Appendix D.

EMISSION INVENTORY QUESTIONNAIRE (from Section A6.1)

See attached yellow packet

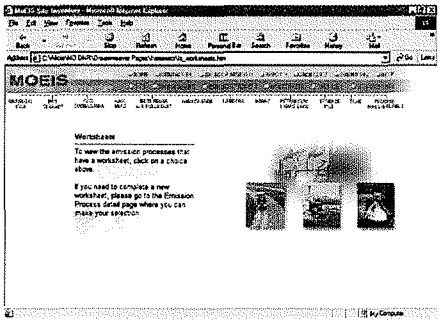
Appendix E.

STRUCTURE OF MISSOURI EMISSION INVENTORY SYSTEM (MOEIS) DATADASE (from Section A6.1)

See next page

Missouri Department of Natural Resources,
Air Pollution Control Program

Regulated Community Reports Air Pollution Emissions On-line



Project: Missouri's Emission Inventory System (MoEIS)

Project Objective: Develop a client/server application and develop a transaction based G2B portal.

Description: Tier Technologies and the Missouri Department of Natural Resources (DNR) are ensuring the State efficiently and accurately collects air pollution emissions inventory data and fees by phasing in a system that will eventually take full advantage of Internet technology.

During MoEIS Phase 1, Tier and the Missouri Department of Natural Resources worked closely with the DNR staff using a Rapid Application Prototyping approach to analyze, design, develop and implement MoEIS as an integrated emissions inventory program. MoEIS combines four legacy systems, which were disjointed, poorly documented, difficult to maintain, and not Y2K compliant into one client/server application. The MoEIS data structure combines the data from over 7,000 legacy Paradox tables and Access databases into one common database.

During MoEIS 2000, Tier and the Missouri Department of Natural Resources continued to expand on the client/server functionality established during Phase I. As part of the MoEIS 2000 project, the DNR and Tier Technologies conducted an extensive evaluation of three web development tools. The evaluation was conducted to select a web development tool capable of supporting the DNR's web application needs--both static and transactional. Tier provide technical expertise to lead the evaluation process and help the DNR adopt a strategic Web architecture.

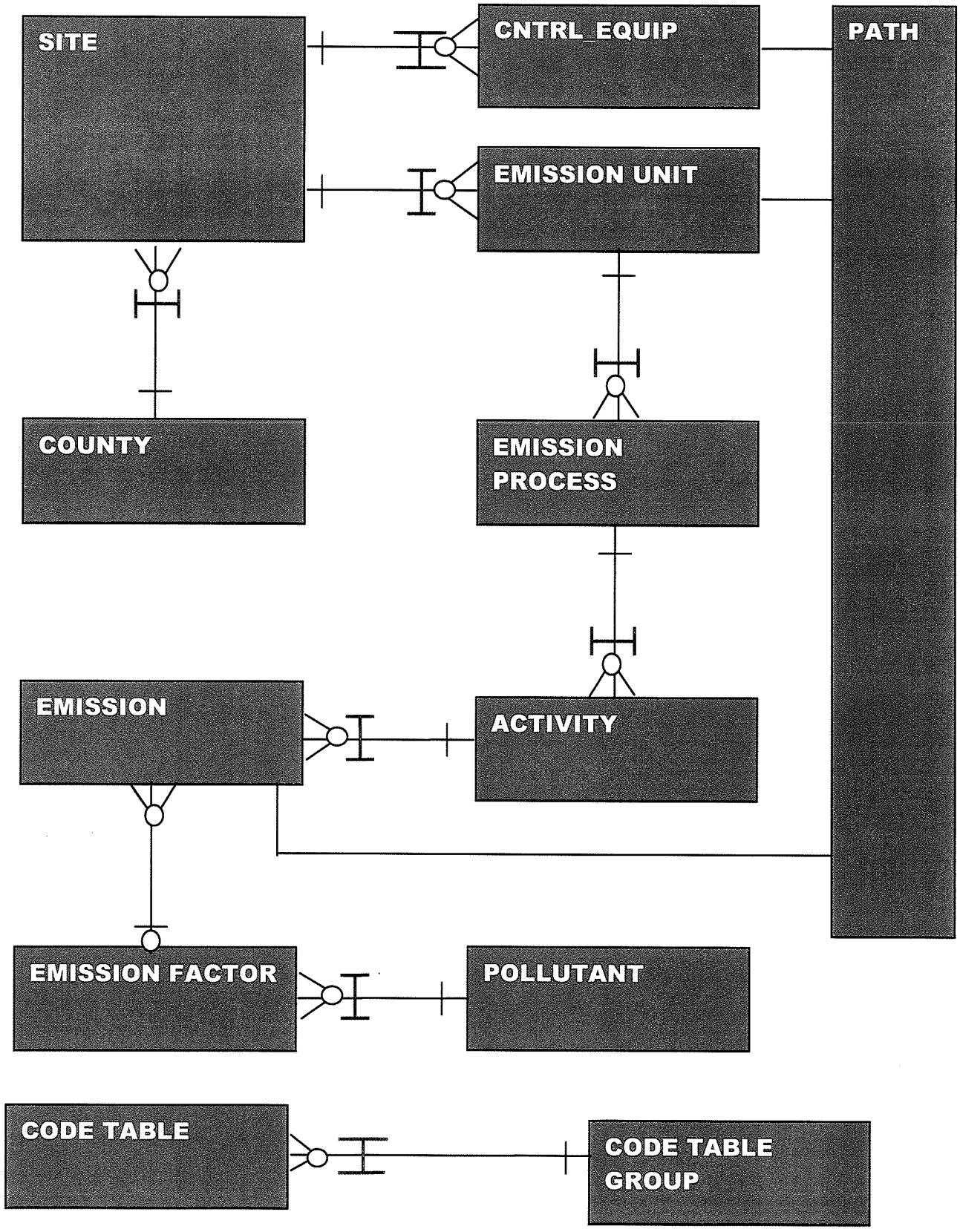
During MoEIS 2001, Tier and the Missouri Department of Natural Resources are working with the DNR staff to develop a web portal for the regulated community to electronically submit Emissions Inventory Questionnaires (EIQ). The system will be used by the regulated community and regulators to report and track air pollution emissions and fees. MoEIS was originally intended as the foundation for future application development in the Air Pollution Control Program (APCP). Due to the success of the project, MoEIS is quickly becoming the foundation for future application development for the DNR.

Benefits:

The e-government and G2B transactions will make the emissions inventory process more efficient and will reduce the reporting burden on the regulated community. This can mean significant timesavings for large companies. Electronic submittal also reduces entry errors and improves data integrity. The Air Pollution Control Program (APCP), local agencies, regional offices, and the regulated community will all benefit from the web portal, while the DNR benefits from its preparation for future e-government expansion.

Tier
Expect A Lot

MoEIS High Level Entity Relationship Diagram Snippet



Appendix F.

CERR Data Elements and Corresponding Data Elements in NIF Version 3.0
From: 40 CFR 51 Appendix A Table 2A

Point Sources:

CERR Data Element	NIFV3.0 Data Element(s)	NIF V3.0 Record(s)
1.Inventory year	Inventory Year	
2.Inventory start date 3.Inventory end date	Start Date, End Date	PE, EM
4.Inventory type	Inventory Type Code	TR
5.State FIPS code	State and County FIPS Code	All recs
6.County FIPS code	State and County FIPS Code	All recs
7.Facility ID Code	State Facility Identifier	SI, EU, EP, CE, ER, PE, EM
8.Point ID code	Emission Unit ID	EU, EP, CE, PE, EM
9.Process ID code	Process ID	EP, CE, PE, EM
10.Stack ID code	Emission Release Point ID	ER, EP, EM
11.Site name	Facility Name	SI
12.Physical address	Location Address, City, State, Zip Code	SI
13.SCC or PCC	SCC	EP
14.Heat content (fuel) (annual average)	Heat Content	EP
15.Ash content (fuel)(annual average)	Ash Content	EP
16.Sulfur content (fuel)(annual average)	Sulfur Content	EP
17.Pollutant code	Pollutant Code	CE, EM
18.Activity/throughput (annual)	Actual Throughput Throughput Unit Numerator Material, Material I/O Start Date, End Date	PE PE, EM

CERR Data Elements and Corresponding Data Elements in NIF Version 3.0
From: 40 CFR 51 Appendix A Table 2A

Point Sources:

CERR Data Element *	**NIFV3.0 Data Element(s)**	**NIF V3.0 Record(s)**
19.Activity/throughput (daily)	Actual Throughput Throughput Unit Numerator Material, Material I/O Start Date, End Date	PE PE, EM
20.Work weekday emissions	Emission Numeric Value Emission Unit Numerator Start Date, End Date Emission Type	EM PE, EM EM
21.Annual emissions	Emission Numeric Value Emission Unit Numerator Start Date, End Date Emission Type	EM PE, EM EM
22.Emission factor	Factor Numeric Value Factor Unit Numerator Factor Unit Denominator Material, Material I/O	EM
23.Winter throughput(%) 24.Spring throughput(%) 25.Summer throughput(%) 26.Fall throughput(%)	Winter Throughput PCT Spring Throughput PCT Summer Throughput PCT Fall Throughput PCT	EP
27.Hr/day in operation	Annual Avg Hours Per Day; or Period Hours Per Day	EP PE
28.Start time (hour)	Start Time	PE, EM
29.Day/wk in operation	Annual Avg Days Per Week; or Period Days Per Week	EP PE
30.Wk/yr in operation	Annual Avg Weeks Per Year; or Period Weeks Per Period	EP PE

CERR Data Elements and Corresponding Data Elements in NIF Version 3.0
From: 40 CFR 51 Appendix A Table 2A

Point Sources:

CERR Data Element *	**NIFV3.0 Data Element(s)**	**NIF V3.0 Record(s)**
31.X stack coordinate (latitude) 32.Y stack coordinate (longitude)	X Coordinate, Y Coordinate, UTM Zone, XY Coordinate Type Horizontal Collection Method Code, Horizontal Accuracy Measure, Horizontal Reference Datum Code, Reference Point Code, Source Map Scale Number	ER
33.Stack Height 34.Stack diameter 35.Exit gas temperature 36.Exit gas velocity 37.Exit gas flow rate	Stack Height Stack Diameter Exit Gas Temperature Exit Gas Velocity Exit Gas Flow Rate	ER
38.SIC/NAICS	SIC Primary, NAICS Primary SIC Unit Level, NAICS Unit Level	SI EU
39.Design capacity 40.Maximum nameplate capacity	Design Capacity Design Capacity Unit Numerator Design Capacity Unit Denominator Max Nameplate Capacity	EU
41.Primary control eff(%) 42.Secondary control eff (%) 43.Control device type	Primary PCT Control Efficiency PCT Capture Efficiency Total Capture Control Efficiency Primary Device Type Code Secondary Device Type Code	CE
44.Rule effectiveness (%)	Rule Effectiveness Rule Effectiveness Method	EM

CERR Data Elements and Corresponding Data Elements in NIF Version 3.0
From: 40 CFR 51 Appendix A Table 2A

Area and Nonroad Mobile Sources:

CERR Data Element *	**NIFV3.0 Data Element(s)**	**NIF V3.0 Record(s)**
1.Inventory year	Inventory Year	TR
2.Inventory start date 3.Inventory end date	Start Date, End Date	PE, EM
4.Inventory type	Inventory Type Code	TR
5.State FIPS code	State and County FIPS Code	All recs
6.County FIPS code	State and County FIPS Code	All recs
7.SCC or PCC	SCC	EP, PE, CE, EM
8.Emission factor	Factor Numeric Value Factor Unit Numerator Factor Unit Denominator Material, Material I/O	EM
9.Activity/throughput level (annual)	Actual Throughput Throughput Unit Numerator Material, Material I/O Start Date, End Date	PE
10.Total capture/control efficiency (%)	Primary Pct Control Efficiency Pct Capture Efficiency Total Capture Control Efficiency Primary Device Type Code	CE
11.Rule effectiveness (%)	Rule Effectiveness Rule Effectiveness Method	EM
12.Rule penetration (%)	Rule Penetration	EM
13.Pollutant code	Pollutant Code	CE, EM

CERR Data Elements and Corresponding Data Elements in NIF Version 3.0
From: 40 CFR 51 Appendix A Table 2A

Area and Nonroad Mobile Sources:

CERR Data Element *	**NIFV3.0 Data Element(s)**	**NIF V3.0 Record(s)**
14. Summer/winter work weekday emissions	Emission Numeric Value, Emission Unit Numerator Start Date, End Date Emission Type	EM PE, EM EM
15.Annual emissions	Emission Numeric Value, Emission Unit Numerator Start Date, End Date Emission Type	EM PE, EM EM
16.Winter throughput (%) 17.Spring throughput (%) 18.Summer throughput (%) 19.Fall throughput (%)	Winter Throughput PCT Spring Throughput PCT Summer Throughput PCT Fall Throughput PCT	EP
20.Hrs/day in operation	Annual Avg Hours Per Day; or Period Hours Per Day	EP PE
21.Days/wk in operation	Annual Avg Days Per Week; or Period Days Per Week	EP PE
22.Wks/yr in operation	Annual Avg Weeks Per Year; or Period Weeks Per Period	EP PE

CERR Data Elements and Corresponding Data Elements in NIF Version 3.0
From: 40 CFR 51 Appendix A Table 2A

Onroad Mobile Sources:

CERR Data Element *	**NIFV3.0 Data Element(s)**	**NIF V3.0 Record(s)**
1.Inventory year	Inventory Year	TR
2.Inventory start date 3.Inventory end date	Start Date, End Date	PE, EM
4.Inventory type	Inventory Type Code	TR
5.State FIPS code	State and County FIPS Code	All recs
6.County FIPS code 7.SCC or PCC	State and County FIPS Code SCC	All recs PE, EM
8.Emission factor	**	**
9.Activity (VMT by Roadway Class)	Actual Throughput Throughput Unit Numerator Start Date, End Date	PE
10.Pollutant code	Pollutant Code	EM
11.Summer/winter work weekday emissions	Emission Numeric Value, Emission Unit Numerator Start Date, End Date Emission Type	EM PE, EM EM
12.Annual emissions	Emission Numeric Value, ** Emission Unit Numerator Start Date, End Date Emission Type	EM PE, EM EM

** Transmit emission factor information via MOBILE model input files.

CERR Data Elements and Corresponding Data Elements in NIF Version 3.0
From: 40 CFR 51 Appendix A Table 2A

Biogenic Sources:

CERR Data Element *	**NIFV3.0 Data Element(s)**	**NIF V3.0 Record(s)**
1.Inventory year	Inventory Year	TR
2.Inventory start date 3.Inventory end date	Start Date, End Date	EM
4.Inventory type	Inventory Type Code	TR
5.State FIPS code	State and County FIPS Code	All recs
6.County FIPS code	State and County FIPS Code	All recs
7.SCC or PCC	SCC	EM
8. Pollutant code	Pollutant Code	EM
9.Summer/winter work weekday emissions	Emission Numeric Value, Emission Unit Numerator Start Date, End Date Emission Type	EM
10.Annual emissions	Emission Numeric Value, Emission Unit Numerator Start Date, End Date Emission Type	EM

All code tables and descriptions can be found on the Emission Inventory web site, address http://www.epa.gov/ttn/chief/nif/index.html.

Appendix G.

Area Source Categories Inventoried Statewide for the Periodic Emission Inventory (PEI)

Tank Truck Unloading	Small Industrial Fuel Combustion
Vehicle Refueling	Structure Fires
Tank Trucks in Transit	Slash/Prescribed Burning
Underground Storage Tank Breathing	Forest Fires
Aircraft Refueling	Bakeries
Petroleum Vessel Loading/Unloading	Breweries
Architectural Coatings	Wineries
Industrial Surface Coatings	Distilleries
Auto Refinishing	Catastrophic/Accidental Releases
Traffic Markings	Open Burning
Solvent Cleaning Operations	Land Clearing Waste Burning
Dry Cleaning Coin Operated	Yard Waste Burning
Dry Cleaning Commercial/Industrial	Residential Wood Combustion
Graphic Arts	Agricultural Burning
Cutback & Emulsified Asphalt	Orchard Heaters
Consumer-Commercial Solvent Use	SOCMI Tanks
Municipal Waste Landfills	Barge, Tank , Tank Truck,
Wastewater Treatment at POTWs	Rail Car, and Drum Cleaning
and Package Plants	On-site Incineration
Industrial Wastewater Treatment	Charcoal Grilling
and TSDFs	Firefighter Training
Pesticide Application	Vehicle Fires
Residential and Commercial/	
Institutional Fuel Combustion	

Appendix H.

NON-REACTIVE VOLATILE ORGANIC COMPOUNDS NOT TO BE INCLUDED AS VOC (from Section B5)

The following non-reactive volatile organic compounds will not be included as VOC (list found in 40 CFR 51.100):

Methane; Ethane; Methylene chloride; Methyl chloroform; CFC-113; CFC-11; CFC-12; HCFC-22; HFC-23; CFC-114; CFC-115; HCFC-123; HFC-134a; HCFC-141b; HCFC-142b; HCFC-124; HFC-125; HFC-134; HFC-143a; HFC-152a; PCBTF; Cyclic, Branched, or Linear Completely Methylated Siloxanes; Acetone; Tetrachloroethylene;	HCFC-225ca; HCFC-225cb; HFC 43-10mee; HFC-32; HFC-161; HFC-236fa; HFC-245ca; HFC-245ea; HFC-245eb; HFC-245fa; HFC-236ea; HFC-365mfc; HCFC-31; HCFC-151a; HCFC-123a; PFC: Cyclic, branched or linear, completely fluorinated alkanes; PFC: Cyclic, branched or linear, completely fluorinated ethers with no unsaturations; PFC: Cyclic, branched or linear, completely fluorinated tertiary amines with no unsaturations; PFC: Sulfur-containing perflorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine