may be non-viable in the baseline, leading us to overestimate employment gains due to compliance with the proposed MACT standards.
6. Totals may not add due to rounding.

PRELIMINARY ECONOMIC IMPACT RESULTS

WEIGHTED AVERAGE COMBUSTION PRICE PER TON AND INCREASE IN PRICES DUE TO ASSUMED PRICE PASS THROUGH

Price pass through assumed: **100%**
(percentage of median compliance costs for the most efficient sector)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Current weighted average price	$172	$136	$689	$729
Increase in price due to compliance costs passed through				
Floor (50%)	$21	$21	$17	$18
Floor (70%)	$13	$13	$12	$12
Rec (50%)	$21	$21	$17	$18
Rec (70%)	$14	$14	$13	$14
BTF-ACI (50%)	$45	$45	$33	$37
BTF-ACI (70%)	$34	$34	$27	$29

Notes:

1. Compliance costs include CEM costs.
2. Median compliance costs per ton exclude systems currently not burning hazardous waste.
3. **The commercial sector with the lowest total cost per ton (baseline + compliance cost) drives the assumed increase in combustion prices of waste categories managed by that sector.**
4. Prices for on-site incinerators reflect the cost per ton of off-site treatment that generators avoid by burning the waste on-site.
5. **Weighted average price per ton = (solids percentage of total waste burned in each sector x solids price) + (liquids percentage of total waste burned in each sector x liquids price) + (sludges percentage of total waste burned in each sector x sludges price).**

PRELIMINARY ECONOMIC IMPACT RESULTS

NEW COMPLIANCE COSTS AS A PERCENTAGE OF BASELINE COSTS OF HAZARDOUS WASTE BURNING
(percentage of permitted combustion systems; see Note 3)

	Cement Kilns					LWAKs					Commercial Incinerators					On-site Incinerators					Government On-sites				
	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%
Floor (50%)	18%	9%	42%	21%	9%	13%	13%	50%	25%	0%	80%	10%	10%	0%	0%	46%	13%	35%	4%	2%	33%	33%	19%	5%	10%
Floor (70%)	33%	18%	30%	15%	3%	13%	38%	38%	13%	0%	85%	5%	10%	0%	0%	46%	19%	29%	4%	2%	48%	19%	19%	5%	10%
Rec (50%)	15%	12%	39%	21%	12%	0%	0%	75%	25%	0%	80%	15%	5%	0%	0%	40%	13%	40%	4%	2%	33%	33%	19%	5%	10%
Rec (70%)	30%	18%	27%	18%	6%	0%	0%	88%	13%	0%	85%	10%	5%	0%	0%	40%	17%	37%	4%	2%	48%	19%	19%	5%	10%
BTF-ACI (50%)	6%	3%	33%	33%	24%	0%	0%	63%	13%	25%	70%	25%	5%	0%	0%	21%	21%	46%	6%	6%	24%	14%	38%	10%	14%
BTF-ACI (70%)	24%	9%	18%	33%	15%	0%	0%	63%	25%	13%	70%	25%	5%	0%	0%	23%	25%	40%	6%	6%	33%	10%	33%	10%	14%

Notes:

1. Compliance costs as a percent of baseline costs = [Total annual compliance costs/Total annual baseline costs]
2. Total annual baseline costs = Annualized fixed capital and fixed operating costs + (Variable operating costs * Hazardous waste burned).
3. Percentages include systems not currently burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

NEW COMPLIANCE COSTS AS A PERCENTAGE OF HAZARDOUS WASTE BURNING REVENUES
(percentage of permitted combustion systems; see Note 3)

	Cement Kilns					LWAKs					Commercial Incinerators					On-site Incinerators				
	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%	<10%	10-20%	21-50%	51-75%	>75%
Floor (50%)	48%	21%	30%	0%	0%	25%	50%	25%	0%	0%	90%	0%	0%	5%	5%	52%	13%	19%	4%	12%
Floor (70%)	64%	18%	18%	0%	0%	38%	50%	13%	0%	0%	90%	0%	0%	5%	5%	56%	12%	17%	8%	8%
Rec (50%)	48%	21%	30%	0%	0%	0%	38%	63%	0%	0%	90%	0%	0%	5%	5%	52%	12%	17%	4%	15%
Rec (70%)	52%	30%	18%	0%	0%	0%	63%	38%	0%	0%	90%	0%	5%	0%	5%	56%	10%	15%	8%	12%
BTF-ACI (50%)	27%	27%	45%	0%	0%	0%	13%	75%	13%	0%	90%	0%	0%	5%	5%	40%	13%	23%	12%	12%
BTF-ACI (70%)	39%	30%	30%	0%	0%	0%	38%	63%	0%	0%	90%	0%	0%	5%	5%	44%	15%	19%	10%	12%

Notes:

1. Compliance costs as a percent of revenues = [Total compliance costs per ton]/[Waste burning revenues per ton + Energy savings per ton]
2. On-site incinerator revenues are equal to the costs generators avoid by not shipping the waste to a commercial incinerator (waste fees charged + transportation costs).
3. High-end of range (>75 percent) includes systems not currently burning hazardous waste.

PRELIMINARY ECONOMIC IMPACT RESULTS

CHANGE IN AVERAGE OPERATING PROFITS PER TON OF HAZARDOUS WASTE BURNED FROM THE PROPOSED MACT

Price pass through assumed: **100%**

Options	Cement Kilns			LWA Kilns			Commercial Incinerators			On-site Incinerators		
	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule	Operating Profit Margin		% Margin after the Rule
	$ Change	% Change		$ Change	% Change		$ Change	% Change		$ Change	% Change	
Floor (50%)	$0	-11%	72%	($9)	-22%	50%	$7	-1%	58%	($8)	-6%	60%
Floor (70%)	$0	-7%	75%	($11)	-20%	52%	$2	-1%	58%	($12)	-5%	60%
Rec (50%)	$0	-11%	72%	($21)	-34%	43%	$7	-1%	58%	($8)	-6%	60%
Rec (70%)	$0	-8%	74%	($23)	-34%	43%	$3	-1%	58%	($11)	-6%	60%
BTF-ACI (50%)	$0	-21%	64%	($15)	-36%	41%	$27	1%	59%	($5)	-8%	58%
BTF-ACI (70%)	$0	-16%	67%	($19)	-37%	41%	$18	0%	58%	($10)	-8%	59%

Notes:

1. Operating Profits = (weighted average price per ton + weighted average energy savings per ton + assumed price increase due to compliance costs passed through) - (average baseline costs per ton + average total annual compliance cost per ton). Assumed price pass-through is a set percentage (shown at the top of this exhibit) of the median compliance cost for the most efficient combustion sector. As this is a static model, we have capped the price pass-through using the combustion systems expected to remain burning hazardous waste even though the original pass-through value included some systems expected to stop burning. This is a better approximation of the impetus combustors have to raise prices, though it is not a precise predictor. To address uncertainty regarding the amount prices will rise, a variety of price increase scenarios were used. All other averages were calculated after consolidation, and include only those systems that continue to burn hazardous waste.
2. Operating profits exclude overhead, other administrative costs, and taxes. Actual after-tax profits will be lower.
3. Percentage Operating Profit Margin = average operating profits per ton / (weighted average price per ton + assumed price increase due to compliance costs passed through). Percentage profit margin after the rule is calculated using the same formula with post-rule operating profits and prices.
4. Change in operating profits per ton = Post-rule operating profits per ton - baseline operating profits per ton. Percentage change in operating profits margin = (post-rule operating profits margin - baseline operating profits margin) / baseline operating profits margin. Baseline operating profit margins for systems remaining open after consolidation can be calculated by dividing the percentage profit margin after the rule by one plus the percentage change in the operating profit margin. For consistency, baseline values have been calculated using the median compliance cost per ton for facilities that remain in operation after the rule for each MACT option.