Appendix 9.1

Identification of BART-Eligible Sources in the State of Kansas

Appendix 9.1 Identification of BART-Eligible Sources in the State of Kansas

To identify the sources that met the criteria above, Kansas performed a multi-step search and analysis, beginning with a database query of the permitted air sources in its point source emissions inventory database. The database contained a total of 336 operating facilities coded as class A (controlled emissions >100 tons/yr), A1 (actual emissions <100 tons/yr, potential emissions >100 tons/yr), or A2 (actual/potential emissions greater than major source threshold).

The first BART screening was done by querying the Kansas point source inventory database based on the following criteria:

- The facility is operating
- The facility is coded as being class A, A1, or A2
- The facility is in one of the Standard Industrial Classification (SIC) codes or has processes within one of the source classification codes (SCCs) in Table 9.1 below

Table A9.1 SIC Codes and SCCs Used to Identify Potential BART Sources in Kansas

BART Cat. No.	BART Category Name	SIC Code(s)	SCCs
1	Fossil Fuel-fired Steam Electric Plants (250 MMBtu heat input per hour)	4911	101xxxxx (Used SCCs 10100602 and 10100702 to eliminate facilities with aggregated boilers <250 MMBtu/hr heat input. See step 2 description.)
2	Coal Cleaning Plants (thermal dryers)	1221	305010xx, 305310xx
3	Kraft Pulp Mills	2611	307001xx
4	Portland Cement Plants	3241	305006xx, 305007xx
5	Primary Zinc Smelters	33xx	303030xx
6	Iron and Steel Mill Plants	33xx	303015xx
7	Primary Aluminum Ore Reduction Plants	33xx	303001xx
8	Primary Copper Smelters	33xx	303005xx
9	Municipal Incinerators (> 250 tons refuse per day)	4953	501001xx
10	Hydrofluoric, Sulfuric, and Nitric Acid Plants	2819, 2873	301070xx, 30102201, 301023xx, 301013xx
11	Petroleum Refineries	2911	306xxxxx
12	Lime Plants		305016xx
13	Phosphate Rock Processing Plants	1475	305019xx
14	Coke Oven Batteries	33xx	303003xx
15	Sulfur Recovery Plants	2819	30603301, 31000208
16	Carbon Black Plants (furnace process)	2895	30100503, 30100509, 30100504
17	Primary Lead Smelters	33xx	303010xx
18	Fuel Conversion Plants	*SIC code/SCC unknown; surveyed air permit engineers*	

19	Sintering Plants	--	30300815, 30300819, 30300820, 30300822, 3050009xx, 30903901, 30903902 (Other sintering SCCs already included with SCCs for lead, zinc, iron & steel, and secondary metal production.)
20	Secondary Metal Production Facilities	33xx	304xxxxx
21	Chemical Process Plants	--	301xxxxx
22	Fossil Fuel-Fired Boilers (250 MMBtu heat input per hour)	--	102001xx - 102007xx, 103001xx - 103007xx (Used SCCs 10200402, 10200403, 10200502, 10200503, 10200602, 10200603, 10300402, 10300403, 10300502, 10300503, 10300602, and 10300603 to eliminate facilities with agg. boiler < 250 MMBtu/hr heat input. See step 2 on previous page.)
23	Petroleum Storage and Transfer Facilities (capacity > 300,000 barrels)	5171, 5172, 461x	404xxxxxx, 40301xxx (Also used the 404xxxxxx and 40301xxx SCCs separately from the SIC codes in order to pull in aircraft manufacturing facilities or others that may store large quantities of petroleum.)
24	Taconite Ore Processing Plants	3295	303023xx
25	Glass Fiber Processing Plants	3296	305012xx
26	Charcoal Production Facilities	2819	301006xx

A combination of SCCs and SIC codes were used to identify facilities within most of the listed BART-eligible source categories. For a few of the BART categories, however, facilities were identified using SCCs only. These included chemical process plants, lime plants, sintering plants, fossil fuel-fired boilers, and petroleum storage and transfer facilities.

The next step was to eliminate sources from the fossil fuel-fired boilers category with less than a 250 MMBtu/hr heat input rate. Conservative MMBtu/hr values were assigned to the boilers based on their SCCs as follows:

- A value of 10 MMBtu/hr was assigned to a boiler if its SCC indicated a heat input rate of <10 MMBtu/hr,
- A value of 100 MMBtu/hr was assigned if its SCC indicated a heat input rate from 10–100 MMBtu/hr,
- A value of 250 MMBtu/hr was assigned if its SCC indicated a heat input rate of >100 MMBtu/hr, and
- A value of 250 MMBtu/hr was assigned if its SCC did not provide information about the boiler's heat input values.

The assigned boiler values were summed for each of the facilities. Facilities with aggregated boiler capacity of less than 250 MMBtu/hr were then eliminated.

For the 97 facilities on the list, year 2000 actual emissions at the emission unit level were obtained from the point source database. This information was then combined with 1999 Toxics Release Inventory (TRI) ammonia emissions data at the facility level. This information was used in the final step.

At this point, the petroleum storage and transfer facilities with storage capacity <300,000 barrels were eliminated, along with any facilities where the potential to emit and operation/reconstruction date criteria were not met. In order to proceed further and eliminate additional sources, a survey of the facilities was needed.

In September 2002, surveys were mailed to the 97 facilities that met the Regional Haze Rule's source category criteria under a request for information about the air emission units at their facilities. The facilities were requested to submit potential to emit data for NO_x, SO_2, PM_{10}, VOCs, and ammonia (NH_3) for each identified emission unit. The survey consisted of 4 steps:

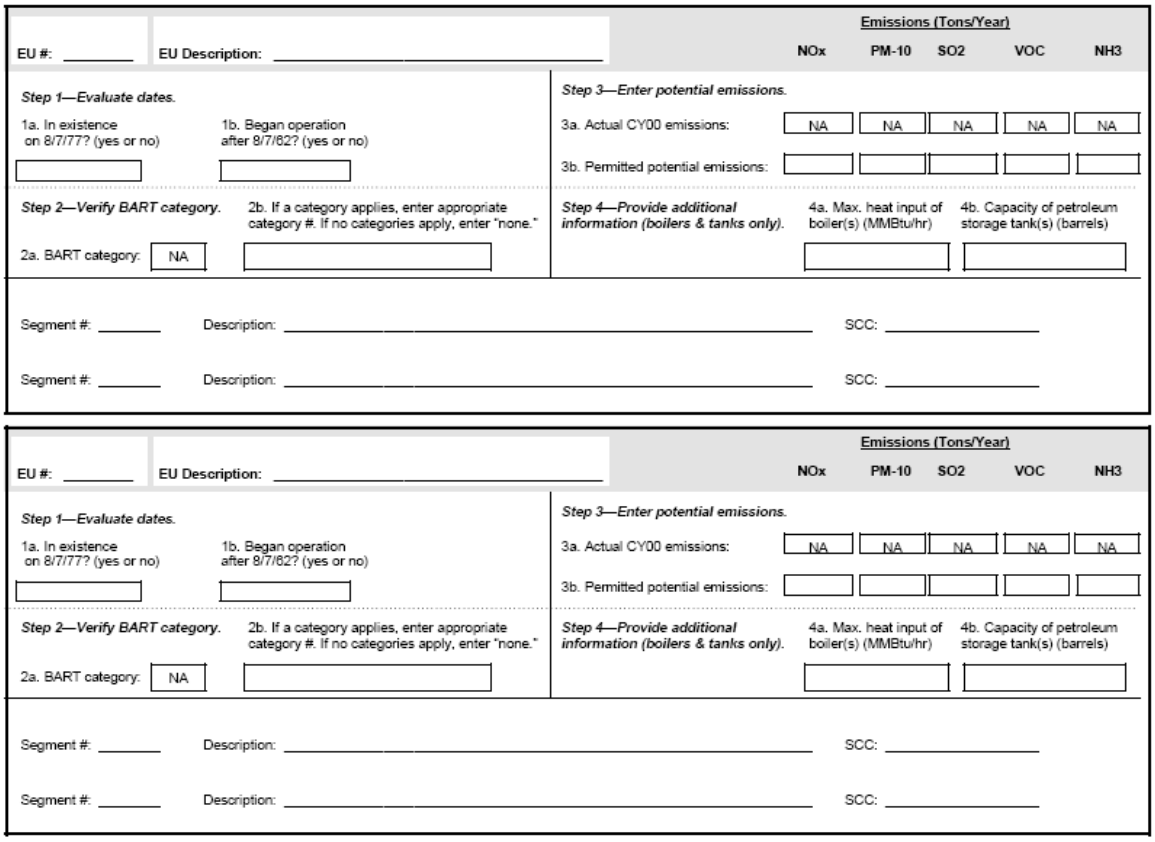
1. Evaluate dates
2. Verify BART category
3. Enter potential emissions (tons/yr)
4. Provide boiler and tank information, if applicable

An example BART-eligible survey form is shown in Figure A9.1.

All facilities returned survey forms, which were then analyzed to determine BART eligibility in accordance with the 2005 final rule. This analysis indicated there were 19 facilities in Kansas with BART-eligible units. The 19 facilities, along with their BART-eligible units, are listed in Table A9.2.

Subsequent to EPA's release of the 2005 Regional Haze Rule and the modeling guidance contained therein, further information regarding the maximum 24-hour actual emissions was requested for each BART-eligible unit. The 24-hour actual emissions data received were then used to model peak 24-hour averages for evaluating visibility.

Figure A9.1 Example Kansas BART-Eligible Survey Form



EU #: _____ EU Description: _____

Emissions (Tons/Year)

	NOx	PM-10	SO2	VOC	NH3
3a. Actual CY00 emissions:	NA	NA	NA	NA	NA
3b. Permitted potential emissions:					

Step 1—Evaluate dates.

1a. In existence on 8/7/77? (yes or no) [ ]

1b. Began operation after 8/7/62? (yes or no) [ ]

Step 2—Verify BART category.

2a. BART category: [NA]

2b. If a category applies, enter appropriate category #. If no categories apply, enter "none." [ ]

Step 3—Enter potential emissions.

Step 4—Provide additional information (boilers & tanks only).

4a. Max. heat input of boiler(s) (MMBtu/hr) [ ]

4b. Capacity of petroleum storage tank(s) (barrels) [ ]

Segment #: _____ Description: _____ SCC: _____

Segment #: _____ Description: _____ SCC: _____

EU #: _____ EU Description: _____

Emissions (Tons/Year)

	NOx	PM-10	SO2	VOC	NH3
3a. Actual CY00 emissions:	NA	NA	NA	NA	NA
3b. Permitted potential emissions:					

Step 1—Evaluate dates.

1a. In existence on 8/7/77? (yes or no) [ ]

1b. Began operation after 8/7/62? (yes or no) [ ]

Step 2—Verify BART category.

2a. BART category: [NA]

2b. If a category applies, enter appropriate category #. If no categories apply, enter "none." [ ]

Step 3—Enter potential emissions.

Step 4—Provide additional information (boilers & tanks only).

4a. Max. heat input of boiler(s) (MMBtu/hr) [ ]

4b. Capacity of petroleum storage tank(s) (barrels) [ ]

Segment #: _____ Description: _____ SCC: _____

Segment #: _____ Description: _____ SCC: _____

Table A9.2 Facilities with BART-eligible units in the State of Kansas

BART Source Category Name	Facility ID	Facility Name	BART-Eligible Emission Units
Fossil-Fuel Fired Electric Generating Units	0090002	Aquila (now Sunflower Electric) - Arthur Mullergren	Unit 3 (Stacks 1 and 2)
	1750001	Aquila (now Sunflower Electric) - Cimarron River	Unit 1
	0570001	Aquila (now Sunflower Electric) - Judson Large	Unit 4
	2090008	Kansas City BPU - Nearman	Unit 1
	2090048	Kansas City BPU - Quindaro	Unit 1 Unit 2
	1070005	KCP&L - La Cygne	Unit 1 Unit 2
	1130014	McPherson Municipal Power Plan #2	Unit 1
	0550026	Sunflower Electric - Garden City	Unit S2
	1730012	Westar Energy - Gordon Evans	Unit 2 (Stacks 2 and 3)
	1550033	Westar Energy - Hutchinson	Unit 4 (Stacks A and B)
	1490001	Westar Energy - Jeffrey	Unit 1 Unit 2
	0450014	Westar Energy - Lawrence	Unit 5
	0350012	Winfield Municipal Power Plant #2	Unit 4
Portland Cement Plants	0010009	Monarch Cement Co.	No. 4 Kiln Stack, No.4 Kiln Clinker Cooler, No.5 Kiln Stack, No. 5 Kiln Clinker Cooler, Raw Material Unloading, Clinker Grinding and Cement Handling, Stone Quarry Processing
Petroleum Refineries	0150004	Frontier El Dorado Refining Co.	Boiler B-105, Boiler B-107, Plant Process Heaters, Refinery Flare System B-1303, Plant Cooling Towers, Storage Tanks, Gas Oil Hydrotreater
	1130003	National Cooperative Refinery Assoc. (NCRA)	Alky Heater HA-002, No.9 Boiler SB-009, No.12 Boiler SB-012, Coker IR Comp. CR-003, Plat Stab Boil Htr HP-003, Plat Charge Htr HP-006, Fugitive Emissions

Chemical Processing Plants	1730070	Basic Chemicals (now OxyChem - Wichita)	Boiler 1; Boiler 2; Boiler 3; Chloromethanes
	0570003	Koch Nitrogen	Ammonia plant - primary reformer; Ammonia plant - other; Nitric acid plant - absorber tail gas; Ammonium nitrate plant - neutralizer
Glass Fiber Processing Plants	2090010	Owens Corning	70 furnace - N exhaust; 70 furnace - S exhaust; 70 riser/channel/forehearth; 70 A forming; 70 B forming; 70 C forming; 70 D forming; 70 curing oven charge end; 70 curing oven discharge end; J5 furnace; J5 riser/channel/forehearth; J6 A forming; J6 B forming; J6 C forming; J6 curing oven charge end; J6 curing oven discharge end; J6 smoke stripper; J6 north cooling (A); J6 south cooling (B); J6 asphalt coating; Raw material processing