Appendix C

DETAILED COST MODEL RESULTS

LIST OF EXHIBITS

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

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%)	$32	$6	$10	$45	$7	$101
Floor (70%)	$23	$5	$9	$40	$6	$83
Rec (50%)	$34	$7	$10	$48	$7	$107
Rec (70%)	$28	$7	$9	$44	$6	$93
BTF-ACI (50%)	$49	$8	$15	$77	$28	$177
BTF-ACI (70%)	$40	$8	$13	$73	$27	$161

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%)	$984,771	$615,567	$392,986	$327,607	$267,281
Floor (70%)	$711,018	$498,712	$346,935	$289,193	$244,036
Rec (50%)	$1,044,943	$694,503	$388,151	$350,601	$267,281
Rec (70%)	$836,534	$680,187	$334,569	$315,765	$244,036
BTF-ACI (50%)	$1,493,726	$830,054	$561,443	$554,597	$1,121,605
BTF-ACI (70%)	$1,197,851	$830,808	$509,381	$531,324	$1,081,017

Notes:

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER TON
(Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$43	$79	$172	$22,671
Floor (70%)	$34	$62	$202	$22,654
Rec (50%)	$46	$90	$165	$22,753
Rec (70%)	$37	$89	$160	$22,737
BTF-ACI (50%)	$63	$110	$215	$24,324
BTF-ACI (70%)	$52	$110	$209	$24,313

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%)	$43	$79	$172	$22,671
Floor (70%)	$34	$62	$202	$22,654
Rec (50%)	$46	$90	$165	$22,753
Rec (70%)	$37	$89	$160	$22,737
BTF-ACI (50%)	$63	$110	$215	$24,324
BTF-ACI (70%)	$52	$110	$209	$24,313

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%	0%	0%	0%	0%
Feed Control	100%	75%	100%	100%	100%	100%
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	65%	63%	69%	67%	85%	83%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	15%	15%	71%	71%
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%	60%
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	48%	42%	44%	38%	52%	50%
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%	67%	62%
None	19%	19%	19%	19%	5%	10%

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	26%	23%	24%	20%	28%	27%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	17%	17%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	18%	21%	17%	18%	9%	10%
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	2%	2%	2%	1%	1%	1%
DESP DOM, small	3%	0%	3%	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	51%	53%	54%	60%	44%	45%
Total	100%	100%	100%	100%	100%	100%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	18%	14%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	20%	16%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	17%	21%	17%	16%	7%	7%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	1%	0%	1%	0%	0%	0%
Fabric Filter DOM, mod	1%	0%	1%	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%	0%	0%	0%	0%
Feed Control	81%	78%	82%	84%	55%	63%
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	8%	7%	7%	9%	15%	16%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	13%	15%	37%	40%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	17%	18%	13%	14%	3%	3%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	2%	3%	15%	16%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	2%	1%	2%	1%	1%	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%	3%	0%	3%	0%	0%
HEWS DOM, mod	5%	3%	5%	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	66%	68%	55%	51%	28%	24%
Total	100%	100%	100%	100%	100%	100%
On-Site Incinerators						
New Fabric Filters	33%	45%	32%	41%	24%	27%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	8%	11%	25%	28%
New Carbon Bed	0%	0%	0%	1%	1%	1%
New Quencher	5%	6%	3%	4%	1%	2%
New Afterburner	27%	6%	24%	5%	15%	3%
New Reheater	0%	0%	3%	5%	18%	20%
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%	2%	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	32%	38%	27%	30%	16%	18%
Total	100%	100%	100%	100%	100%	100%
Government On-Site Incinerators						
New Fabric Filters	18%	17%	18%	17%	15%	15%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	22%	23%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	1%
New Afterburner	5%	6%	5%	6%	3%	3%
New Reheater	0%	0%	0%	0%	8%	9%
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	7%	8%	7%	8%	4%	4%
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	1%	1%	1%	1%	1%	1%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	69%	68%	69%	68%	47%	43%
Total	100%	100%	100%	100%	100%	100%

PERCENTAGE OF COMBUSTION SYSTEMS CURRENTLY 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%)	3%	9%	13%	38%	10%	10%	4%	31%	8%	40%
Floor (70%)	3%	9%	13%	25%	10%	10%	6%	31%	2%	40%
Rec (50%)	3%	9%	13%	50%	10%	10%	0%	31%	8%	40%
Rec (70%)	3%	9%	13%	50%	10%	10%	2%	31%	2%	40%
BTF-ACI (50%)	6%	12%	25%	63%	10%	10%	6%	35%	6%	48%
BTF-ACI (70%)	6%	12%	25%	63%	10%	10%	6%	35%	6%	48%

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%)	$31	$5	$9	$27	$7	$78	-22%
Floor (70%)	$22	$4	$7	$23	$6	$62	-26%
Rec (50%)	$33	$5	$9	$28	$7	$81	-24%
Rec (70%)	$26	$6	$7	$24	$6	$69	-25%
BTF-ACI (50%)	$43	$7	$13	$46	$28	$137	-23%
BTF-ACI (70%)	$35	$7	$11	$44	$27	$124	-23%

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.

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%)	$969,106	$588,500	$368,791	$324,919	$267,281
Floor (70%)	$686,799	$454,952	$310,666	$274,123	$244,036
Rec (50%)	$1,031,158	$632,406	$363,875	$337,446	$267,281
Rec (70%)	$816,236	$654,512	$305,751	$292,653	$244,036
BTF-ACI (50%)	$1,393,549	$787,358	$546,814	$618,002	$1,121,605
BTF-ACI (70%)	$1,126,582	$788,220	$490,379	$587,054	$1,081,017

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%)	$40	$64	$23	$32
Floor (70%)	$31	$50	$18	$25
Rec (50%)	$43	$60	$23	$32
Rec (70%)	$35	$72	$17	$26
BTF-ACI (50%)	$57	$87	$31	$41
BTF-ACI (70%)	$47	$87	$25	$38

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%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	60%	0%	40%
Floor (70%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	60%	0%	40%
Rec (50%)	97%	0%	3%	75%	0%	25%	90%	0%	10%	60%	0%	40%
Rec (70%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	60%	0%	40%
BTF-ACI (50%)	94%	0%	6%	88%	0%	13%	90%	0%	10%	54%	0%	46%
BTF-ACI (70%)	94%	0%	6%	88%	0%	13%	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%)	91%	0%	9%	75%	0%	25%	90%	0%	10%	48%	0%	52%
Floor (70%)	91%	0%	9%	75%	0%	25%	90%	0%	10%	48%	0%	52%
Rec (50%)	88%	0%	12%	75%	0%	25%	90%	0%	10%	48%	0%	52%
Rec (70%)	91%	0%	9%	75%	0%	25%	90%	0%	10%	48%	0%	52%
BTF-ACI (50%)	88%	0%	12%	50%	0%	50%	90%	0%	10%	40%	0%	60%
BTF-ACI (70%)	88%	0%	12%	50%	0%	50%	90%	0%	10%	44%	0%	56%

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%)	1	0	0	20
Floor (70%)	1	0	0	20
Rec (50%)	1	0	0	20
Rec (70%)	1	0	0	20
BTF-ACI (50%)	2	0	0	23
BTF-ACI (70%)	2	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%)	2	0	0	16
Floor (70%)	2	0	0	16
Rec (50%)	2	0	0	16
Rec (70%)	2	0	0	16
BTF-ACI (50%)	3	1	0	26
BTF-ACI (70%)	3	1	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.

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%)	6%	0%	0%	18%
Floor (70%)	6%	0%	0%	18%
Rec (50%)	6%	0%	0%	18%
Rec (70%)	6%	0%	0%	18%
BTF-ACI (50%)	11%	0%	0%	21%
BTF-ACI (70%)	11%	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%)	11%	0%	0%	15%
Floor (70%)	11%	0%	0%	15%
Rec (50%)	11%	0%	0%	15%
Rec (70%)	11%	0%	0%	15%
BTF-ACI (50%)	17%	25%	0%	24%
BTF-ACI (70%)	17%	25%	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.

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%)	11,530	0	3,170	56,370	71,070	2%
Floor (70%)	11,530	0	3,170	56,370	71,070	2%
Rec (50%)	11,530	500	3,170	56,370	71,570	2%
Rec (70%)	11,530	0	3,170	56,370	71,070	2%
BTF-ACI (50%)	37,590	0	3,170	61,200	101,960	3%
BTF-ACI (70%)	37,590	0	3,170	61,200	101,960	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: 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%)	21	21	0	3	0	0	137	253	158	276
Floor (70%)	21	21	0	3	0	0	137	253	158	276
Rec (50%)	21	21	0	7	0	0	137	253	158	280
Rec (70%)	21	21	0	3	0	0	137	253	158	276
BTF-ACI (50%)	42	42	0	3	0	0	145	274	187	318
BTF-ACI (70%)	42	42	0	3	0	0	145	274	187	318

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	342	405	422	485
Floor (50%)	42	49	0	7	0	0	96	115	138	171
Floor (70%)	42	49	0	7	0	0	96	115	138	171
Rec (50%)	42	51	0	7	0	0	96	115	138	173
Rec (70%)	42	49	0	7	0	0	96	115	138	171
BTF-ACI (50%)	62	70	14	24	0	0	139	171	216	265
BTF-ACI (70%)	62	70	14	24	0	0	121	129	197	223

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	73	4	11	29	5	122
CEMs	14	4	11	44	16	90
Labor Within Combustion Sector						
O&M	48	4	9	73	8	142
Permitting	2	0	1	5	1	10
Total	**137**	**12**	**33**	**150**	**31**	363

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	48	4	8	25	5	90
CEMs	14	4	11	42	16	87
Labor Within Combustion Sector						
O&M	33	3	7	65	7	116
Permitting	2	0	1	4	1	9
Total	**97**	**11**	**27**	**137**	**29**	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: 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	73	4	12	35	5	130
CEMs	14	3	11	43	16	88
Labor Within Combustion Sector						
O&M	48	3	13	87	8	160
Permitting	2	0	1	4	1	9
Total	**138**	**11**	**38**	**170**	**31**	387

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	49	4	10	31	5	99
CEMs	14	4	11	41	16	87
Labor Within Combustion Sector						
O&M	34	4	12	79	7	136
Permitting	2	0	1	4	1	9
Total	**98**	**12**	**34**	**156**	**29**	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: **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	87	7	22	75	13	204
CEMs	13	4	12	45	16	90
Labor Within Combustion Sector						
O&M	74	13	35	169	24	315
Permitting	2	0	1	5	1	9
Total	**175**	**25**	**70**	**294**	**55**	619

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	69	6	20	72	13	181
CEMs	13	4	12	45	16	90
Labor Within Combustion Sector						
O&M	59	11	34	162	22	289
Permitting	2	0	1	5	1	9
Total	**143**	**22**	**67**	**284**	**53**	569

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	$728
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%)	12%	9%	30%	21%	27%	0%	0%	25%	38%	38%	70%	10%	20%	0%	0%	33%	21%	33%	8%	6%	24%	10%	48%	10%	10%
Floor (70%)	30%	12%	21%	12%	24%	13%	13%	13%	25%	38%	70%	20%	5%	5%	0%	33%	31%	25%	8%	4%	29%	14%	38%	10%	10%
Rec (50%)	3%	9%	39%	18%	30%	0%	0%	13%	50%	38%	70%	10%	20%	0%	0%	27%	19%	42%	6%	6%	24%	10%	48%	10%	10%
Rec (70%)	24%	18%	18%	9%	30%	0%	0%	13%	50%	38%	70%	20%	10%	0%	0%	27%	29%	37%	2%	6%	29%	14%	38%	10%	10%
BTF-ACI (50%)	3%	3%	18%	9%	67%	0%	0%	0%	38%	63%	40%	40%	15%	5%	0%	10%	23%	42%	4%	21%	10%	5%	19%	52%	14%
BTF-ACI (70%)	18%	9%	6%	18%	48%	0%	0%	0%	38%	63%	45%	45%	5%	5%	0%	12%	23%	42%	4%	19%	19%	5%	14%	48%	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%)	33%	27%	27%	12%	0%	0%	13%	75%	13%	0%	90%	0%	0%	0%	10%	48%	8%	19%	12%	13%
Floor (70%)	52%	18%	24%	6%	0%	25%	13%	50%	13%	0%	90%	0%	0%	5%	5%	50%	13%	15%	8%	13%
Rec (50%)	33%	24%	30%	12%	0%	0%	0%	75%	25%	0%	90%	0%	0%	0%	10%	48%	10%	21%	4%	17%
Rec (70%)	48%	15%	30%	6%	0%	0%	0%	75%	25%	0%	90%	0%	0%	0%	10%	50%	13%	17%	4%	15%
BTF-ACI (50%)	15%	18%	45%	18%	3%	0%	0%	63%	13%	25%	80%	10%	0%	0%	10%	35%	12%	17%	6%	31%
BTF-ACI (70%)	33%	15%	33%	18%	0%	0%	0%	63%	13%	25%	90%	0%	0%	0%	10%	35%	15%	13%	8%	29%

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	Operating Profit Margin		% Margin after	Operating Profit Margin		% Margin after	Operating Profit Margin		% Margin after
	$ Change	% Change	the Rule	$ Change	% Change	the Rule	$ Change	% Change	the Rule	$ Change	% Change	the Rule
Floor (50%)	($40)	-28%	59%	($64)	-65%	26%	($23)	-6%	55%	($32)	-8%	61%
Floor (70%)	($16)	-11%	73%	($50)	-50%	37%	($18)	-4%	56%	($25)	-6%	62%
Rec (50%)	($40)	-28%	58%	($60)	-55%	36%	($23)	-5%	55%	($32)	-8%	61%
Rec (70%)	($21)	-15%	70%	($72)	-73%	20%	($17)	-4%	56%	($26)	-7%	62%
BTF-ACI (50%)	($53)	-37%	52%	($87)	-87%	10%	($31)	-7%	54%	($41)	-9%	63%
BTF-ACI (70%)	($39)	-27%	60%	($87)	-87%	9%	($25)	-6%	55%	($38)	-9%	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)

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%)	$31	$6	$9	$39	$5	$90
Floor (70%)	$22	$5	$8	$33	$5	$72
Rec (50%)	$33	$7	$9	$42	$5	$95
Rec (70%)	$26	$6	$7	$37	$5	$82
BTF-ACI (50%)	$48	$8	$13	$70	$27	$166
BTF-ACI (70%)	$38	$8	$12	$67	$26	$150

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%)	$944,126	$572,964	$346,569	$279,131	$210,317
Floor (70%)	$670,373	$456,109	$300,518	$240,717	$187,072
Rec (50%)	$1,004,297	$651,900	$341,734	$302,125	$210,317
Rec (70%)	$795,888	$637,584	$288,152	$267,289	$187,072
BTF-ACI (50%)	$1,453,081	$787,451	$515,027	$506,121	$1,064,641
BTF-ACI (70%)	$1,157,206	$788,205	$462,965	$482,848	$1,024,053

Notes:

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER TON
(Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$41	$73	$157	$20,740
Floor (70%)	$32	$56	$188	$20,723
Rec (50%)	$44	$85	$151	$20,822
Rec (70%)	$36	$83	$145	$20,806
BTF-ACI (50%)	$61	$105	$201	$22,392
BTF-ACI (70%)	$50	$105	$195	$22,381

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%)	$41	$73	$157	$20,740
Floor (70%)	$32	$56	$188	$20,723
Rec (50%)	$44	$85	$151	$20,822
Rec (70%)	$36	$83	$145	$20,806
BTF-ACI (50%)	$61	$105	$201	$22,392
BTF-ACI (70%)	$50	$105	$195	$22,381

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%	0%	0%	0%	0%
Feed Control	100%	75%	100%	100%	100%	100%
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	65%	63%	69%	67%	85%	83%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	15%	15%	71%	71%
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%	60%
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	48%	42%	44%	38%	52%	50%
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%	67%	62%
None	19%	19%	19%	19%	5%	10%

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	26%	23%	24%	20%	28%	27%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	17%	17%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	18%	21%	17%	18%	9%	10%
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	2%	2%	2%	1%	1%	1%
DESP DOM, small	3%	0%	3%	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	51%	53%	54%	60%	44%	45%
Total	100%	100%	100%	100%	100%	100%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	18%	14%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	20%	16%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	17%	21%	17%	16%	7%	7%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	1%	0%	1%	0%	0%	0%
Fabric Filter DOM, mod	1%	0%	1%	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%	0%	0%	0%	0%
Feed Control	81%	78%	82%	84%	55%	63%
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	8%	7%	7%	9%	15%	16%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	13%	15%	37%	40%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	17%	18%	13%	14%	3%	3%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	2%	3%	15%	16%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	2%	1%	2%	1%	1%	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%	3%	0%	3%	0%	0%
HEWS DOM, mod	5%	3%	5%	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	66%	68%	55%	51%	28%	24%
Total	100%	100%	100%	100%	100%	100%
On-Site Incinerators						
New Fabric Filters	33%	45%	32%	41%	24%	27%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	8%	11%	25%	28%
New Carbon Bed	0%	0%	0%	1%	1%	1%
New Quencher	5%	6%	3%	4%	1%	2%
New Afterburner	27%	6%	24%	5%	15%	3%
New Reheater	0%	0%	3%	5%	18%	20%
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%	2%	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	32%	38%	27%	30%	16%	18%
Total	100%	100%	100%	100%	100%	100%
Government On-Site Incinerators						
New Fabric Filters	18%	17%	18%	17%	15%	15%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	22%	23%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	1%
New Afterburner	5%	6%	5%	6%	3%	3%
New Reheater	0%	0%	0%	0%	8%	9%
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	7%	8%	7%	8%	4%	4%
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	1%	1%	1%	1%	1%	1%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	69%	68%	69%	68%	47%	43%
Total	100%	100%	100%	100%	100%	100%

PERCENTAGE OF COMBUSTION SYSTEMS CURRENTLY 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%)	3%	9%	13%	25%	10%	10%	8%	23%	10%	38%
Floor (70%)	3%	9%	13%	13%	10%	10%	12%	21%	4%	38%
Rec (50%)	3%	9%	13%	50%	10%	10%	8%	23%	10%	38%
Rec (70%)	3%	9%	13%	50%	10%	10%	12%	21%	4%	38%
BTF-ACI (50%)	6%	12%	25%	63%	10%	10%	6%	33%	8%	46%
BTF-ACI (70%)	6%	12%	25%	63%	10%	10%	6%	33%	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%)	$30	$5	$8	$25	$5	$72	-20%
Floor (70%)	$21	$4	$6	$21	$5	$56	-23%
Rec (50%)	$32	$5	$7	$26	$5	$76	-21%
Rec (70%)	$25	$5	$6	$22	$5	$63	-23%
BTF-ACI (50%)	$42	$7	$12	$42	$27	$129	-22%
BTF-ACI (70%)	$34	$7	$10	$40	$26	$116	-23%

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.

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%)	$928,461	$545,617	$322,145	$283,005	$210,317
Floor (70%)	$646,153	$412,069	$264,021	$235,288	$187,072
Rec (50%)	$990,513	$627,991	$317,230	$294,773	$210,317
Rec (70%)	$775,591	$611,630	$259,105	$252,694	$187,072
BTF-ACI (50%)	$1,352,904	$744,476	$500,168	$569,526	$1,064,641
BTF-ACI (70%)	$1,085,936	$745,337	$443,733	$538,578	$1,024,053

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%)	$38	$60	$21	$33
Floor (70%)	$29	$45	$15	$27
Rec (50%)	$41	$69	$20	$33
Rec (70%)	$33	$68	$14	$28
BTF-ACI (50%)	$56	$82	$28	$36
BTF-ACI (70%)	$45	$82	$23	$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

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%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	63%	0%	37%
Floor (70%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	63%	0%	37%
Rec (50%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	63%	0%	37%
Rec (70%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	63%	0%	37%
BTF-ACI (50%)	94%	0%	6%	88%	0%	13%	90%	0%	10%	54%	0%	46%
BTF-ACI (70%)	94%	0%	6%	88%	0%	13%	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%)	91%	0%	9%	88%	0%	13%	90%	0%	10%	50%	0%	50%
Floor (70%)	91%	0%	9%	88%	0%	13%	90%	0%	10%	50%	0%	50%
Rec (50%)	91%	0%	9%	75%	0%	25%	90%	0%	10%	50%	0%	50%
Rec (70%)	91%	0%	9%	75%	0%	25%	90%	0%	10%	50%	0%	50%
BTF-ACI (50%)	88%	0%	12%	50%	0%	50%	90%	0%	10%	40%	0%	60%
BTF-ACI (70%)	88%	0%	12%	50%	0%	50%	90%	0%	10%	44%	0%	56%

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%)	1	0	0	16
Floor (70%)	1	0	0	16
Rec (50%)	1	0	0	16
Rec (70%)	1	0	0	16
BTF-ACI (50%)	2	0	0	23
BTF-ACI (70%)	2	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%)	2	0	0	13
Floor (70%)	2	0	0	13
Rec (50%)	2	0	0	13
Rec (70%)	2	0	0	13
BTF-ACI (50%)	3	1	0	26
BTF-ACI (70%)	3	1	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.

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%)	6%	0%	0%	15%
Floor (70%)	6%	0%	0%	15%
Rec (50%)	6%	0%	0%	15%
Rec (70%)	6%	0%	0%	15%
BTF-ACI (50%)	11%	0%	0%	21%
BTF-ACI (70%)	11%	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%)	11%	0%	0%	12%
Floor (70%)	11%	0%	0%	12%
Rec (50%)	11%	0%	0%	12%
Rec (70%)	11%	0%	0%	12%
BTF-ACI (50%)	17%	25%	0%	24%
BTF-ACI (70%)	17%	25%	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.

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%)	11,530	0	3,170	47,640	62,340	2%
Floor (70%)	11,530	0	3,170	47,640	62,340	2%
Rec (50%)	11,530	0	3,170	47,640	62,340	2%
Rec (70%)	11,530	0	3,170	47,640	62,340	2%
BTF-ACI (50%)	37,590	0	3,170	61,200	101,960	3%
BTF-ACI (70%)	37,590	0	3,170	61,200	101,960	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

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	102,050	105,220	3%
Floor (50%)	42,550	0	3,170	112,750	158,470	5%
Floor (70%)	42,550	0	3,170	112,750	158,470	5%
Rec (50%)	42,550	500	3,170	112,750	158,970	5%
Rec (70%)	42,550	500	3,170	112,750	158,970	5%
BTF-ACI (50%)	54,550	15,650	3,170	212,680	286,050	9%
BTF-ACI (70%)	54,550	15,650	3,170	182,910	256,280	8%

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%)	21	21	0	3	0	0	129	229	150	252
Floor (70%)	21	21	0	3	0	0	129	229	150	252
Rec (50%)	21	21	0	3	0	0	129	229	150	252
Rec (70%)	21	21	0	3	0	0	129	229	150	252
BTF-ACI (50%)	42	42	0	3	0	0	145	274	187	318
BTF-ACI (70%)	42	42	0	3	0	0	145	274	187	318

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	342	405	422	485
Floor (50%)	42	49	0	3	0	0	96	115	138	167
Floor (70%)	42	49	0	3	0	0	96	115	138	167
Rec (50%)	42	49	0	7	0	0	96	115	138	171
Rec (70%)	42	49	0	7	0	0	96	115	138	171
BTF-ACI (50%)	62	70	14	24	0	0	139	171	216	265
BTF-ACI (70%)	62	70	14	24	0	0	121	129	197	223

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	73	4	10	31	5	124
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	48	3	9	79	8	148
Permitting	2	0	1	5	1	10
Total	**123**	**8**	**21**	**115**	**15**	282

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: Flr(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	48	4	8	28	5	92
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	33	3	7	71	7	122
Permitting	2	0	1	5	1	10
Total	**83**	**7**	**16**	**104**	**13**	223

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	73	5	12	38	5	133
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	48	4	13	94	8	167
Permitting	2	0	1	5	1	10
Total	**123**	**9**	**26**	**137**	**15**	310

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	49	4	10	34	5	101
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	33	4	12	86	7	142
Permitting	2	0	1	5	1	10
Total	**84**	**8**	**23**	**125**	**13**	253

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	86	7	22	76	13	205
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	74	13	35	170	24	317
Permitting	2	0	1	5	1	10
Total	**162**	**21**	**58**	**251**	**39**	531

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	69	6	20	73	13	181
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	59	11	34	164	22	290
Permitting	2	0	1	5	1	9
Total	**130**	**18**	**55**	**242**	**37**	481

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	$728
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%	30%	18%	27%	0%	0%	25%	50%	25%	70%	20%	10%	0%	0%	40%	15%	33%	6%	6%	24%	14%	48%	5%	10%
Floor (70%)	30%	15%	18%	15%	21%	13%	25%	0%	50%	13%	75%	15%	10%	0%	0%	42%	25%	23%	6%	4%	33%	19%	33%	5%	10%
Rec (50%)	3%	21%	30%	15%	30%	0%	0%	13%	50%	38%	70%	20%	10%	0%	0%	35%	15%	42%	4%	4%	24%	14%	48%	5%	10%
Rec (70%)	24%	21%	15%	12%	27%	0%	0%	13%	63%	25%	75%	15%	10%	0%	0%	37%	23%	35%	2%	4%	33%	19%	33%	5%	10%
BTF-ACI (50%)	3%	6%	15%	9%	67%	0%	0%	0%	50%	50%	50%	30%	20%	0%	0%	17%	23%	37%	12%	12%	10%	10%	29%	38%	14%
BTF-ACI (70%)	18%	12%	3%	18%	48%	0%	0%	0%	50%	50%	50%	40%	10%	0%	0%	17%	23%	37%	12%	12%	19%	14%	19%	33%	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%)	39%	21%	27%	12%	0%	0%	13%	75%	13%	0%	90%	0%	0%	5%	5%	54%	8%	17%	10%	12%
Floor (70%)	52%	18%	24%	6%	0%	25%	13%	50%	13%	0%	90%	0%	0%	5%	5%	56%	12%	13%	8%	12%
Rec (50%)	39%	18%	30%	12%	0%	0%	0%	75%	25%	0%	90%	0%	0%	5%	5%	52%	10%	17%	4%	17%
Rec (70%)	48%	15%	30%	6%	0%	0%	0%	75%	25%	0%	90%	0%	0%	5%	5%	54%	12%	15%	4%	15%
BTF-ACI (50%)	15%	18%	48%	15%	3%	0%	0%	63%	13%	25%	90%	0%	0%	5%	5%	40%	12%	12%	10%	27%
BTF-ACI (70%)	33%	15%	36%	15%	0%	0%	0%	63%	13%	25%	90%	0%	0%	5%	5%	38%	17%	8%	12%	25%

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	Operating Profit Margin		% Margin after	Operating Profit Margin		% Margin after	Operating Profit Margin		% Margin after
	$ Change	% Change	the Rule	$ Change	% Change	the Rule	$ Change	% Change	the Rule	$ Change	% Change	the Rule
Floor (50%)	($38)	-27%	60%	($60)	-60%	29%	($21)	-5%	55%	($33)	-9%	59%
Floor (70%)	($15)	-11%	73%	($45)	-45%	40%	($15)	-4%	56%	($27)	-7%	60%
Rec (50%)	($39)	-28%	59%	($69)	-70%	22%	($20)	-5%	56%	($33)	-9%	59%
Rec (70%)	($20)	-14%	70%	($68)	-68%	23%	($14)	-3%	56%	($28)	-7%	60%
BTF-ACI (50%)	($51)	-35%	53%	($82)	-82%	13%	($28)	-7%	54%	($36)	-8%	64%
BTF-ACI (70%)	($38)	-26%	61%	($82)	-82%	13%	($23)	-5%	55%	($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

(25% Price Pass-Through; PM CEM Option 1: Required for All Facilities)

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%)	$32	$6	$10	$45	$7	$101
Floor (70%)	$23	$5	$9	$40	$6	$83
Rec (50%)	$34	$7	$10	$48	$7	$107
Rec (70%)	$28	$7	$9	$44	$6	$93
BTF-ACI (50%)	$49	$8	$15	$77	$28	$177
BTF-ACI (70%)	$40	$8	$13	$73	$27	$161

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%)	$984,771	$615,567	$392,986	$327,607	$267,281
Floor (70%)	$711,018	$498,712	$346,935	$289,193	$244,036
Rec (50%)	$1,044,943	$694,503	$388,151	$350,601	$267,281
Rec (70%)	$836,534	$680,187	$334,569	$315,765	$244,036
BTF-ACI (50%)	$1,493,726	$830,054	$561,443	$554,597	$1,121,605
BTF-ACI (70%)	$1,197,851	$830,808	$509,381	$531,324	$1,081,017

Notes:

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER TON
(Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$43	$79	$172	$22,671
Floor (70%)	$34	$62	$202	$22,654
Rec (50%)	$46	$90	$165	$22,753
Rec (70%)	$37	$89	$160	$22,737
BTF-ACI (50%)	$63	$110	$215	$24,324
BTF-ACI (70%)	$52	$110	$209	$24,313

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%)	$43	$79	$172	$22,671
Floor (70%)	$34	$62	$202	$22,654
Rec (50%)	$46	$90	$165	$22,753
Rec (70%)	$37	$89	$160	$22,737
BTF-ACI (50%)	$63	$110	$215	$24,324
BTF-ACI (70%)	$52	$110	$209	$24,313

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 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	65%	63%	69%	67%	85%	83%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	15%	15%	71%	71%
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%	60%
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	48%	42%	44%	38%	52%	50%
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%	67%	62%
None	19%	19%	19%	19%	5%	10%

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%	0%	0%	0%	0%
Feed Control	100%	75%	100%	100%	100%	100%
None	0%	13%	0%	0%	0%	0%

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	8%	7%	7%	9%	15%	16%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	13%	15%	37%	40%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	17%	18%	13%	14%	3%	3%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	2%	3%	15%	16%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	2%	1%	2%	1%	1%	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%	3%	0%	3%	0%	0%
HEWS DOM, mod	5%	3%	5%	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	66%	68%	55%	51%	28%	24%
Total	100%	100%	100%	100%	100%	100%
On-Site Incinerators						
New Fabric Filters	33%	45%	32%	41%	24%	27%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	8%	11%	25%	28%
New Carbon Bed	0%	0%	0%	1%	1%	1%
New Quencher	5%	6%	3%	4%	1%	2%
New Afterburner	27%	6%	24%	5%	15%	3%
New Reheater	0%	0%	3%	5%	18%	20%
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%	2%	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	32%	38%	27%	30%	16%	18%
Total	100%	100%	100%	100%	100%	100%
Government On-Site Incinerators						
New Fabric Filters	18%	17%	18%	17%	15%	15%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	22%	23%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	1%
New Afterburner	5%	6%	5%	6%	3%	3%
New Reheater	0%	0%	0%	0%	8%	9%
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	7%	8%	7%	8%	4%	4%
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	1%	1%	1%	1%	1%	1%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	69%	68%	69%	68%	47%	43%
Total	100%	100%	100%	100%	100%	100%

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	26%	23%	24%	20%	28%	27%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	17%	17%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	18%	21%	17%	18%	9%	10%
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	2%	2%	2%	1%	1%	1%
DESP DOM, small	3%	0%	3%	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	51%	53%	54%	60%	44%	45%
Total	100%	100%	100%	100%	100%	100%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	18%	14%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	20%	16%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	17%	21%	17%	16%	7%	7%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	1%	0%	1%	0%	0%	0%
Fabric Filter DOM, mod	1%	0%	1%	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%	0%	0%	0%	0%
Feed Control	81%	78%	82%	84%	55%	63%
Total	100%	100%	100%	100%	100%	100%

PERCENTAGE OF COMBUSTION SYSTEMS CURRENTLY 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%)	3%	9%	13%	38%	10%	10%	4%	31%	8%	40%
Floor (70%)	3%	9%	13%	25%	10%	10%	6%	31%	2%	40%
Rec (50%)	3%	9%	13%	50%	10%	10%	0%	31%	8%	40%
Rec (70%)	3%	9%	13%	50%	10%	10%	2%	31%	2%	40%
BTF-ACI (50%)	6%	12%	25%	63%	10%	10%	6%	35%	6%	48%
BTF-ACI (70%)	6%	12%	25%	63%	10%	10%	6%	35%	6%	48%

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%)	$31	$5	$9	$27	$7	$78	-22%
Floor (70%)	$22	$4	$7	$23	$6	$62	-26%
Rec (50%)	$33	$6	$9	$28	$7	$82	-23%
Rec (70%)	$26	$6	$7	$24	$6	$69	-25%
BTF-ACI (50%)	$43	$7	$13	$46	$28	$137	-23%
BTF-ACI (70%)	$35	$7	$11	$44	$27	$124	-23%

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%)	$4.57
Floor (70%)	$4.57
Rec (50%)	$4.57
Rec (70%)	$4.57
BTF-ACI (50%)	$6.65
BTF-ACI (70%)	$6.65

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%)	$83
Floor (70%)	$66
Rec (50%)	$86
Rec (70%)	$74
BTF-ACI (50%)	$143
BTF-ACI (70%)	$131

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%)	$969,106	$588,500	$368,791	$324,919	$267,281
Floor (70%)	$686,799	$454,952	$310,666	$274,123	$244,036
Rec (50%)	$1,031,158	$670,874	$363,875	$337,446	$267,281
Rec (70%)	$816,236	$654,512	$305,751	$292,653	$244,036
BTF-ACI (50%)	$1,393,549	$787,358	$546,814	$618,002	$1,121,605
BTF-ACI (70%)	$1,126,582	$788,220	$490,379	$587,054	$1,081,017

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%)	$40	$64	$23	$32
Floor (70%)	$31	$50	$18	$25
Rec (50%)	$43	$74	$23	$32
Rec (70%)	$35	$72	$17	$26
BTF-ACI (50%)	$57	$87	$31	$41
BTF-ACI (70%)	$47	$87	$25	$38

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%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	60%	0%	40%
Floor (70%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	60%	0%	40%
Rec (50%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	60%	0%	40%
Rec (70%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	60%	0%	40%
BTF-ACI (50%)	94%	0%	6%	88%	0%	13%	90%	0%	10%	54%	0%	46%
BTF-ACI (70%)	94%	0%	6%	88%	0%	13%	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: **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%)	91%	0%	9%	88%	0%	13%	90%	0%	10%	50%	0%	50%
Floor (70%)	91%	0%	9%	88%	0%	13%	90%	0%	10%	48%	0%	52%
Rec (50%)	91%	0%	9%	75%	0%	25%	90%	0%	10%	50%	0%	50%
Rec (70%)	91%	0%	9%	75%	0%	25%	90%	0%	10%	50%	0%	50%
BTF-ACI (50%)	88%	0%	12%	75%	0%	25%	90%	0%	10%	46%	0%	54%
BTF-ACI (70%)	88%	0%	12%	63%	0%	38%	90%	0%	10%	44%	0%	56%

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%)	1	0	0	20
Floor (70%)	1	0	0	20
Rec (50%)	1	0	0	20
Rec (70%)	1	0	0	20
BTF-ACI (50%)	2	0	0	23
BTF-ACI (70%)	2	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: **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%)	2	0	0	13
Floor (70%)	2	0	0	16
Rec (50%)	2	0	0	13
Rec (70%)	2	0	0	13
BTF-ACI (50%)	3	0	0	20
BTF-ACI (70%)	3	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.

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%)	6%	0%	0%	18%
Floor (70%)	6%	0%	0%	18%
Rec (50%)	6%	0%	0%	18%
Rec (70%)	6%	0%	0%	18%
BTF-ACI (50%)	11%	0%	0%	21%
BTF-ACI (70%)	11%	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%)	11%	0%	0%	12%
Floor (70%)	11%	0%	0%	15%
Rec (50%)	11%	0%	0%	12%
Rec (70%)	11%	0%	0%	12%
BTF-ACI (50%)	17%	0%	0%	18%
BTF-ACI (70%)	17%	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.

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%)	11,530	0	3,170	56,370	71,070	2%
Floor (70%)	11,530	0	3,170	56,370	71,070	2%
Rec (50%)	11,530	0	3,170	56,370	71,070	2%
Rec (70%)	11,530	0	3,170	56,370	71,070	2%
BTF-ACI (50%)	37,590	0	3,170	61,200	101,960	3%
BTF-ACI (70%)	37,590	0	3,170	61,200	101,960	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

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	102,050	105,220	3%
Floor (50%)	42,550	0	3,170	112,750	158,470	5%
Floor (70%)	42,550	0	3,170	124,180	169,900	5%
Rec (50%)	42,550	500	3,170	112,750	158,970	5%
Rec (70%)	42,550	500	3,170	112,750	158,970	5%
BTF-ACI (50%)	54,550	500	3,170	136,070	194,290	6%
BTF-ACI (70%)	54,550	4,620	3,170	182,910	245,250	7%

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%)	21	21	0	3	0	0	137	253	158	276
Floor (70%)	21	21	0	3	0	0	137	253	158	276
Rec (50%)	21	21	0	3	0	0	137	253	158	276
Rec (70%)	21	21	0	3	0	0	137	253	158	276
BTF-ACI (50%)	42	42	0	3	0	0	145	274	187	318
BTF-ACI (70%)	42	42	0	3	0	0	145	274	187	318

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	342	405	422	485
Floor (50%)	42	49	0	3	0	0	96	115	138	167
Floor (70%)	42	49	0	3	0	0	96	115	138	167
Rec (50%)	42	49	0	7	0	0	96	115	138	171
Rec (70%)	42	49	0	7	0	0	96	115	138	171
BTF-ACI (50%)	62	70	0	7	0	0	104	123	167	200
BTF-ACI (70%)	62	70	0	10	0	0	121	129	183	208

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	73	4	11	29	5	122
CEMs	14	4	11	44	16	90
Labor Within Combustion Sector						
O&M	48	4	9	73	8	142
Permitting	2	0	1	5	1	10
Total	**137**	**12**	**33**	**150**	**31**	363

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	48	4	8	25	5	90
CEMs	14	4	11	42	16	87
Labor Within Combustion Sector						
O&M	33	3	7	65	7	116
Permitting	2	0	1	4	1	9
Total	**97**	**11**	**27**	**137**	**29**	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: **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	73	5	12	35	5	131
CEMs	14	4	11	43	16	89
Labor Within Combustion Sector						
O&M	48	4	13	87	8	160
Permitting	2	0	1	4	1	9
Total	**138**	**14**	**38**	**170**	**31**	389

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	49	4	10	31	5	99
CEMs	14	4	11	41	16	87
Labor Within Combustion Sector						
O&M	34	4	12	79	7	136
Permitting	2	0	1	4	1	9
Total	**98**	**12**	**34**	**156**	**29**	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: **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	87	7	22	75	13	204
CEMs	13	4	12	45	16	90
Labor Within Combustion Sector						
O&M	74	13	35	169	24	315
Permitting	2	0	1	5	1	9
Total	**175**	**25**	**70**	**294**	**55**	619

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	69	6	20	72	13	181
CEMs	13	4	12	45	16	90
Labor Within Combustion Sector						
O&M	59	11	34	162	22	289
Permitting	2	0	1	5	1	9
Total	**143**	**22**	**67**	**284**	**53**	569

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	$728
Increase in price due to compliance costs passed through				
Floor (50%)	$10	$10	$7	$8
Floor (70%)	$4	$4	$4	$4
Rec (50%)	$10	$10	$7	$8
Rec (70%)	$5	$5	$5	$5
BTF-ACI (50%)	$14	$14	$10	$11
BTF-ACI (70%)	$12	$12	$9	$10

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%)	12%	9%	30%	21%	27%	0%	0%	25%	38%	38%	70%	10%	20%	0%	0%	33%	21%	33%	8%	6%	24%	10%	48%	10%	10%
Floor (70%)	30%	12%	21%	12%	24%	13%	13%	13%	25%	38%	70%	20%	5%	5%	0%	33%	31%	25%	8%	4%	29%	14%	38%	10%	10%
Rec (50%)	3%	9%	39%	18%	30%	0%	0%	13%	50%	38%	70%	10%	20%	0%	0%	27%	19%	42%	6%	6%	24%	10%	48%	10%	10%
Rec (70%)	24%	18%	18%	9%	30%	0%	0%	13%	50%	38%	70%	20%	10%	0%	0%	27%	29%	37%	2%	6%	29%	14%	38%	10%	10%
BTF-ACI (50%)	3%	3%	18%	9%	67%	0%	0%	0%	38%	63%	40%	40%	15%	5%	0%	10%	23%	42%	4%	21%	10%	5%	19%	52%	14%
BTF-ACI (70%)	18%	9%	6%	18%	48%	0%	0%	0%	38%	63%	45%	45%	5%	5%	0%	12%	23%	42%	4%	19%	19%	5%	14%	48%	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%)	33%	27%	27%	12%	0%	0%	13%	75%	13%	0%	90%	0%	0%	0%	10%	48%	8%	19%	12%	13%
Floor (70%)	52%	18%	24%	6%	0%	25%	13%	50%	13%	0%	90%	0%	0%	5%	5%	50%	13%	15%	8%	13%
Rec (50%)	33%	24%	30%	12%	0%	0%	0%	75%	25%	0%	90%	0%	0%	0%	10%	48%	10%	21%	4%	17%
Rec (70%)	48%	15%	30%	6%	0%	0%	0%	75%	25%	0%	90%	0%	0%	0%	10%	50%	13%	17%	4%	15%
BTF-ACI (50%)	15%	18%	45%	18%	3%	0%	0%	63%	13%	25%	80%	10%	0%	0%	10%	35%	12%	17%	6%	31%
BTF-ACI (70%)	33%	15%	33%	18%	0%	0%	0%	63%	13%	25%	90%	0%	0%	0%	10%	35%	15%	13%	8%	29%

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	Operating Profit Margin		% Margin after	Operating Profit Margin		% Margin after	Operating Profit Margin		% Margin after
	$ Change	% Change	the Rule	$ Change	% Change	the Rule	$ Change	% Change	the Rule	$ Change	% Change	the Rule
Floor (50%)	($30)	-25%	61%	($54)	-58%	31%	($14)	-5%	56%	($22)	-7%	62%
Floor (70%)	($12)	-10%	73%	($46)	-47%	39%	($14)	-4%	56%	($21)	-6%	63%
Rec (50%)	($30)	-26%	61%	($64)	-67%	24%	($13)	-4%	56%	($22)	-7%	62%
Rec (70%)	($16)	-14%	70%	($67)	-69%	23%	($12)	-4%	56%	($21)	-6%	63%
BTF-ACI (50%)	($40)	-33%	56%	($74)	-76%	17%	($18)	-6%	55%	($27)	-8%	64%
BTF-ACI (70%)	($29)	-24%	62%	($77)	-79%	15%	($16)	-5%	55%	($28)	-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

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

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%)	$31	$6	$9	$39	$5	$90
Floor (70%)	$22	$5	$8	$33	$5	$72
Rec (50%)	$33	$7	$9	$42	$5	$95
Rec (70%)	$26	$6	$7	$37	$5	$82
BTF-ACI (50%)	$48	$8	$13	$70	$27	$166
BTF-ACI (70%)	$38	$8	$12	$67	$26	$150

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%)	$944,126	$572,964	$346,569	$279,131	$210,317
Floor (70%)	$670,373	$456,109	$300,518	$240,717	$187,072
Rec (50%)	$1,004,297	$651,900	$341,734	$302,125	$210,317
Rec (70%)	$795,888	$637,584	$288,152	$267,289	$187,072
BTF-ACI (50%)	$1,453,081	$787,451	$515,027	$506,121	$1,064,641
BTF-ACI (70%)	$1,157,206	$788,205	$462,965	$482,848	$1,024,053

Notes:

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER TON
(Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$41	$73	$157	$20,740
Floor (70%)	$32	$56	$188	$20,723
Rec (50%)	$44	$85	$151	$20,822
Rec (70%)	$36	$83	$145	$20,806
BTF-ACI (50%)	$61	$105	$201	$22,392
BTF-ACI (70%)	$50	$105	$195	$22,381

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%)	$41	$73	$157	$20,740
Floor (70%)	$32	$56	$188	$20,723
Rec (50%)	$44	$85	$151	$20,822
Rec (70%)	$36	$83	$145	$20,806
BTF-ACI (50%)	$61	$105	$201	$22,392
BTF-ACI (70%)	$50	$105	$195	$22,381

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 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	65%	63%	69%	67%	85%	83%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	15%	15%	71%	71%
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%	60%
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	48%	42%	44%	38%	52%	50%
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%	67%	62%
None	19%	19%	19%	19%	5%	10%

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%	0%	0%	0%	0%
Feed Control	100%	75%	100%	100%	100%	100%
None	0%	13%	0%	0%	0%	0%

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	8%	7%	7%	9%	15%	16%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	13%	15%	37%	40%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	17%	18%	13%	14%	3%	3%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	2%	3%	15%	16%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	2%	1%	2%	1%	1%	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%	3%	0%	3%	0%	0%
HEWS DOM, mod	5%	3%	5%	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	66%	68%	55%	51%	28%	24%
Total	100%	100%	100%	100%	100%	100%
On-Site Incinerators						
New Fabric Filters	33%	45%	32%	41%	24%	27%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	8%	11%	25%	28%
New Carbon Bed	0%	0%	0%	1%	1%	1%
New Quencher	5%	6%	3%	4%	1%	2%
New Afterburner	27%	6%	24%	5%	15%	3%
New Reheater	0%	0%	3%	5%	18%	20%
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%	2%	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	32%	38%	27%	30%	16%	18%
Total	100%	100%	100%	100%	100%	100%
Government On-Site Incinerators						
New Fabric Filters	18%	17%	18%	17%	15%	15%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	22%	23%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	1%
New Afterburner	5%	6%	5%	6%	3%	3%
New Reheater	0%	0%	0%	0%	8%	9%
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	7%	8%	7%	8%	4%	4%
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	1%	1%	1%	1%	1%	1%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	69%	68%	69%	68%	47%	43%
Total	100%	100%	100%	100%	100%	100%

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	26%	23%	24%	20%	28%	27%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	17%	17%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	18%	21%	17%	18%	9%	10%
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	2%	2%	2%	1%	1%	1%
DESP DOM, small	3%	0%	3%	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	51%	53%	54%	60%	44%	45%
Total	100%	100%	100%	100%	100%	100%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	18%	14%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	20%	16%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	17%	21%	17%	16%	7%	7%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	1%	0%	1%	0%	0%	0%
Fabric Filter DOM, mod	1%	0%	1%	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%	0%	0%	0%	0%
Feed Control	81%	78%	82%	84%	55%	63%
Total	100%	100%	100%	100%	100%	100%

PERCENTAGE OF COMBUSTION SYSTEMS CURRENTLY 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%)	3%	9%	13%	25%	10%	10%	8%	23%	10%	38%
Floor (70%)	3%	9%	13%	13%	10%	10%	12%	21%	4%	38%
Rec (50%)	3%	9%	13%	50%	10%	10%	8%	23%	10%	38%
Rec (70%)	3%	9%	13%	50%	10%	10%	12%	21%	4%	38%
BTF-ACI (50%)	6%	12%	25%	63%	10%	10%	6%	33%	8%	46%
BTF-ACI (70%)	6%	12%	25%	63%	10%	10%	6%	33%	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%)	$30	$5	$8	$25	$5	$72	-20%
Floor (70%)	$21	$4	$6	$21	$5	$56	-23%
Rec (50%)	$32	$5	$7	$26	$5	$76	-21%
Rec (70%)	$25	$5	$6	$22	$5	$63	-23%
BTF-ACI (50%)	$42	$7	$12	$43	$27	$130	-22%
BTF-ACI (70%)	$34	$7	$10	$40	$26	$116	-23%

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%)	$0.81
Floor (70%)	$0.81
Rec (50%)	$0.81
Rec (70%)	$0.81
BTF-ACI (50%)	$4.57
BTF-ACI (70%)	$6.65

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%)	$73
Floor (70%)	$57
Rec (50%)	$76
Rec (70%)	$64
BTF-ACI (50%)	$135
BTF-ACI (70%)	$123

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%)	$928,461	$545,617	$322,145	$283,005	$210,317
Floor (70%)	$646,153	$412,069	$264,021	$235,288	$187,072
Rec (50%)	$990,513	$627,991	$317,230	$294,773	$210,317
Rec (70%)	$775,591	$611,630	$259,105	$252,694	$187,072
BTF-ACI (50%)	$1,352,904	$744,476	$500,168	$561,981	$1,064,641
BTF-ACI (70%)	$1,085,936	$745,337	$443,733	$538,578	$1,024,053

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%)	$38	$60	$21	$33
Floor (70%)	$29	$45	$15	$27
Rec (50%)	$41	$69	$20	$33
Rec (70%)	$33	$68	$14	$28
BTF-ACI (50%)	$56	$82	$28	$41
BTF-ACI (70%)	$45	$82	$23	$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

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%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	63%	0%	37%
Floor (70%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	63%	0%	37%
Rec (50%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	63%	0%	37%
Rec (70%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	63%	0%	37%
BTF-ACI (50%)	94%	0%	6%	88%	0%	13%	90%	0%	10%	56%	0%	44%
BTF-ACI (70%)	94%	0%	6%	88%	0%	13%	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: **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%)	94%	0%	6%	88%	0%	13%	90%	0%	10%	50%	0%	50%
Floor (70%)	91%	0%	9%	88%	0%	13%	90%	0%	10%	50%	0%	50%
Rec (50%)	94%	0%	6%	75%	0%	25%	90%	0%	10%	50%	0%	50%
Rec (70%)	91%	0%	9%	75%	0%	25%	90%	0%	10%	50%	0%	50%
BTF-ACI (50%)	88%	0%	12%	75%	0%	25%	90%	0%	10%	46%	0%	54%
BTF-ACI (70%)	88%	0%	12%	75%	0%	25%	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: **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%)	1	0	0	16
Floor (70%)	1	0	0	16
Rec (50%)	1	0	0	16
Rec (70%)	1	0	0	16
BTF-ACI (50%)	2	0	0	20
BTF-ACI (70%)	2	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: **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%)	2	0	0	13
Floor (70%)	2	0	0	13
Rec (50%)	2	0	0	13
Rec (70%)	2	0	0	13
BTF-ACI (50%)	3	0	0	20
BTF-ACI (70%)	3	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: **25%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0%	0%	13%	24%
Floor (50%)	6%	0%	0%	15%
Floor (70%)	6%	0%	0%	15%
Rec (50%)	6%	0%	0%	15%
Rec (70%)	6%	0%	0%	15%
BTF-ACI (50%)	11%	0%	0%	18%
BTF-ACI (70%)	11%	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%)	11%	0%	0%	12%
Floor (70%)	11%	0%	0%	12%
Rec (50%)	11%	0%	0%	12%
Rec (70%)	11%	0%	0%	12%
BTF-ACI (50%)	17%	0%	0%	18%
BTF-ACI (70%)	17%	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.

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%)	11,530	0	3,170	47,640	62,340	2%
Floor (70%)	11,530	0	3,170	47,640	62,340	2%
Rec (50%)	11,530	0	3,170	47,640	62,340	2%
Rec (70%)	11,530	0	3,170	47,640	62,340	2%
BTF-ACI (50%)	37,590	0	3,170	56,370	97,130	3%
BTF-ACI (70%)	37,590	0	3,170	61,200	101,960	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

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	102,050	105,220	3%
Floor (50%)	28,490	0	3,170	112,750	144,410	4%
Floor (70%)	42,550	0	3,170	112,750	158,470	5%
Rec (50%)	28,490	500	3,170	112,750	144,910	4%
Rec (70%)	42,550	500	3,170	112,750	158,970	5%
BTF-ACI (50%)	54,550	500	3,170	136,070	194,290	6%
BTF-ACI (70%)	54,550	500	3,170	136,070	194,290	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: 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%)	21	21	0	3	0	0	129	229	150	252
Floor (70%)	21	21	0	3	0	0	129	229	150	252
Rec (50%)	21	21	0	3	0	0	129	229	150	252
Rec (70%)	21	21	0	3	0	0	129	229	150	252
BTF-ACI (50%)	42	42	0	3	0	0	137	266	179	310
BTF-ACI (70%)	42	42	0	3	0	0	145	274	187	318

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	342	405	422	485
Floor (50%)	42	42	0	3	0	0	96	115	138	159
Floor (70%)	42	49	0	3	0	0	96	115	138	167
Rec (50%)	42	42	0	7	0	0	96	115	138	163
Rec (70%)	42	49	0	7	0	0	96	115	138	171
BTF-ACI (50%)	62	70	0	7	0	0	104	123	167	200
BTF-ACI (70%)	62	70	0	7	0	0	104	123	167	200

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	73	4	10	31	5	124
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	48	3	9	79	8	148
Permitting	2	0	1	5	1	10
Total	**123**	**8**	**21**	**115**	**15**	282

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	48	4	8	28	5	92
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	33	3	7	71	7	122
Permitting	2	0	1	5	1	10
Total	**83**	**7**	**16**	**104**	**13**	223

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	73	5	12	38	5	133
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	48	4	13	94	8	167
Permitting	2	0	1	5	1	10
Total	**123**	**9**	**26**	**137**	**15**	310

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	49	4	10	34	5	101
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	33	4	12	86	7	142
Permitting	2	0	1	5	1	10
Total	**84**	**8**	**23**	**125**	**13**	253

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	86	7	22	78	13	207
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	74	13	35	174	24	320
Permitting	2	0	1	5	1	10
Total	**162**	**21**	**58**	**257**	**39**	537

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	69	6	20	73	13	181
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	59	11	34	164	22	290
Permitting	2	0	1	5	1	9
Total	**130**	**18**	**55**	**242**	**37**	481

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	$728
Increase in price due to compliance costs passed through				
Floor (50%)	$9	$9	$7	$7
Floor (70%)	$4	$4	$3	$4
Rec (50%)	$10	$10	$7	$8
Rec (70%)	$5	$5	$4	$4
BTF-ACI (50%)	$13	$13	$10	$11
BTF-ACI (70%)	$12	$12	$9	$10

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%	30%	18%	27%	0%	0%	25%	50%	25%	70%	20%	10%	0%	0%	40%	15%	33%	6%	6%	24%	14%	48%	5%	10%
Floor (70%)	30%	15%	18%	15%	21%	13%	25%	0%	50%	13%	75%	15%	10%	0%	0%	42%	25%	23%	6%	4%	33%	19%	33%	5%	10%
Rec (50%)	3%	21%	30%	15%	30%	0%	0%	13%	50%	38%	70%	20%	10%	0%	0%	35%	15%	42%	4%	4%	24%	14%	48%	5%	10%
Rec (70%)	24%	21%	15%	12%	27%	0%	0%	13%	63%	25%	75%	15%	10%	0%	0%	37%	23%	35%	2%	4%	33%	19%	33%	5%	10%
BTF-ACI (50%)	3%	6%	15%	9%	67%	0%	0%	0%	50%	50%	50%	30%	20%	0%	0%	17%	23%	37%	12%	12%	10%	10%	29%	38%	14%
BTF-ACI (70%)	18%	12%	3%	18%	48%	0%	0%	0%	50%	50%	50%	40%	10%	0%	0%	17%	23%	37%	12%	12%	19%	14%	19%	33%	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%)	39%	21%	27%	12%	0%	0%	13%	75%	13%	0%	90%	0%	0%	5%	5%	54%	8%	17%	10%	12%
Floor (70%)	52%	18%	24%	6%	0%	25%	13%	50%	13%	0%	90%	0%	0%	5%	5%	56%	12%	13%	8%	12%
Rec (50%)	39%	18%	30%	12%	0%	0%	0%	75%	25%	0%	90%	0%	0%	5%	5%	52%	10%	17%	4%	17%
Rec (70%)	48%	15%	30%	6%	0%	0%	0%	75%	25%	0%	90%	0%	0%	5%	5%	54%	12%	15%	4%	15%
BTF-ACI (50%)	15%	18%	48%	15%	3%	0%	0%	63%	13%	25%	90%	0%	0%	5%	5%	40%	12%	12%	10%	27%
BTF-ACI (70%)	33%	15%	36%	15%	0%	0%	0%	63%	13%	25%	90%	0%	0%	5%	5%	38%	17%	8%	12%	25%

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	Operating Profit Margin		% Margin after	Operating Profit Margin		% Margin after	Operating Profit Margin		% Margin after
	$ Change	% Change	the Rule	$ Change	% Change	the Rule	$ Change	% Change	the Rule	$ Change	% Change	the Rule
Floor (50%)	($28)	-24%	62%	($50)	-54%	34%	($11)	-4%	56%	($24)	-8%	60%
Floor (70%)	($11)	-10%	73%	($41)	-43%	42%	($11)	-3%	56%	($23)	-7%	60%
Rec (50%)	($29)	-25%	61%	($60)	-62%	27%	($10)	-4%	56%	($24)	-8%	60%
Rec (70%)	($15)	-13%	71%	($63)	-64%	26%	($9)	-3%	57%	($23)	-7%	60%
BTF-ACI (50%)	($38)	-31%	57%	($69)	-72%	20%	($16)	-6%	55%	($29)	-9%	63%
BTF-ACI (70%)	($28)	-24%	63%	($73)	-75%	18%	($13)	-5%	56%	($24)	-7%	65%

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)

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%)	$32	$6	$10	$45	$7	$101
Floor (70%)	$23	$5	$9	$40	$6	$83
Rec (50%)	$34	$7	$10	$48	$7	$107
Rec (70%)	$28	$7	$9	$44	$6	$93
BTF-ACI (50%)	$49	$8	$15	$77	$28	$177
BTF-ACI (70%)	$40	$8	$13	$73	$27	$161

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%)	$984,771	$615,567	$392,986	$327,607	$267,281
Floor (70%)	$711,018	$498,712	$346,935	$289,193	$244,036
Rec (50%)	$1,044,943	$694,503	$388,151	$350,601	$267,281
Rec (70%)	$836,534	$680,187	$334,569	$315,765	$244,036
BTF-ACI (50%)	$1,493,726	$830,054	$561,443	$554,597	$1,121,605
BTF-ACI (70%)	$1,197,851	$830,808	$509,381	$531,324	$1,081,017

Notes:

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER TON
(Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$43	$79	$172	$22,671
Floor (70%)	$34	$62	$202	$22,654
Rec (50%)	$46	$90	$165	$22,753
Rec (70%)	$37	$89	$160	$22,737
BTF-ACI (50%)	$63	$110	$215	$24,324
BTF-ACI (70%)	$52	$110	$209	$24,313

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%)	$43	$79	$172	$22,671
Floor (70%)	$34	$62	$202	$22,654
Rec (50%)	$46	$90	$165	$22,753
Rec (70%)	$37	$89	$160	$22,737
BTF-ACI (50%)	$63	$110	$215	$24,324
BTF-ACI (70%)	$52	$110	$209	$24,313

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%	0%	0%	0%	0%
Feed Control	100%	75%	100%	100%	100%	100%
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	65%	63%	69%	67%	85%	83%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	15%	15%	71%	71%
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%	60%
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	48%	42%	44%	38%	52%	50%
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%	67%	62%
None	19%	19%	19%	19%	5%	10%

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	26%	23%	24%	20%	28%	27%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	17%	17%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	18%	21%	17%	18%	9%	10%
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	2%	2%	2%	1%	1%	1%
DESP DOM, small	3%	0%	3%	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	51%	53%	54%	60%	44%	45%
Total	100%	100%	100%	100%	100%	100%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	18%	14%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	20%	16%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	17%	21%	17%	16%	7%	7%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	1%	0%	1%	0%	0%	0%
Fabric Filter DOM, mod	1%	0%	1%	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%	0%	0%	0%	0%
Feed Control	81%	78%	82%	84%	55%	63%
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	8%	7%	7%	9%	15%	16%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	13%	15%	37%	40%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	17%	18%	13%	14%	3%	3%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	2%	3%	15%	16%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	2%	1%	2%	1%	1%	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%	3%	0%	3%	0%	0%
HEWS DOM, mod	5%	3%	5%	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	66%	68%	55%	51%	28%	24%
Total	100%	100%	100%	100%	100%	100%
On-Site Incinerators						
New Fabric Filters	33%	45%	32%	41%	24%	27%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	8%	11%	25%	28%
New Carbon Bed	0%	0%	0%	1%	1%	1%
New Quencher	5%	6%	3%	4%	1%	2%
New Afterburner	27%	6%	24%	5%	15%	3%
New Reheater	0%	0%	3%	5%	18%	20%
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%	2%	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	32%	38%	27%	30%	16%	18%
Total	100%	100%	100%	100%	100%	100%
Government On-Site Incinerators						
New Fabric Filters	18%	17%	18%	17%	15%	15%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	22%	23%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	1%
New Afterburner	5%	6%	5%	6%	3%	3%
New Reheater	0%	0%	0%	0%	8%	9%
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	7%	8%	7%	8%	4%	4%
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	1%	1%	1%	1%	1%	1%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	69%	68%	69%	68%	47%	43%
Total	100%	100%	100%	100%	100%	100%

PERCENTAGE OF COMBUSTION SYSTEMS CURRENTLY 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%)	3%	9%	13%	38%	10%	10%	4%	31%	8%	40%
Floor (70%)	3%	9%	13%	25%	10%	10%	6%	31%	2%	40%
Rec (50%)	3%	9%	13%	50%	10%	10%	0%	31%	8%	40%
Rec (70%)	3%	9%	13%	50%	10%	10%	2%	31%	2%	40%
BTF-ACI (50%)	6%	12%	25%	63%	10%	10%	6%	35%	6%	48%
BTF-ACI (70%)	6%	12%	25%	63%	10%	10%	6%	35%	6%	48%

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%)	$31	$6	$9	$30	$7	$82	-19%
Floor (70%)	$22	$4	$7	$23	$6	$62	-26%
Rec (50%)	$33	$6	$9	$31	$7	$85	-21%
Rec (70%)	$26	$6	$7	$26	$6	$71	-23%
BTF-ACI (50%)	$45	$7	$13	$48	$28	$141	-20%
BTF-ACI (70%)	$35	$7	$11	$46	$27	$127	-22%

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%)	$0.81
Floor (70%)	$4.57
Rec (50%)	$0.81
Rec (70%)	$0.81
BTF-ACI (50%)	$4.57
BTF-ACI (70%)	$6.65

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%)	$83
Floor (70%)	$66
Rec (50%)	$85
Rec (70%)	$72
BTF-ACI (50%)	$145
BTF-ACI (70%)	$133

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%)	$969,106	$615,567	$368,791	$327,447	$267,281
Floor (70%)	$686,799	$454,952	$310,666	$274,123	$244,036
Rec (50%)	$1,031,158	$670,874	$363,875	$338,869	$267,281
Rec (70%)	$816,236	$654,512	$305,751	$301,171	$244,036
BTF-ACI (50%)	$1,396,440	$787,358	$546,814	$604,754	$1,121,605
BTF-ACI (70%)	$1,126,582	$788,220	$490,379	$580,545	$1,081,017

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%)	$40	$79	$23	$41
Floor (70%)	$31	$50	$18	$25
Rec (50%)	$43	$74	$23	$41
Rec (70%)	$35	$72	$17	$35
BTF-ACI (50%)	$60	$87	$31	$48
BTF-ACI (70%)	$47	$87	$25	$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%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	65%	0%	35%
Floor (70%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	60%	0%	40%
Rec (50%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	65%	0%	35%
Rec (70%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	63%	0%	37%
BTF-ACI (50%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	58%	0%	42%
BTF-ACI (70%)	94%	0%	6%	88%	0%	13%	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: **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%	88%	0%	13%	90%	0%	10%	52%	0%	48%
Floor (70%)	94%	0%	6%	88%	0%	13%	90%	0%	10%	50%	0%	50%
Rec (50%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	52%	0%	48%
Rec (70%)	94%	0%	6%	75%	0%	25%	90%	0%	10%	50%	0%	50%
BTF-ACI (50%)	94%	0%	6%	88%	0%	13%	90%	0%	10%	46%	0%	54%
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: **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%)	1	0	0	16
Floor (70%)	1	0	0	20
Rec (50%)	1	0	0	16
Rec (70%)	1	0	0	16
BTF-ACI (50%)	1	0	0	20
BTF-ACI (70%)	2	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: **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	10
Floor (70%)	2	0	0	13
Rec (50%)	1	0	0	10
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: **75%**

	Cement Kilns	LWAKs	Commercial Incinerators	On-site Incinerators
Facilities currently burning below break-even quantity in baseline	0%	0%	13%	24%
Floor (50%)	6%	0%	0%	15%
Floor (70%)	6%	0%	0%	18%
Rec (50%)	6%	0%	0%	15%
Rec (70%)	6%	0%	0%	15%
BTF-ACI (50%)	6%	0%	0%	18%
BTF-ACI (70%)	11%	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: **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%	9%
Floor (70%)	11%	0%	0%	12%
Rec (50%)	6%	0%	0%	9%
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 the 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%)	11,530	0	3,170	47,640	62,340	2%
Floor (70%)	11,530	0	3,170	56,370	71,070	2%
Rec (50%)	11,530	0	3,170	47,640	62,340	2%
Rec (70%)	11,530	0	3,170	47,640	62,340	2%
BTF-ACI (50%)	26,060	0	3,170	56,370	85,600	3%
BTF-ACI (70%)	37,590	0	3,170	61,200	101,960	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

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	102,050	105,220	3%
Floor (50%)	11,530	0	3,170	66,260	80,960	2%
Floor (70%)	28,490	0	3,170	112,750	144,410	4%
Rec (50%)	11,530	0	3,170	66,260	80,960	2%
Rec (70%)	28,490	500	3,170	112,750	144,910	4%
BTF-ACI (50%)	37,590	0	3,170	136,070	176,830	5%
BTF-ACI (70%)	37,590	0	3,170	136,070	176,830	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 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%)	21	21	0	0	0	0	129	224	150	245
Floor (70%)	21	21	0	3	0	0	137	253	158	276
Rec (50%)	21	21	0	3	0	0	129	224	150	247
Rec (70%)	21	21	0	3	0	0	129	229	150	252
BTF-ACI (50%)	21	21	0	3	0	0	137	261	158	284
BTF-ACI (70%)	42	42	0	3	0	0	145	261	187	305

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	342	405	422	485
Floor (50%)	21	21	0	3	0	0	57	76	78	99
Floor (70%)	42	42	0	3	0	0	96	115	138	159
Rec (50%)	21	21	0	3	0	0	57	76	78	99
Rec (70%)	42	42	0	7	0	0	96	115	138	163
BTF-ACI (50%)	42	42	0	3	0	0	104	123	146	167
BTF-ACI (70%)	42	42	0	3	0	0	104	123	146	167

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	73	5	11	32	5	125
CEMs	14	5	11	49	16	96
Labor Within Combustion Sector						
O&M	48	4	9	81	8	150
Permitting	2	1	1	5	1	10
Total	**137**	**15**	**33**	**166**	**31**	382

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	48	4	8	25	5	90
CEMs	14	4	11	42	16	87
Labor Within Combustion Sector						
O&M	33	3	7	65	7	116
Permitting	2	0	1	4	1	9
Total	**97**	**11**	**27**	**137**	**29**	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: 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	73	5	12	38	5	134
CEMs	14	4	11	47	16	93
Labor Within Combustion Sector						
O&M	48	4	13	96	8	169
Permitting	2	0	1	5	1	10
Total	**138**	**14**	**38**	**187**	**31**	406

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	49	4	10	34	5	102
CEMs	14	4	11	45	16	91
Labor Within Combustion Sector						
O&M	34	4	12	87	7	143
Permitting	2	0	1	5	1	10
Total	**98**	**12**	**34**	**171**	**29**	346

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	90	7	22	79	13	211
CEMs	14	4	12	47	16	93
Labor Within Combustion Sector						
O&M	76	13	35	177	24	326
Permitting	2	0	1	5	1	10
Total	**181**	**25**	**70**	**308**	**55**	640

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	69	6	20	77	13	185
CEMs	13	4	12	47	16	92
Labor Within Combustion Sector						
O&M	59	11	34	172	22	299
Permitting	2	0	1	5	1	10
Total	**143**	**22**	**67**	**301**	**53**	586

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	$728
Increase in price due to compliance costs passed through				
Floor (50%)	$30	$30	$22	$24
Floor (70%)	$12	$12	$12	$12
Rec (50%)	$30	$30	$22	$25
Rec (70%)	$16	$16	$14	$14
BTF-ACI (50%)	$41	$41	$30	$34
BTF-ACI (70%)	$37	$37	$28	$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%)	12%	9%	30%	21%	27%	0%	0%	25%	38%	38%	70%	10%	20%	0%	0%	33%	21%	33%	8%	6%	24%	10%	48%	10%	10%
Floor (70%)	30%	12%	21%	12%	24%	13%	13%	13%	25%	38%	70%	20%	5%	5%	0%	33%	31%	25%	8%	4%	29%	14%	38%	10%	10%
Rec (50%)	3%	9%	39%	18%	30%	0%	0%	13%	50%	38%	70%	10%	20%	0%	0%	27%	19%	42%	6%	6%	24%	10%	48%	10%	10%
Rec (70%)	24%	18%	18%	9%	30%	0%	0%	13%	50%	38%	70%	20%	10%	0%	0%	27%	29%	37%	2%	6%	29%	14%	38%	10%	10%
BTF-ACI (50%)	3%	3%	18%	9%	67%	0%	0%	0%	38%	63%	40%	40%	15%	5%	0%	10%	23%	42%	4%	21%	10%	5%	19%	52%	14%
BTF-ACI (70%)	18%	9%	6%	18%	48%	0%	0%	0%	38%	63%	45%	45%	5%	5%	0%	12%	23%	42%	4%	19%	19%	5%	14%	48%	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%)	33%	27%	27%	12%	0%	0%	13%	75%	13%	0%	90%	0%	0%	0%	10%	48%	8%	19%	12%	13%
Floor (70%)	52%	18%	24%	6%	0%	25%	13%	50%	13%	0%	90%	0%	0%	5%	5%	50%	13%	15%	8%	13%
Rec (50%)	33%	24%	30%	12%	0%	0%	0%	75%	25%	0%	90%	0%	0%	0%	10%	48%	10%	21%	4%	17%
Rec (70%)	48%	15%	30%	6%	0%	0%	0%	75%	25%	0%	90%	0%	0%	0%	10%	50%	13%	17%	4%	15%
BTF-ACI (50%)	15%	18%	45%	18%	3%	0%	0%	63%	13%	25%	80%	10%	0%	0%	10%	35%	12%	17%	6%	31%
BTF-ACI (70%)	33%	15%	33%	18%	0%	0%	0%	63%	13%	25%	90%	0%	0%	0%	10%	35%	15%	13%	8%	29%

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	Operating Profit Margin		% Margin after	Operating Profit Margin		% Margin after	Operating Profit Margin		% Margin after
	$ Change	% Change	the Rule	$ Change	% Change	the Rule	$ Change	% Change	the Rule	$ Change	% Change	the Rule
Floor (50%)	($10)	-21%	65%	($49)	-64%	23%	$6	-3%	57%	($11)	-8%	59%
Floor (70%)	($4)	-9%	74%	($38)	-43%	42%	($6)	-3%	57%	($13)	-5%	63%
Rec (50%)	($10)	-21%	65%	($44)	-54%	34%	$7	-2%	57%	($11)	-8%	59%
Rec (70%)	($5)	-12%	72%	($57)	-61%	28%	($1)	-2%	57%	($19)	-8%	60%
BTF-ACI (50%)	($14)	-27%	60%	($46)	-58%	30%	$10	-3%	56%	($7)	-8%	62%
BTF-ACI (70%)	($10)	-20%	66%	($58)	-66%	25%	$4	-4%	56%	($13)	-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.

LIST OF EXHIBITS

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

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%)	$31	$6	$9	$39	$5	$90
Floor (70%)	$22	$5	$8	$33	$5	$72
Rec (50%)	$33	$7	$9	$42	$5	$95
Rec (70%)	$26	$6	$7	$37	$5	$82
BTF-ACI (50%)	$48	$8	$13	$70	$27	$166
BTF-ACI (70%)	$38	$8	$12	$67	$26	$150

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%)	$944,126	$572,964	$346,569	$279,131	$210,317
Floor (70%)	$670,373	$456,109	$300,518	$240,717	$187,072
Rec (50%)	$1,004,297	$651,900	$341,734	$302,125	$210,317
Rec (70%)	$795,888	$637,584	$288,152	$267,289	$187,072
BTF-ACI (50%)	$1,453,081	$787,451	$515,027	$506,121	$1,064,641
BTF-ACI (70%)	$1,157,206	$788,205	$462,965	$482,848	$1,024,053

Notes:

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER TON
(Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$41	$73	$157	$20,740
Floor (70%)	$32	$56	$188	$20,723
Rec (50%)	$44	$85	$151	$20,822
Rec (70%)	$36	$83	$145	$20,806
BTF-ACI (50%)	$61	$105	$201	$22,392
BTF-ACI (70%)	$50	$105	$195	$22,381

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%)	$41	$73	$157	$20,740
Floor (70%)	$32	$56	$188	$20,723
Rec (50%)	$44	$85	$151	$20,822
Rec (70%)	$36	$83	$145	$20,806
BTF-ACI (50%)	$61	$105	$201	$22,392
BTF-ACI (70%)	$50	$105	$195	$22,381

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%	0%	0%	0%	0%
Feed Control	100%	75%	100%	100%	100%	100%
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	65%	63%	69%	67%	85%	83%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	15%	15%	71%	71%
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%	60%
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	48%	42%	44%	38%	52%	50%
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%	67%	62%
None	19%	19%	19%	19%	5%	10%

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	26%	23%	24%	20%	28%	27%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	17%	17%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	18%	21%	17%	18%	9%	10%
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	2%	2%	2%	1%	1%	1%
DESP DOM, small	3%	0%	3%	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	51%	53%	54%	60%	44%	45%
Total	100%	100%	100%	100%	100%	100%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	18%	14%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	20%	16%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	17%	21%	17%	16%	7%	7%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	1%	0%	1%	0%	0%	0%
Fabric Filter DOM, mod	1%	0%	1%	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%	0%	0%	0%	0%
Feed Control	81%	78%	82%	84%	55%	63%
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	8%	7%	7%	9%	15%	16%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	13%	15%	37%	40%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	17%	18%	13%	14%	3%	3%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	2%	3%	15%	16%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	2%	1%	2%	1%	1%	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%	3%	0%	3%	0%	0%
HEWS DOM, mod	5%	3%	5%	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	66%	68%	55%	51%	28%	24%
Total	100%	100%	100%	100%	100%	100%
On-Site Incinerators						
New Fabric Filters	33%	45%	32%	41%	24%	27%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	8%	11%	25%	28%
New Carbon Bed	0%	0%	0%	1%	1%	1%
New Quencher	5%	6%	3%	4%	1%	2%
New Afterburner	27%	6%	24%	5%	15%	3%
New Reheater	0%	0%	3%	5%	18%	20%
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%	2%	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	32%	38%	27%	30%	16%	18%
Total	100%	100%	100%	100%	100%	100%
Government On-Site Incinerators						
New Fabric Filters	18%	17%	18%	17%	15%	15%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	22%	23%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	1%
New Afterburner	5%	6%	5%	6%	3%	3%
New Reheater	0%	0%	0%	0%	8%	9%
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	7%	8%	7%	8%	4%	4%
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	1%	1%	1%	1%	1%	1%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	69%	68%	69%	68%	47%	43%
Total	100%	100%	100%	100%	100%	100%

PERCENTAGE OF COMBUSTION SYSTEMS CURRENTLY 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%)	3%	9%	13%	25%	10%	10%	8%	23%	10%	38%
Floor (70%)	3%	9%	13%	13%	10%	10%	12%	21%	4%	38%
Rec (50%)	3%	9%	13%	50%	10%	10%	8%	23%	10%	38%
Rec (70%)	3%	9%	13%	50%	10%	10%	12%	21%	4%	38%
BTF-ACI (50%)	6%	12%	25%	63%	10%	10%	6%	33%	8%	46%
BTF-ACI (70%)	6%	12%	25%	63%	10%	10%	6%	33%	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%)	$30	$6	$8	$25	$5	$73	-18%
Floor (70%)	$21	$4	$6	$21	$5	$56	-22%
Rec (50%)	$32	$7	$7	$26	$5	$77	-19%
Rec (70%)	$25	$5	$6	$23	$5	$63	-22%
BTF-ACI (50%)	$43	$7	$12	$46	$27	$134	-19%
BTF-ACI (70%)	$34	$7	$10	$43	$26	$119	-21%

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%)	$0.81
Floor (70%)	$0.81
Rec (50%)	$0.81
Rec (70%)	$0.81
BTF-ACI (50%)	$4.57
BTF-ACI (70%)	$4.57

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%)	$74
Floor (70%)	$57
Rec (50%)	$78
Rec (70%)	$64
BTF-ACI (50%)	$139
BTF-ACI (70%)	$124

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%)	$928,461	$572,964	$322,145	$278,971	$210,317
Floor (70%)	$646,153	$412,069	$264,021	$232,657	$187,072
Rec (50%)	$990,513	$651,900	$317,230	$290,393	$210,317
Rec (70%)	$775,591	$611,630	$259,105	$249,552	$187,072
BTF-ACI (50%)	$1,355,794	$744,476	$500,168	$558,625	$1,064,641
BTF-ACI (70%)	$1,085,936	$745,337	$443,733	$526,219	$1,024,053

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%)	$38	$73	$21	$34
Floor (70%)	$29	$45	$15	$27
Rec (50%)	$41	$85	$20	$34
Rec (70%)	$33	$68	$14	$28
BTF-ACI (50%)	$58	$82	$28	$46
BTF-ACI (70%)	$45	$82	$23	$42

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%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	65%	0%	35%
Floor (70%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	65%	0%	35%
Rec (50%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	65%	0%	35%
Rec (70%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	65%	0%	35%
BTF-ACI (50%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	60%	0%	40%
BTF-ACI (70%)	94%	0%	6%	88%	0%	13%	90%	0%	10%	60%	0%	40%

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%	88%	0%	13%	90%	0%	10%	54%	0%	46%
Floor (70%)	94%	0%	6%	88%	0%	13%	90%	0%	10%	50%	0%	50%
Rec (50%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	54%	0%	46%
Rec (70%)	97%	0%	3%	75%	0%	25%	90%	0%	10%	50%	0%	50%
BTF-ACI (50%)	94%	0%	6%	88%	0%	13%	90%	0%	10%	50%	0%	50%
BTF-ACI (70%)	94%	0%	6%	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%)	1	0	0	16
Floor (70%)	1	0	0	16
Rec (50%)	1	0	0	16
Rec (70%)	1	0	0	16
BTF-ACI (50%)	1	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.

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	7
Floor (70%)	2	0	0	13
Rec (50%)	1	0	0	7
Rec (70%)	1	0	0	13
BTF-ACI (50%)	2	0	0	13
BTF-ACI (70%)	2	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%)	6%	0%	0%	15%
Floor (70%)	6%	0%	0%	15%
Rec (50%)	6%	0%	0%	15%
Rec (70%)	6%	0%	0%	15%
BTF-ACI (50%)	6%	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 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%	6%
Floor (70%)	11%	0%	0%	12%
Rec (50%)	6%	0%	0%	6%
Rec (70%)	6%	0%	0%	12%
BTF-ACI (50%)	11%	0%	0%	12%
BTF-ACI (70%)	11%	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 the 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%)	11,530	0	3,170	47,640	62,340	2%
Floor (70%)	11,530	0	3,170	47,640	62,340	2%
Rec (50%)	11,530	0	3,170	47,640	62,340	2%
Rec (70%)	11,530	0	3,170	47,640	62,340	2%
BTF-ACI (50%)	26,060	0	3,170	56,370	85,600	3%
BTF-ACI (70%)	37,590	0	3,170	56,370	97,130	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

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	102,050	105,220	3%
Floor (50%)	11,530	0	3,170	61,200	75,900	2%
Floor (70%)	28,490	0	3,170	112,750	144,410	4%
Rec (50%)	11,530	0	3,170	61,200	75,900	2%
Rec (70%)	11,530	500	3,170	112,750	127,950	4%
BTF-ACI (50%)	37,590	0	3,170	119,130	159,890	5%
BTF-ACI (70%)	37,590	0	3,170	119,130	159,890	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 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%)	21	21	0	0	0	0	129	224	150	245
Floor (70%)	21	21	0	3	0	0	129	224	150	247
Rec (50%)	21	21	0	0	0	0	129	224	150	245
Rec (70%)	21	21	0	3	0	0	129	224	150	247
BTF-ACI (50%)	21	21	0	3	0	0	137	253	158	276
BTF-ACI (70%)	42	42	0	3	0	0	137	253	179	297

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	342	405	422	485
Floor (50%)	21	21	0	3	0	0	49	68	70	91
Floor (70%)	42	42	0	3	0	0	96	115	138	159
Rec (50%)	21	21	0	3	0	0	49	68	70	91
Rec (70%)	21	21	0	7	0	0	96	115	117	142
BTF-ACI (50%)	42	42	0	3	0	0	88	107	130	151
BTF-ACI (70%)	42	42	0	3	0	0	88	107	130	151

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	73	5	10	32	5	125
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	48	4	9	81	8	150
Permitting	2	1	1	5	1	10
Total	**123**	**10**	**21**	**117**	**15**	286

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	48	4	8	28	5	92
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	33	3	7	73	7	123
Permitting	2	0	1	5	1	10
Total	**83**	**7**	**16**	**105**	**13**	225

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	73	6	12	38	5	135
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	48	5	13	96	8	169
Permitting	2	1	1	5	1	10
Total	**123**	**11**	**26**	**139**	**15**	314

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	49	4	10	35	5	102
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	33	4	12	88	7	144
Permitting	2	0	1	5	1	10
Total	**84**	**8**	**23**	**127**	**13**	255

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	89	7	22	83	13	214
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	76	13	35	185	24	334
Permitting	2	0	1	5	1	10
Total	**167**	**21**	**58**	**273**	**39**	558

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	69	6	20	79	13	187
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	59	11	34	177	22	304
Permitting	2	0	1	5	1	10
Total	**130**	**18**	**55**	**261**	**37**	501

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	$728
Increase in price due to compliance costs passed through				
Floor (50%)	$28	$28	$20	$22
Floor (70%)	$11	$11	$10	$11
Rec (50%)	$29	$29	$20	$23
Rec (70%)	$15	$15	$12	$13
BTF-ACI (50%)	$40	$40	$29	$33
BTF-ACI (70%)	$35	$35	$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%)	15%	9%	30%	18%	27%	0%	0%	25%	50%	25%	70%	20%	10%	0%	0%	40%	15%	33%	6%	6%	24%	14%	48%	5%	10%
Floor (70%)	30%	15%	18%	15%	21%	13%	25%	0%	50%	13%	75%	15%	10%	0%	0%	42%	25%	23%	6%	4%	33%	19%	33%	5%	10%
Rec (50%)	3%	21%	30%	15%	30%	0%	0%	13%	50%	38%	70%	20%	10%	0%	0%	35%	15%	42%	4%	4%	24%	14%	48%	5%	10%
Rec (70%)	24%	21%	15%	12%	27%	0%	0%	13%	63%	25%	75%	15%	10%	0%	0%	37%	23%	35%	2%	4%	33%	19%	33%	5%	10%
BTF-ACI (50%)	3%	6%	15%	9%	67%	0%	0%	0%	50%	50%	50%	30%	20%	0%	0%	17%	23%	37%	12%	12%	10%	10%	29%	38%	14%
BTF-ACI (70%)	18%	12%	3%	18%	48%	0%	0%	0%	50%	50%	50%	40%	10%	0%	0%	17%	23%	37%	12%	12%	19%	14%	19%	33%	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%)	39%	21%	27%	12%	0%	0%	13%	75%	13%	0%	90%	0%	0%	5%	5%	54%	8%	17%	10%	12%
Floor (70%)	52%	18%	24%	6%	0%	25%	13%	50%	13%	0%	90%	0%	0%	5%	5%	56%	12%	13%	8%	12%
Rec (50%)	39%	18%	30%	12%	0%	0%	0%	75%	25%	0%	90%	0%	0%	5%	5%	52%	10%	17%	4%	17%
Rec (70%)	48%	15%	30%	6%	0%	0%	0%	75%	25%	0%	90%	0%	0%	5%	5%	54%	12%	15%	4%	15%
BTF-ACI (50%)	15%	18%	48%	15%	3%	0%	0%	63%	13%	25%	90%	0%	0%	5%	5%	40%	12%	12%	10%	27%
BTF-ACI (70%)	33%	15%	36%	15%	0%	0%	0%	63%	13%	25%	90%	0%	0%	5%	5%	38%	17%	8%	12%	25%

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	Operating Profit Margin		% Margin after	Operating Profit Margin		% Margin after	Operating Profit Margin		% Margin after
	$ Change	% Change	the Rule	$ Change	% Change	the Rule	$ Change	% Change	the Rule	$ Change	% Change	the Rule
Floor (50%)	($9)	-20%	66%	($45)	-59%	26%	$7	-2%	57%	($6)	-6%	60%
Floor (70%)	($4)	-9%	75%	($33)	-39%	45%	($4)	-2%	57%	($16)	-6%	60%
Rec (50%)	($10)	-20%	65%	($55)	-70%	20%	$9	-2%	57%	($4)	-6%	60%
Rec (70%)	($5)	-11%	72%	($53)	-57%	31%	$1	-2%	57%	($13)	-6%	60%
BTF-ACI (50%)	($13)	-27%	60%	($42)	-55%	33%	$12	-3%	57%	($6)	-8%	61%
BTF-ACI (70%)	($9)	-20%	66%	($54)	-63%	27%	$6	-3%	56%	($14)	-9%	61%

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)

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%)	$32	$6	$10	$45	$7	$101
Floor (70%)	$23	$5	$9	$40	$6	$83
Rec (50%)	$34	$7	$10	$48	$7	$107
Rec (70%)	$28	$7	$9	$44	$6	$93
BTF-ACI (50%)	$49	$8	$15	$77	$28	$177
BTF-ACI (70%)	$40	$8	$13	$73	$27	$161

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%)	$984,771	$615,567	$392,986	$327,607	$267,281
Floor (70%)	$711,018	$498,712	$346,935	$289,193	$244,036
Rec (50%)	$1,044,943	$694,503	$388,151	$350,601	$267,281
Rec (70%)	$836,534	$680,187	$334,569	$315,765	$244,036
BTF-ACI (50%)	$1,493,726	$830,054	$561,443	$554,597	$1,121,605
BTF-ACI (70%)	$1,197,851	$830,808	$509,381	$531,324	$1,081,017

Notes:

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER TON
(Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$43	$79	$172	$22,671
Floor (70%)	$34	$62	$202	$22,654
Rec (50%)	$46	$90	$165	$22,753
Rec (70%)	$37	$89	$160	$22,737
BTF-ACI (50%)	$63	$110	$215	$24,324
BTF-ACI (70%)	$52	$110	$209	$24,313

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%)	$43	$79	$172	$22,671
Floor (70%)	$34	$62	$202	$22,654
Rec (50%)	$46	$90	$165	$22,753
Rec (70%)	$37	$89	$160	$22,737
BTF-ACI (50%)	$63	$110	$215	$24,324
BTF-ACI (70%)	$52	$110	$209	$24,313

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 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	65%	63%	69%	67%	85%	83%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	15%	15%	71%	71%
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%	60%
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	48%	42%	44%	38%	52%	50%
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%	67%	62%
None	19%	19%	19%	19%	5%	10%

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%	0%	0%	0%	0%
Feed Control	100%	75%	100%	100%	100%	100%
None	0%	13%	0%	0%	0%	0%

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	8%	7%	7%	9%	15%	16%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	13%	15%	37%	40%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	17%	18%	13%	14%	3%	3%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	2%	3%	15%	16%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	2%	1%	2%	1%	1%	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%	3%	0%	3%	0%	0%
HEWS DOM, mod	5%	3%	5%	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	66%	68%	55%	51%	28%	24%
Total	100%	100%	100%	100%	100%	100%
On-Site Incinerators						
New Fabric Filters	33%	45%	32%	41%	24%	27%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	8%	11%	25%	28%
New Carbon Bed	0%	0%	0%	1%	1%	1%
New Quencher	5%	6%	3%	4%	1%	2%
New Afterburner	27%	6%	24%	5%	15%	3%
New Reheater	0%	0%	3%	5%	18%	20%
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%	2%	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	32%	38%	27%	30%	16%	18%
Total	100%	100%	100%	100%	100%	100%
Government On-Site Incinerators						
New Fabric Filters	18%	17%	18%	17%	15%	15%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	22%	23%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	1%
New Afterburner	5%	6%	5%	6%	3%	3%
New Reheater	0%	0%	0%	0%	8%	9%
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	7%	8%	7%	8%	4%	4%
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	1%	1%	1%	1%	1%	1%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	69%	68%	69%	68%	47%	43%
Total	100%	100%	100%	100%	100%	100%

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	26%	23%	24%	20%	28%	27%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	17%	17%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	18%	21%	17%	18%	9%	10%
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	2%	2%	2%	1%	1%	1%
DESP DOM, small	3%	0%	3%	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	51%	53%	54%	60%	44%	45%
Total	100%	100%	100%	100%	100%	100%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	18%	14%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	20%	16%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	17%	21%	17%	16%	7%	7%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	1%	0%	1%	0%	0%	0%
Fabric Filter DOM, mod	1%	0%	1%	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%	0%	0%	0%	0%
Feed Control	81%	78%	82%	84%	55%	63%
Total	100%	100%	100%	100%	100%	100%

PERCENTAGE OF COMBUSTION SYSTEMS CURRENTLY 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%)	3%	9%	13%	38%	10%	10%	4%	31%	8%	40%
Floor (70%)	3%	9%	13%	25%	10%	10%	6%	31%	2%	40%
Rec (50%)	3%	9%	13%	50%	10%	10%	0%	31%	8%	40%
Rec (70%)	3%	9%	13%	50%	10%	10%	2%	31%	2%	40%
BTF-ACI (50%)	6%	12%	25%	63%	10%	10%	6%	35%	6%	48%
BTF-ACI (70%)	6%	12%	25%	63%	10%	10%	6%	35%	6%	48%

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%)	$31	$6	$9	$30	$7	$82	-19%
Floor (70%)	$22	$4	$7	$24	$6	$64	-24%
Rec (50%)	$33	$7	$9	$31	$7	$86	-20%
Rec (70%)	$26	$6	$7	$27	$6	$72	-22%
BTF-ACI (50%)	$45	$7	$13	$50	$28	$142	-19%
BTF-ACI (70%)	$40	$7	$11	$47	$27	$132	-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.

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%)	$969,106	$615,567	$368,791	$327,447	$267,281
Floor (70%)	$686,799	$454,952	$310,666	$286,934	$244,036
Rec (50%)	$1,031,158	$694,503	$363,875	$338,869	$267,281
Rec (70%)	$816,236	$654,512	$305,751	$298,028	$244,036
BTF-ACI (50%)	$1,396,440	$787,358	$546,814	$607,101	$1,121,605
BTF-ACI (70%)	$1,197,851	$788,220	$490,379	$574,695	$1,081,017

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%)	$40	$79	$23	$41
Floor (70%)	$31	$50	$18	$31
Rec (50%)	$43	$90	$23	$41
Rec (70%)	$35	$72	$17	$35
BTF-ACI (50%)	$60	$87	$31	$52
BTF-ACI (70%)	$52	$87	$25	$48

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%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	65%	0%	35%
Floor (70%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	62%	0%	38%
Rec (50%)	97%	0%	3%	100%	0%	0%	90%	0%	10%	65%	0%	35%
Rec (70%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	65%	0%	35%
BTF-ACI (50%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	60%	0%	40%
BTF-ACI (70%)	100%	0%	0%	88%	0%	13%	90%	0%	10%	60%	0%	40%

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%	88%	0%	13%	90%	0%	10%	54%	0%	46%
Floor (70%)	94%	0%	6%	88%	0%	13%	90%	0%	10%	50%	0%	50%
Rec (50%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	54%	0%	46%
Rec (70%)	97%	0%	3%	75%	0%	25%	90%	0%	10%	50%	0%	50%
BTF-ACI (50%)	94%	0%	6%	88%	0%	13%	90%	0%	10%	50%	0%	50%
BTF-ACI (70%)	94%	0%	6%	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: **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%)	1	0	0	16
Floor (70%)	1	0	0	16
Rec (50%)	1	0	0	16
Rec (70%)	1	0	0	16
BTF-ACI (50%)	1	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: **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%)	2	0	0	13
Rec (50%)	1	0	0	10
Rec (70%)	1	0	0	13
BTF-ACI (50%)	2	0	0	13
BTF-ACI (70%)	2	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%)	6%	0%	0%	15%
Floor (70%)	6%	0%	0%	15%
Rec (50%)	6%	0%	0%	15%
Rec (70%)	6%	0%	0%	15%
BTF-ACI (50%)	6%	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: **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%)	11%	0%	0%	12%
Rec (50%)	6%	0%	0%	9%
Rec (70%)	6%	0%	0%	12%
BTF-ACI (50%)	11%	0%	0%	12%
BTF-ACI (70%)	11%	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 the 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%)	11,530	0	3,170	47,640	62,340	2%
Floor (70%)	11,530	0	3,170	47,640	62,340	2%
Rec (50%)	11,530	0	3,170	47,640	62,340	2%
Rec (70%)	11,530	0	3,170	47,640	62,340	2%
BTF-ACI (50%)	26,060	0	3,170	56,370	85,600	3%
BTF-ACI (70%)	0	0	3,170	56,370	59,540	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	102,050	105,220	3%
Floor (50%)	11,530	0	3,170	66,260	80,960	2%
Floor (70%)	28,490	0	3,170	112,750	144,410	4%
Rec (50%)	11,530	0	3,170	66,260	80,960	2%
Rec (70%)	11,530	500	3,170	112,750	127,950	4%
BTF-ACI (50%)	37,590	0	3,170	119,130	159,890	5%
BTF-ACI (70%)	37,590	0	3,170	119,130	159,890	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 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%)	21	21	0	0	0	0	129	224	150	245
Floor (70%)	21	21	0	3	0	0	129	245	150	268
Rec (50%)	21	21	0	0	0	0	129	224	150	245
Rec (70%)	21	21	0	3	0	0	129	224	150	247
BTF-ACI (50%)	21	21	0	3	0	0	137	253	158	276
BTF-ACI (70%)	0	0	0	3	0	0	137	253	137	255

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	342	405	422	485
Floor (50%)	21	21	0	3	0	0	57	70	78	94
Floor (70%)	42	42	0	3	0	0	96	115	138	159
Rec (50%)	21	21	0	3	0	0	57	70	78	94
Rec (70%)	21	21	0	7	0	0	96	115	117	142
BTF-ACI (50%)	42	42	0	3	0	0	88	107	130	151
BTF-ACI (70%)	42	42	0	3	0	0	88	107	130	151

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	73	5	11	32	5	125
CEMs	14	5	11	49	16	96
Labor Within Combustion Sector						
O&M	48	4	9	81	8	150
Permitting	2	1	1	5	1	10
Total	**137**	**15**	**33**	**166**	**31**	382

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: **Flr(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	48	4	8	27	5	92
CEMs	14	4	11	46	16	91
Labor Within Combustion Sector						
O&M	33	3	7	70	7	121
Permitting	2	0	1	5	1	10
Total	**97**	**11**	**27**	**148**	**29**	313

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	73	6	12	38	5	135
CEMs	14	5	11	47	16	94
Labor Within Combustion Sector						
O&M	48	5	13	96	8	170
Permitting	2	1	1	5	1	10
Total	**138**	**16**	**38**	**187**	**31**	409

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	49	4	10	35	5	102
CEMs	14	4	11	46	16	92
Labor Within Combustion Sector						
O&M	34	4	12	89	7	145
Permitting	2	0	1	5	1	10
Total	**98**	**12**	**34**	**175**	**29**	349

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	90	7	22	82	13	214
CEMs	14	4	12	49	16	95
Labor Within Combustion Sector						
O&M	76	13	35	183	24	333
Permitting	2	0	1	5	1	10
Total	**181**	**25**	**70**	**320**	**55**	651

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	6	20	79	13	196
CEMs	15	4	12	48	16	95
Labor Within Combustion Sector						
O&M	67	11	34	176	22	311
Permitting	2	0	1	5	1	10
Total	**162**	**22**	**67**	**308**	**53**	612

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	$728
Increase in price due to compliance costs passed through				
Floor (50%)	$40	$40	$29	$32
Floor (70%)	$16	$16	$16	$16
Rec (50%)	$40	$40	$29	$33
Rec (70%)	$21	$21	$19	$19
BTF-ACI (50%)	$54	$54	$40	$45
BTF-ACI (70%)	$49	$49	$37	$41

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%)	12%	9%	30%	21%	27%	0%	0%	25%	38%	38%	70%	10%	20%	0%	0%	33%	21%	33%	8%	6%	24%	10%	48%	10%	10%
Floor (70%)	30%	12%	21%	12%	24%	13%	13%	13%	25%	38%	70%	20%	5%	5%	0%	33%	31%	25%	8%	4%	29%	14%	38%	10%	10%
Rec (50%)	3%	9%	39%	18%	30%	0%	0%	13%	50%	38%	70%	10%	20%	0%	0%	27%	19%	42%	6%	6%	24%	10%	48%	10%	10%
Rec (70%)	24%	18%	18%	9%	30%	0%	0%	13%	50%	38%	70%	20%	10%	0%	0%	27%	29%	37%	2%	6%	29%	14%	38%	10%	10%
BTF-ACI (50%)	3%	3%	18%	9%	67%	0%	0%	0%	38%	63%	40%	40%	15%	5%	0%	10%	23%	42%	4%	21%	10%	5%	19%	52%	14%
BTF-ACI (70%)	18%	9%	6%	18%	48%	0%	0%	0%	38%	63%	45%	45%	5%	5%	0%	12%	23%	42%	4%	19%	19%	5%	14%	48%	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%)	33%	27%	27%	12%	0%	0%	13%	75%	13%	0%	90%	0%	0%	0%	10%	48%	8%	19%	12%	13%
Floor (70%)	52%	18%	24%	6%	0%	25%	13%	50%	13%	0%	90%	0%	0%	5%	5%	50%	13%	15%	8%	13%
Rec (50%)	33%	24%	30%	12%	0%	0%	0%	75%	25%	0%	90%	0%	0%	0%	10%	48%	10%	21%	4%	17%
Rec (70%)	48%	15%	30%	6%	0%	0%	0%	75%	25%	0%	90%	0%	0%	0%	10%	50%	13%	17%	4%	15%
BTF-ACI (50%)	15%	18%	45%	18%	3%	0%	0%	63%	13%	25%	80%	10%	0%	0%	10%	35%	12%	17%	6%	31%
BTF-ACI (70%)	33%	15%	33%	18%	0%	0%	0%	63%	13%	25%	90%	0%	0%	0%	10%	35%	15%	13%	8%	29%

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	Operating Profit Margin		% Margin after	Operating Profit Margin		% Margin after	Operating Profit Margin		% Margin after
	$ Change	% Change	the Rule	$ Change	% Change	the Rule	$ Change	% Change	the Rule	$ Change	% Change	the Rule
Floor (50%)	$0	-19%	67%	($39)	-57%	28%	$16	-2%	57%	($1)	-7%	59%
Floor (70%)	$0	-8%	75%	($34)	-41%	43%	($2)	-3%	57%	($15)	-6%	62%
Rec (50%)	$0	-19%	66%	($50)	-67%	21%	$17	-1%	58%	($1)	-7%	59%
Rec (70%)	$0	-11%	73%	($51)	-58%	31%	$4	-2%	57%	($14)	-7%	59%
BTF-ACI (50%)	$0	-24%	62%	($32)	-52%	35%	$23	-2%	57%	$2	-8%	61%
BTF-ACI (70%)	$0	-22%	63%	($38)	-54%	33%	$24	-1%	58%	$1	-7%	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.

LIST OF EXHIBITS

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

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%)	$31	$6	$9	$39	$5	$90
Floor (70%)	$22	$5	$8	$33	$5	$72
Rec (50%)	$33	$7	$9	$42	$5	$95
Rec (70%)	$26	$6	$7	$37	$5	$82
BTF-ACI (50%)	$48	$8	$13	$70	$27	$166
BTF-ACI (70%)	$38	$8	$12	$67	$26	$150

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%)	$944,126	$572,964	$346,569	$279,131	$210,317
Floor (70%)	$670,373	$456,109	$300,518	$240,717	$187,072
Rec (50%)	$1,004,297	$651,900	$341,734	$302,125	$210,317
Rec (70%)	$795,888	$637,584	$288,152	$267,289	$187,072
BTF-ACI (50%)	$1,453,081	$787,451	$515,027	$506,121	$1,064,641
BTF-ACI (70%)	$1,157,206	$788,205	$462,965	$482,848	$1,024,053

Notes:

AVERAGE TOTAL ANNUAL COMPLIANCE COSTS PER TON
(Before Consolidation)

Options	Cement Kilns	LWA Kilns	Commercial Incinerators	On-site Incinerators
Floor (50%)	$41	$73	$157	$20,740
Floor (70%)	$32	$56	$188	$20,723
Rec (50%)	$44	$85	$151	$20,822
Rec (70%)	$36	$83	$145	$20,806
BTF-ACI (50%)	$61	$105	$201	$22,392
BTF-ACI (70%)	$50	$105	$195	$22,381

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%)	$41	$73	$157	$20,740
Floor (70%)	$32	$56	$188	$20,723
Rec (50%)	$44	$85	$151	$20,822
Rec (70%)	$36	$83	$145	$20,806
BTF-ACI (50%)	$61	$105	$201	$22,392
BTF-ACI (70%)	$50	$105	$195	$22,381

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%	0%	0%	0%	0%
Feed Control	100%	75%	100%	100%	100%	100%
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	65%	63%	69%	67%	85%	83%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	15%	15%	71%	71%
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%	60%
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	48%	42%	44%	38%	52%	50%
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%	67%	62%
None	19%	19%	19%	19%	5%	10%

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	26%	23%	24%	20%	28%	27%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	17%	17%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	18%	21%	17%	18%	9%	10%
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	2%	2%	2%	1%	1%	1%
DESP DOM, small	3%	0%	3%	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	51%	53%	54%	60%	44%	45%
Total	100%	100%	100%	100%	100%	100%
LWAKs						
New Fabric Filters	0%	0%	0%	0%	18%	14%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	20%	16%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	17%	21%	17%	16%	7%	7%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, small	1%	0%	1%	0%	0%	0%
Fabric Filter DOM, mod	1%	0%	1%	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%	0%	0%	0%	0%
Feed Control	81%	78%	82%	84%	55%	63%
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	8%	7%	7%	9%	15%	16%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	13%	15%	37%	40%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	17%	18%	13%	14%	3%	3%
New Afterburner	0%	0%	0%	0%	0%	0%
New Reheater	0%	0%	2%	3%	15%	16%
Fabric Filter DOM, small	0%	0%	0%	0%	0%	0%
Fabric Filter DOM, mod	2%	1%	2%	1%	1%	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%	3%	0%	3%	0%	0%
HEWS DOM, mod	5%	3%	5%	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	66%	68%	55%	51%	28%	24%
Total	100%	100%	100%	100%	100%	100%
On-Site Incinerators						
New Fabric Filters	33%	45%	32%	41%	24%	27%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	8%	11%	25%	28%
New Carbon Bed	0%	0%	0%	1%	1%	1%
New Quencher	5%	6%	3%	4%	1%	2%
New Afterburner	27%	6%	24%	5%	15%	3%
New Reheater	0%	0%	3%	5%	18%	20%
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%	2%	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	32%	38%	27%	30%	16%	18%
Total	100%	100%	100%	100%	100%	100%
Government On-Site Incinerators						
New Fabric Filters	18%	17%	18%	17%	15%	15%
New LEWS	0%	0%	0%	0%	0%	0%
New IWS	0%	0%	0%	0%	0%	0%
New Carbon Injection	0%	0%	0%	0%	22%	23%
New Carbon Bed	0%	0%	0%	0%	0%	0%
New Quencher	0%	0%	0%	0%	0%	1%
New Afterburner	5%	6%	5%	6%	3%	3%
New Reheater	0%	0%	0%	0%	8%	9%
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	7%	8%	7%	8%	4%	4%
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	1%	1%	1%	1%	1%	1%
New DS	0%	0%	0%	0%	0%	0%
Feed Control	69%	68%	69%	68%	47%	43%
Total	100%	100%	100%	100%	100%	100%

PERCENTAGE OF COMBUSTION SYSTEMS CURRENTLY 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%)	3%	9%	13%	25%	10%	10%	8%	23%	10%	38%
Floor (70%)	3%	9%	13%	13%	10%	10%	12%	21%	4%	38%
Rec (50%)	3%	9%	13%	50%	10%	10%	8%	23%	10%	38%
Rec (70%)	3%	9%	13%	50%	10%	10%	12%	21%	4%	38%
BTF-ACI (50%)	6%	12%	25%	63%	10%	10%	6%	33%	8%	46%
BTF-ACI (70%)	6%	12%	25%	63%	10%	10%	6%	33%	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%)	$31	$6	$8	$26	$5	$75	-16%
Floor (70%)	$21	$4	$6	$21	$5	$56	-22%
Rec (50%)	$33	$7	$7	$27	$5	$79	-17%
Rec (70%)	$25	$5	$6	$23	$5	$63	-22%
BTF-ACI (50%)	$43	$7	$12	$49	$27	$137	-17%
BTF-ACI (70%)	$38	$7	$10	$45	$26	$126	-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.

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%)	$944,126	$572,964	$322,145	$274,825	$210,317
Floor (70%)	$646,153	$412,069	$264,021	$232,657	$187,072
Rec (50%)	$1,004,297	$651,900	$317,230	$285,920	$210,317
Rec (70%)	$775,591	$611,630	$259,105	$249,552	$187,072
BTF-ACI (50%)	$1,355,794	$744,476	$500,168	$560,440	$1,064,641
BTF-ACI (70%)	$1,157,206	$745,337	$443,733	$534,344	$1,024,053

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%)	$41	$73	$21	$36
Floor (70%)	$29	$45	$15	$27
Rec (50%)	$44	$85	$20	$36
Rec (70%)	$33	$68	$14	$28
BTF-ACI (50%)	$58	$82	$28	$54
BTF-ACI (70%)	$50	$82	$23	$49

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%	67%	0%	33%
Floor (70%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	65%	0%	35%
Rec (50%)	100%	0%	0%	100%	0%	0%	90%	0%	10%	67%	0%	33%
Rec (70%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	65%	0%	35%
BTF-ACI (50%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	63%	0%	37%
BTF-ACI (70%)	100%	0%	0%	88%	0%	13%	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%	88%	0%	13%	90%	0%	10%	56%	0%	44%
Floor (70%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	50%	0%	50%
Rec (50%)	97%	0%	3%	88%	0%	13%	90%	0%	10%	56%	0%	44%
Rec (70%)	97%	0%	3%	75%	0%	25%	90%	0%	10%	52%	0%	48%
BTF-ACI (50%)	94%	0%	6%	88%	0%	13%	90%	0%	10%	54%	0%	46%
BTF-ACI (70%)	94%	0%	6%	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: **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%)	1	0	0	16
Rec (50%)	0	0	0	16
Rec (70%)	1	0	0	16
BTF-ACI (50%)	1	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	7
Floor (70%)	1	0	0	13
Rec (50%)	1	0	0	7
Rec (70%)	1	0	0	10
BTF-ACI (50%)	2	0	0	7
BTF-ACI (70%)	2	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%)	6%	0%	0%	15%
Rec (50%)	0%	0%	0%	15%
Rec (70%)	6%	0%	0%	15%
BTF-ACI (50%)	6%	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%	6%
Floor (70%)	6%	0%	0%	12%
Rec (50%)	6%	0%	0%	6%
Rec (70%)	6%	0%	0%	9%
BTF-ACI (50%)	11%	0%	0%	6%
BTF-ACI (70%)	11%	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 the 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%)	11,530	0	3,170	47,640	62,340	2%
Rec (50%)	0	0	3,170	46,210	49,380	1%
Rec (70%)	11,530	0	3,170	47,640	62,340	2%
BTF-ACI (50%)	26,060	0	3,170	47,640	76,870	2%
BTF-ACI (70%)	0	0	3,170	47,640	50,810	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	102,050	105,220	3%
Floor (50%)	11,530	0	3,170	64,060	78,760	2%
Floor (70%)	11,530	0	3,170	112,750	127,450	4%
Rec (50%)	11,530	0	3,170	64,060	78,760	2%
Rec (70%)	11,530	500	3,170	107,700	122,900	4%
BTF-ACI (50%)	37,590	0	3,170	61,200	101,960	3%
BTF-ACI (70%)	37,590	0	3,170	119,130	159,890	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 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	129	208	129	208
Floor (70%)	21	21	0	3	0	0	129	224	150	247
Rec (50%)	0	0	0	0	0	0	129	208	129	208
Rec (70%)	21	21	0	3	0	0	129	224	150	247
BTF-ACI (50%)	21	21	0	3	0	0	129	239	150	263
BTF-ACI (70%)	0	0	0	3	0	0	129	245	129	247

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	342	405	422	485
Floor (50%)	21	21	0	3	0	0	49	62	70	86
Floor (70%)	21	21	0	3	0	0	96	115	117	138
Rec (50%)	21	21	0	3	0	0	49	62	70	86
Rec (70%)	21	21	0	7	0	0	88	107	109	134
BTF-ACI (50%)	42	42	0	3	0	0	49	68	91	112
BTF-ACI (70%)	42	42	0	3	0	0	88	107	130	151

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	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	50	4	9	82	8	154
Permitting	2	1	1	5	1	10
Total	**129**	**10**	**21**	**119**	**15**	293

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	48	4	8	28	5	92
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	33	3	7	73	7	123
Permitting	2	0	1	5	1	10
Total	**83**	**7**	**16**	**105**	**13**	225

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	6	12	39	5	139
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	50	5	13	97	8	173
Permitting	2	1	1	5	1	10
Total	**129**	**11**	**26**	**140**	**15**	321

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	49	4	10	35	5	102
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	33	4	12	88	7	144
Permitting	2	0	1	5	1	10
Total	**84**	**8**	**23**	**127**	**13**	255

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	89	7	22	88	13	220
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	76	13	35	198	24	346
Permitting	2	0	1	5	1	10
Total	**167**	**21**	**58**	**291**	**39**	577

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	6	20	83	13	200
CEMs	0	0	0	0	0	0
Labor Within Combustion Sector						
O&M	67	11	34	186	22	320
Permitting	2	0	1	5	1	10
Total	**147**	**18**	**55**	**274**	**37**	531

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	$728
Increase in price due to compliance costs passed through				
Floor (50%)	$38	$38	$26	$30
Floor (70%)	$15	$15	$13	$14
Rec (50%)	$39	$39	$27	$31
Rec (70%)	$20	$20	$16	$17
BTF-ACI (50%)	$54	$54	$39	$44
BTF-ACI (70%)	$47	$47	$35	$39

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%	30%	18%	27%	0%	0%	25%	50%	25%	70%	20%	10%	0%	0%	40%	15%	33%	6%	6%	24%	14%	48%	5%	10%
Floor (70%)	30%	15%	18%	15%	21%	13%	25%	0%	50%	13%	75%	15%	10%	0%	0%	42%	25%	23%	6%	4%	33%	19%	33%	5%	10%
Rec (50%)	3%	21%	30%	15%	30%	0%	0%	13%	50%	38%	70%	20%	10%	0%	0%	35%	15%	42%	4%	4%	24%	14%	48%	5%	10%
Rec (70%)	24%	21%	15%	12%	27%	0%	0%	13%	63%	25%	75%	15%	10%	0%	0%	37%	23%	35%	2%	4%	33%	19%	33%	5%	10%
BTF-ACI (50%)	3%	6%	15%	9%	67%	0%	0%	0%	50%	50%	50%	30%	20%	0%	0%	17%	23%	37%	12%	12%	10%	10%	29%	38%	14%
BTF-ACI (70%)	18%	12%	3%	18%	48%	0%	0%	0%	50%	50%	50%	40%	10%	0%	0%	17%	23%	37%	12%	12%	19%	14%	19%	33%	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%)	39%	21%	27%	12%	0%	0%	13%	75%	13%	0%	90%	0%	0%	5%	5%	54%	8%	17%	10%	12%
Floor (70%)	52%	18%	24%	6%	0%	25%	13%	50%	13%	0%	90%	0%	0%	5%	5%	56%	12%	13%	8%	12%
Rec (50%)	39%	18%	30%	12%	0%	0%	0%	75%	25%	0%	90%	0%	0%	5%	5%	52%	10%	17%	4%	17%
Rec (70%)	48%	15%	30%	6%	0%	0%	0%	75%	25%	0%	90%	0%	0%	5%	5%	54%	12%	15%	4%	15%
BTF-ACI (50%)	15%	18%	48%	15%	3%	0%	0%	63%	13%	25%	90%	0%	0%	5%	5%	40%	12%	12%	10%	27%
BTF-ACI (70%)	33%	15%	36%	15%	0%	0%	0%	63%	13%	25%	90%	0%	0%	5%	5%	38%	17%	8%	12%	25%

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	Operating Profit Margin		% Margin after	Operating Profit Margin		% Margin after	Operating Profit Margin		% Margin after
	$ Change	% Change	the Rule	$ Change	% Change	the Rule	$ Change	% Change	the Rule	$ Change	% Change	the Rule
Floor (50%)	$0	-18%	66%	($35)	-53%	30%	$17	-1%	58%	$1	-6%	58%
Floor (70%)	$0	-8%	75%	($30)	-37%	46%	$0	-2%	57%	($12)	-6%	60%
Rec (50%)	$0	-19%	66%	($46)	-63%	24%	$19	-1%	58%	$3	-6%	58%
Rec (70%)	$0	-10%	73%	($48)	-54%	33%	$6	-1%	58%	($8)	-6%	60%
BTF-ACI (50%)	$0	-24%	62%	($28)	-49%	38%	$26	-1%	58%	($0)	-9%	60%
BTF-ACI (70%)	$0	-21%	63%	($35)	-52%	35%	$24	-1%	58%	($2)	-8%	61%

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.