

Furnace employees in fiberglass typically have slightly higher exposures than furnace employees in continuous filament plants because the furnaces have openings above the channels and forehearth to cool the glass while continuous filament furnaces are closed. Also, hot end repair employees in continuous filament production are expected to have higher exposures because of the need to regularly replace bushings at the end of the forehearth.



Weighing Cr(VI) pigment for colored glass production
(Photo courtesy of the National Institute for Occupational Safety and Health (NIOSH)).

CHROMIUM CATALYST USERS

Cr(VI)-containing catalysts are used in processes such as the production of plastics and polymers, in chemical synthesis, and gas production. In some processes, Cr(III) catalysts are activated by heat and converted by oxidation to Cr(VI). Catalysts are usually sold in powder form or in specific shapes such as small pellets, and are packaged in bags or drums. Pellets generate less dust than powders during packaging and handling.

The tasks of loading and unloading Cr(VI)-containing catalysts into and out of catalyst process reactors and holding vessels present the greatest potential for Cr(VI) exposure among chromium catalyst users. Employees who perform these tasks include catalyst service company field technicians who load and

unload catalyst and process operators who load catalysts into process vessels prior to activation of the catalyst.

PRODUCERS OF REFRACTORY BRICK

This industry includes companies that produce refractory brick from other materials. Refractories are either clay or non-clay. Certain non-clay refractories contain chromium, primarily chromite ore (Cr(III)). In addition, although basic refractories are produced from Cr(III) based ores, small quantities of chromic acid (Cr(VI)) may be added to produce specialty products. Sometimes Cr(III) is mixed with salvaged material which can contain Cr(VI). Employees potentially exposed to Cr(VI) are cleaners, crusher operators, pressmen, batchmen, mold fillers, brick loaders, grinder operators, saw operators, and engineering interns. These employees have potential Cr(VI) exposure because of the physical form (e.g., powder) of the Cr(VI)-containing chemicals that are handled.

WOODWORKING

Chromated copper arsenate (CCA) is one of the major chemicals used to treat wood to prevent biodegradation, and Cr(VI) is used in the formulation of CCA. Although treatment of wood with preservatives is exempt from the scope of the Cr(VI) standards because pesticide applications are regulated by the Environmental Protection Agency, downstream uses of Cr(VI)-treated wood are covered by the standards. Employees in many downstream woodworking industries such as lumber yards, carpentry shops, and landscaping handle, cut, saw, sand, and paint CCA treated lumber. Carpenters and carpenter helpers are the primary groups exposed to Cr(VI) from woodworking. The principal source of airborne exposures is the dust created during wood processing activities such as cutting, drilling, and sanding, and is not CCA leaching out of the treated wood.

EPA requires that, as of 2003, CCA treated wood cannot be used to construct play structures, decks, picnic tables, landscaping timbers, patios, boardwalks, and residential fencing. CCA treated wood will continue to be produced for permitted uses, such as salt water use, highway construction, utility poles, and pilings.

SOLID WASTE INCINERATION

Exposure to Cr(VI) in waste incineration results from the thermal destruction of chromium-containing prod-

ucts discarded by consumers and industry. Employees potentially exposed to Cr(VI) include laborers, shredder/heavy equipment operators, maintenance and helpers, boiler operators and assistant operators, maintenance electricians, and truck operators (ash hauling). The job of shredder/heavy equipment operators is unique to facilities which shred or process refuse prior to delivery to the incineration unit. Tasks involving periodic incinerator clean-out are a major source of exposure.

NON-FERROUS SUPERALLOY PRODUCERS AND USERS OF CHROMIUM

This group includes firms that produce or use nonferrous-based high performance alloys. These alloys are known as “superalloys” because they have better performance at high temperatures (1500 to 2000 degrees Fahrenheit) than conventional alloys. These alloys also withstand relatively severe mechanical stresses and typically have higher surface stability than conventional alloys. Nickel or cobalt, not iron, are the primary metal constituents of these alloys. The nickel-based alloys can contain 10% to 30% elemental chromium. Cobalt-based alloys generally contain even higher concentrations of elemental chromium.

In this industry the primary source of exposure to Cr(VI) is from fumes generated from the molten alloy during furnace/refining operations (particularly during the electroslag remelt process) and from welding activities. In these situations the chromium is not originally hexavalent, but the high temperatures involved in the process result in oxidation that converts the chromium to a hexavalent state. Employees potentially exposed to Cr(VI) include melt specialists, reclaim weigh operators, electric arc furnace operators, vacuum induction melt/air induction melt furnace operators, crane operators, refining unit operators, floor persons, welders, inert screeners, machine operators, laboratory technicians, and maintenance employees.

CONSTRUCTION

This sector includes general building contractors and operative builders, heavy construction, and special trade contractors. In addition to those employees potentially exposed to Cr(VI) during painting and surface preparation, welding and thermal cutting, and woodworking operations involving chromated copper arsenate (CCA)-treated lumber, construction employees may be exposed to Cr(VI) during several other operations.

Refractory Restoration and Maintenance

Recycled refractory bricks are used as salvage material in manufacturing new refractories. Although most chromium in refractories is trivalent, the Cr(III) can be converted to Cr(VI) under the conditions found in the ovens. Recycled refractory bricks are often contaminated with yellow crystals. These crystals are thought to be sodium chromate due to the prevalence of sodium in the glassmaking process. The salvage material can contain high Cr(VI) concentrations. Employees repairing and restoring refractory bricks are exposed to this material.

Hazardous Waste Site Work

Employees can be exposed to Cr(VI) at hazardous waste sites in the course of sampling the environment at the site to determine the extent of contamination and through remediation activities. Remediation activities may include soil excavation, groundwater pumping, and subsequent treatment using such techniques as incineration or stabilization. Even sites which are not legally considered hazardous waste sites can be sources of Cr(VI). Examples are parks where chromate chemical production waste was used as fill and diking material.

Industrial Rehabilitation and Maintenance

Construction employees are routinely involved in maintenance and rehabilitation work at industrial facilities. The employees may come into contact with Cr(VI) when employed at sites where chromium products are manufactured, processed, or otherwise present.

Appendix III:

A. OSHA Area Offices

B. OSHA Regional Offices

C. States with Approved Occupational Safety and Health Plans

D. OSHA Consultation Project Directory

A. OSHA AREA OFFICES

Alabama

U.S. Department of Labor - OSHA
Vestavia Village, 2047 Canyon Road
Birmingham, AL 35216-1981
(205) 731-1534

U.S. Department of Labor - OSHA
1141 Montlimar Drive, Suite 1006
Mobile, AL 36609
(251) 441-6131

Alaska

U.S. Department of Labor - OSHA
301 W. Northern Lights Blvd, Suite 407
Anchorage, AK 99503
(907) 271-5152

Arizona

U.S. Department of Labor - OSHA
230 North 1st Avenue, Suite 202
Phoenix, AZ 85003
(602) 640-2348

Arkansas

U.S. Department of Labor - OSHA
TCBY Building, Suite 450
425 West Capitol Avenue
Little Rock, AR 72201
(501) 224-1841

California

U.S. Department of Labor - OSHA
5675 Ruffin Road, Suite 330
San Diego, CA 92123
(415) 975-4310

Colorado

U.S. Department of Labor - OSHA
1391 Speer Boulevard, Suite 210
Denver, CO 80204-2552
(303) 844-5285

U.S. Department of Labor - OSHA
7935 East Prentice Avenue, Suite 209
Greenwood Village, CO 80111-2714
(303) 843-4500

Connecticut

U.S. Department of Labor - OSHA
1057 Broad Street, Fourth Floor
Bridgeport, CT 06604
(203) 579-5581

U.S. Department of Labor - OSHA
Federal Building
450 Main Street, Room 613
Hartford, CT 06103
(860) 240-3152

Delaware

U.S. Department of Labor - OSHA
Caleb Boggs Federal Building
844 N King Street, Room 2209
Wilmington, DE 19801-3319
(302) 573-6518

Florida

U.S. Department of Labor - OSHA
8040 Peters Road, Building H-100
Fort Lauderdale, FL 33324
(954) 424-0242

U.S. Department of Labor - OSHA
Ribault Building, Suite 227
1851 Executive Center Drive
Jacksonville, FL 32207
(904) 232-2895

U.S. Department of Labor - OSHA
5807 Breckenridge Parkway, Suite A
Tampa, FL 33610-4249
(813) 626-1177

Georgia

U.S. Department of Labor - OSHA
450 Mall Boulevard, Suite J
Savannah, GA 31419
(912) 652-4393

U.S. Department of Labor - OSHA
2400 Herodian Way, Suite 250
Smyrna, GA 30080-2968
(770) 984-8700

U.S. Department of Labor - OSHA
LaVista Perimeter Office Park
2183 N. Lake Parkway
Building 7 - Suite 110
Tucker, GA 30084-4154
(770) 493-6644/6742/8419

Idaho

U.S. Department of Labor - OSHA
1150 North Curtis Road, Suite 201
Boise, ID 83706
(208) 321-2960

Illinois

U.S. Department of Labor - OSHA
1600 167th Street, Suite 9
Calumet City, IL 60409
(708) 891-3800

U.S. Department of Labor - OSHA
O'hara Plaza
701 Lee Street, Suite #950
Des Plaines, IL 60016
(847) 803-4800

U.S. Department of Labor - OSHA
11 Executive Drive, Suite 11
Fairview Heights, IL 62208
(618) 632-8612

U.S. Department of Labor - OSHA
365 Smoke Tree Business Park
North Aurora, IL 60542
(630) 896-8700

U.S. Department of Labor - OSHA
2918 West Willow Knolls Road
Peoria, IL 61614
(309) 671-7033

Indiana

U.S. Department of Labor - OSHA
46 East Ohio Street, Room 453
Indianapolis, IN 46204
(317) 226-7290

Iowa

U.S. Department of Labor - OSHA
210 Walnut Street, Room 815
Des Moines, IA 50309
(515) 284-4794

Kansas

U.S. Department of Labor - OSHA
217 W. 3rd Street North
Room #400
Wichita, KS 67202
(316) 269-6644

Kentucky

U.S. Department of Labor - OSHA
John C. Watts Federal Building
330 W. Broadway, Room 108
Frankfort, KY 40601-1922
(502) 227-7024

Louisiana

U.S. Department of Labor - OSHA
9100 Bluebonnet Centre Boulevard
Suite 201
Baton Rouge, LA 70809
(225) 298-5458

Maine

U.S. Department of Labor - OSHA
202 Harlow Street, Room 211
Bangor, ME 04401
(207) 941-8177

U.S. Department of Labor - OSHA
West Tower
100 Middle Street, Suite 410 West
Portland, ME 04101
(207) 626-9160

Maryland

U.S. Department of Labor - OSHA
1099 Winterson Road, Suite 140
Linthicum, MD 21090-2218
(410) 865-2055/2056

Massachusetts

U.S. Department of Labor - OSHA
639 Granite Street, 4th Floor
Braintree, MA 02184
(617) 565-6924

U.S. Department of Labor - OSHA
Valley Office Park
13 Branch Street
Methuen, MA 01844
(617) 565-8110

U.S. Department of Labor - OSHA
1441 Main Street, Room 550
Springfield, MA 01103-1493
(413) 785-0123

Michigan

U.S. Department of Labor - OSHA
801 South Waverly Road, Suite 306
Lansing, MI 48917-4200
(517) 487-4996

Minnesota

U.S. Department of Labor - OSHA
Minneapolis, MN 55415
*closed – please contact Eau Claire Wisconsin office at
(715) 832-9019

Mississippi

U.S. Department of Labor - OSHA
3780 I-55 North, Suite 210
Jackson, MS 39211-6323
(601) 965-4606

Missouri

U.S. Department of Labor - OSHA
6200 Connecticut Avenue, Suite 100
Kansas City, MO 64120
(816) 483-9531

U.S. Department of Labor - OSHA
911 Washington Avenue, Room 420
St. Louis, MO 63101
(314) 425-4249

Montana

U.S. Department of Labor - OSHA
2900 4th Avenue North, Suite 303
Billings, MT 59101
(406) 247-7494

Nebraska

U.S. Department of Labor - OSHA
Overland - Wolf Building
6910 Pacific Street, Room 100
Omaha, NE 68106
(402) 553-0171

Nevada

U.S. Department of Labor - OSHA
705 North Plaza, Room 204
Carson City, NV 89701
(775) 885-6963

New Hampshire

U.S. Department of Labor - OSHA
279 Pleasant Street, Suite 201
Concord, NH 03301
(603) 225-1580

New Jersey

U.S. Department of Labor - OSHA
1030 St. Georges Avenue
Plaza 35, Suite 205
Avenel, NJ 07001
(732) 750-3270

U.S. Department of Labor - OSHA
500 Route 17 South, 2nd Floor
Hasbrouck Heights, NJ 07604
(201) 288-1700

U.S. Department of Labor - OSHA
Marlton Executive Park, Building 2
701 Route 73 South, Suite 120
Marlton, NJ 08053
(856) 757-5181

U.S. Department of Labor - OSHA
299 Cherry Hill Road, Suite 304
Parsippany, NJ 07054
(973) 263-1003

New York

U.S. Department of Labor - OSHA
401 New Karner Road, Suite 300
Albany, NY 12205-3809
(518) 464-4338

U.S. Department of Labor - OSHA
42-40 Bell Boulevard
Bayside, NY 11361
(718) 279-9060

U.S. Department of Labor - OSHA
5360 Genesee Street
Bowmansville, NY 14026
(716) 551-3053

U.S. Department of Labor - OSHA
201 Varick Street - Room #646
New York, NY 10014
(212) 620-3200

U.S. Department of Labor - OSHA
3300 Vickery Road
North Syracuse, NY 13212
(315) 451-0808

U.S. Department of Labor - OSHA
660 White Plains Road, 4th Floor
Tarrytown, NY 10591-5107
(914) 524-7510

U.S. Department of Labor - OSHA
1400 Old Country Road, Room 208
Westbury, NY 11590
(516) 334-3344

North Carolina

U.S. Department of Labor - OSHA
Century Station Federal Office Building
300 Fayetteville Street Mall, Room 438
Raleigh, NC 27601-9998
(919) 856-4770

North Dakota

U.S. Department of Labor - OSHA
1640 East Capitol Avenue
Bismark, ND 58501
(701) 250-4521

Ohio

U.S. Department of Labor - OSHA
36 Triangle Park Drive
Cincinnati, OH 45246
(513) 841-4132

U.S. Department of Labor - OSHA
Federal Office Building
1240 East 9th Street, Room 899
Cleveland, OH 44199
(216) 522-3818

U.S. Department of Labor - OSHA
Federal Office Building
200 North High Street, Room 620
Columbus, OH 43215
(614) 469-5582

U.S. Department of Labor - OSHA
420 Madison Avenue
Suite 600
Toledo, OH 43604
(419) 259-7542

Oklahoma

U.S. Department of Labor - OSHA
55 North Robinson, Suite 315
Oklahoma City, OK 73102-9237
(405) 278-9560

Oregon

U.S. Department of Labor, OSHA
Federal Office Building
1220 Southwest 3rd Avenue, Room 640
Portland, OR 97204
(503) 326-2251

Pennsylvania

U.S. Department of Labor - OSHA
850 North 5th Street
Allentown, PA 18102
(610) 776-0592

U.S. Department of Labor - OSHA
3939 West Ridge Road, Suite B12
Erie, PA 16506-1887
(814) 833-5758

U.S. Department of Labor - OSHA
Progress Plaza
49 North Progress Avenue
Harrisburg, PA 17109
(717) 782-3902

U.S. Department of Labor - OSHA
U.S. Custom House, Room 242
Second and Chestnut Streets
Philadelphia, PA 19106-2902
(215) 597-4955

U.S. Department of Labor - OSHA
Federal Office Building
1000 Liberty Avenue, Room 1428
Pittsburgh, PA 15222-4101
(412) 395-4903

U.S. Department of Labor - OSHA
Steigmaier
7 North Wilkes-Barre Boulevard, Suite 410
Wilkes-Barre, PA 18702-350
(570) 826-6538

Puerto Rico

U.S. Department of Labor - OSHA
Triple SSS Plaza Building
1510 F. D. Roosevelt Avenue, Suite 5B
Guaynabo, PR 00968
(787) 277-1560

Rhode Island

U.S. Department of Labor - OSHA
Federal Office Building
380 Westminster Mall, Room 543
Providence, RI 02903
(401) 528-4669

South Carolina

U.S. Department of Labor - OSHA
1835 Assembly Street, Room 1468
Columbia, SC 29201-2453
(803) 765-5904

Tennessee

U.S. Department of Labor - OSHA
2002 Richard Jones Road, Suite C-205
Nashville, TN 37215-2809
(615) 781-5423

Texas

U.S. Department of Labor - OSHA
1033 La Posada Drive, Suite 375
Austin, TX 78752-3832
(512) 374-0271

U.S. Department of Labor - OSHA
Wilson Plaza
606 N. Carancahua, Suite 700
Corpus Christi, TX 78476
(361) 888-3420

U.S. Department of Labor - OSHA
8344 East R.L. Thornton Freeway, Suite 420
Dallas, TX 75228
(214) 320-2400 (2558)

U.S. Department of Labor - OSHA
700 E San Antonio St.
Room C-408
El Paso, TX 79901
(915) 534-6251

U.S. Department of Labor - OSHA
North Starr II, Suite 302
8713 Airport Freeway
Fort Worth, TX 76180-7610
(817) 428-2470 (485-7647)

U.S. Department of Labor - OSHA
507 N. Sam Houston Pky., Suite 400
Houston, TX 77060
(281) 591-2438 (2787)

U.S. Department of Labor - OSHA
17625 El Camino Real, Suite 400
Houston, TX 77058
(281) 286-0583/0584 (5922)

U.S. Department of Labor - OSHA
Federal Office Building
1205 Texas Avenue, Room 806
Lubbock, TX 79401
(806) 472-7681 (7685)

Utah

U.S. Department of Labor - OSHA
160 E 300 South
Heber-Wells Building
P. O. Box 146650
Salt Lake City, UT 84114-6650
(801) 233-4900

Virginia

U.S. Department of Labor - OSHA
Federal Office Building
200 Granby Street, Room 614
Norfolk, VA 23510
(757) 441-3820

Washington

U.S. Department of Labor - OSHA
505 106th Avenue, NE, Suite 302
Bellevue, WA 98004
(425) 450-5438

West Virginia

U.S. Department of Labor - OSHA
405 Capitol Street
Suite 407
Charleston, WV 25301
(304) 347-5937

Wisconsin

U.S. Department of Labor - OSHA
1648 Tri Parkway
Appleton, WI 54914

(920) 734-4521
U.S. Department of Labor - OSHA
1310 West Clairmont Avenue
Eau Claire, WI 54701
(715) 832-9019

U.S. Department of Labor - OSHA
4802 E. Broadway
Madison, WI 53716
(608) 441-5388

U.S. Department of Labor - OSHA
Henry S. Reuss Building
310 W. Wisconsin Ave, Suite 1180
Milwaukee, WI 53203
(414) 297-3315

B. OSHA REGIONAL OFFICES**Region I**

(CT*, ME, MA, NH, RI, VT*)
 JFK Federal Building, Room E340
 Boston, Massachusetts 02203
 Boston, MA 02203
 (617) 565-9860

Region II

(NJ*, NY*, PR*, VI*)
 201 Varick Street, Room 670
 New York, NY 10014
 (212) 337-2378

Region III

(DE, DC, MD*, PA*, VA*, WV)
 The Curtis Center
 170 S. Independence Mall West
 Suite 740 West
 Philadelphia, PA 19106-3309
 (215) 861-4900

Region IV

(AL, FL, GA, KY*, MS, NC*, SC*, TN*)
 Atlanta Federal Center
 61 Forsyth Street SW, Room 6T50
 Atlanta, GA 30303
 (404) 562-2300

Region V

(IL, IN*, MI*, MN*, OH, WI)
 230 South Dearborn Street,
 Room 3244
 Chicago, IL 60604
 (312) 353-2220

Region VI

(AR, LA, NM*, OK, TX)
 525 Griffin Street, Room 602
 Dallas, TX 75202
 (214) 767-4731 or 4736 x224

Region VII

(IA*, KS, MO, NE)
 City Center Square
 1100 Main Street, Suite 800
 Kansas City, MO 64105
 (816) 426-5861

Region VIII

(CO, MT, ND, SD, UT*, WY*)
 1999 Broadway, Suite 1690
 PO Box 46550
 Denver, CO 80202-5716
 (720) 264-6550

Region IX

(American Samoa, AZ*, CA*, HI, NV*, Northern Mariana Islands)
 71 Stevenson Street, Room 420
 San Francisco, CA 94105
 (415) 975-4310

Region X

(AK*, ID, OR*, WA*)
 1111 Third Avenue, Suite 715
 Seattle, WA 98101-3212
 (206) 553-5930

*These states and territories operate their own OSHA-approved job safety and health programs (Connecticut, New Jersey, New York, and Virgin Islands plans cover public employees only). States with approved programs must have a standard that is identical to, or at least as effective as, the federal standard.

C. STATES WITH APPROVED OCCUPATIONAL SAFETY AND HEALTH PLANS

Alaska Department of Labor and Workforce Development

P.O. Box 21149
1111 W. 8th Street, Room 306
Juneau, Alaska 99802-1149
Commissioner (907) 465-2700 Fax: (907) 465-2784
Director (907) 465-4855 Fax: (907) 465-6012

Industrial Commission of Arizona

800 W. Washington
Phoenix, Arizona 85007-2922
Director, ICA(602) 542-4411 Fax: (602) 542-1614
Program Director (602) 542-5795 Fax: (602) 542-1614

California Department of Industrial Relations

1515 Clay Street, Suite 1901
Oakland, California 94612
Acting Director (415) 703-5050 Fax: (415) 703-5059
Acting Chief, Cal/OSHA (510) 286-7000
FAX (510) 286-7038
Deputy Chief, Cal/OSHA (714) 939-8093
FAX (714) 939-8094

Connecticut Department of Labor

200 Folly Brook Boulevard
Wethersfield, Connecticut 06109
Commissioner (860) 566-5123 Fax: (860) 566-1520
Conn-OSHA
38 Wolcott Hill Road
Wethersfield, Connecticut 06109
Director (860) 263-6900 Fax: (860) 263-6940

Hawaii Department of Labor and Industrial Relations

830 Punchbowl Street
Honolulu, Hawaii 96813
Director (808) 586-8844 Fax: (808) 586-9099

Indiana Department of Labor

State Office Building
402 West Washington Street, Room W195
Indianapolis, Indiana 46204-2751
Commissioner (317) 232-2378 Fax: (317) 233-3790
Deputy Commissioner (317) 233-3605
Fax: (317) 233-3790

Iowa Division of Labor

1000 E. Grand Avenue
Des Moines, Iowa 50319-0209
Commissioner (515) 281-3447 Fax: (515) 281-4698
Administrator (515) 281-3469 Fax: (515) 281-7995

Kentucky Department of Labor

1047 U.S. Highway 127 South, Suite 4
Frankfort, Kentucky 40601
Commissioner (502) 564-3070 Fax: (502) 564-5387
Executive Director, Office of Occupational Safety & Health
(502) 564-3070 Fax: (502) 564-1682

Maryland Division of Labor and Industry

Department of Labor, Licensing and Regulation
1100 North Eutaw Street, Room 613
Baltimore, Maryland 21201-2206
Commissioner (410) 767-2241 Fax: (410) 767-2986
Assistant Commissioner, MOSH (410) 767-2190
Fax: (410) 333-7747

Michigan Department of Labor and Economic Growth

Robert Swanson, Acting Director
Michigan Occupational Safety and Health Administration
P.O. Box 30643
Lansing, MI 48909-8143
Director (517) 322-1814 Fax: (517) 322-1775
Deputy Director for Enforcement (517) 322-1817
Fax: (517) 322-1775

Minnesota Department of Labor and Industry

443 Lafayette Road
St. Paul, Minnesota 55155
Commissioner (651) 284-5010 Fax: (651) 282-5405
Assistant Commissioner (651) 284-5371
Fax: (651) 282-2527
Administrative Director, OSHA Management Team
(651) 284-5372 Fax: (651) 297-2527

Nevada Division of Industrial Relations

400 West King Street, Suite 400
Carson City, Nevada 89703
Administrator (775) 684-7260 Fax: (775) 687-6305
Occupational Safety and Health Enforcement
Section (OSHES)
1301 N. Green Valley Parkway
Henderson, Nevada 89014
Chief Administrative Officer (702) 486-9168
Fax: (702) 486-9020
[Las Vegas (702) 687-5240]

New Jersey Department of Labor and Workforce Development

Office of Public Employees Occupational Safety & Health
(PEOSH)
1 John Fitch Plaza
P.O. Box 386
Trenton, NJ 08625-0386
Acting Commissioner (609) 292-2975 Fax: (609) 633-9271
Assistant Commissioner (609) 292-2313 Fax: (609) 695-1314
Director, PSOSH (609) 292-0501 Fax: (609) 292-3749
Director, Occupational Health Service (609) 984-1843
Fax: (609) 984-0849

New Mexico Environment Department

1190 St. Francis Drive, Suite 4050
P.O. Box 26110
Santa Fe, New Mexico 87502
Secretary (505) 827-2850 Fax: (505) 827-2836
Bureau Chief (505) 476-8700 Fax: (505) 476-8734

New York Department of Labor

New York Public Employee Safety and Health Program
 State Office Campus Building 12, Room 158
 Albany, New York 12240
 Commissioner (518) 457-2741 Fax: (518) 457-6908
 Director, Division of Safety and Health
 (518) 457-3518 Fax: (518) 457-1519
 Program Manager (518) 457-1263 Fax: (518) 457-5545

North Carolina Department of Labor

4 West Edenton Street
 Raleigh, North Carolina 27601-1092
 Commissioner (919) 733-0359 Fax: (919) 733-1092
 Deputy Commissioner, OSH Director (919) 807-2861
 Fax: (919) 807-2855
 OSH Assistant Director (919) 807-2863 Fax: (919) 807-2856

Oregon Occupational Safety and Health Division

Department of Consumer and Business Services
 350 Winter Street, NE, Room 430
 Salem, Oregon 97301-3882
 Administrator (503) 378-3272 Fax: (503) 947-7461
 Deputy Administrator (503) 378-3272 Fax: (503) 947-7461
 Special Assistant for Federal & External Affairs
 (503) 378-3272 Fax: (503) 947-7461

Puerto Rico Department of Labor

Prudencio Rivera Martinez Building
 505 Muñoz Rivera Avenue
 Hato Rey, Puerto Rico 00918
 Secretary (787) 754-2119 Fax: (787) 753-9550
 Assistant Secretary for Occupational Safety and Health
 (787) 756-1100 / (787) 754-2171 Fax: (787) 767-6051

South Carolina Department of Labor, Licensing, and Regulation

Koger Office Park, Kingstree Building
 110 Centerview Drive
 PO Box 11329
 Columbia, South Carolina 29211
 Director (803) 896-4300 Fax: (803) 896-4393
 Administrator (803) 896-7665 Fax: (803) 896-7670
 Office of Voluntary Programs (803) 896-7744
 Fax: (803) 896-7750

Tennessee Department of Labor and Workforce Development

710 James Robertson Parkway
 Nashville, Tennessee 37243-0659
 Commissioner (615) 741-2582 Fax: (615) 741-5078
 Program Director (615) 741-2793 Fax: (615) 741-3325

Utah Labor Commission

160 East 300 South, 3rd Floor
 PO Box 146650
 Salt Lake City, Utah 84114-6650
 Commissioner (801) 530-6901 Fax: (801) 530-7906
 Administrator (801) 530-6898 Fax: (801) 530-6390

Vermont Department of Labor

National Life Building - Drawer 20
 Montpelier, Vermont 05620-3401
 Commissioner (802) 828-2288 Fax: (802) 828-2748
 VOSHA Compliance Program Manager (802) 828-2765
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 OSHA Program Manager (307) 777-7786 Fax: (307) 777-
 3646

Note: the Connecticut, New Jersey, New York, and Virgin Islands plans cover public sector (State and Local Government) employment only.

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http://www.osha.gov/dcsp/smallbusiness/consult_directory.html)

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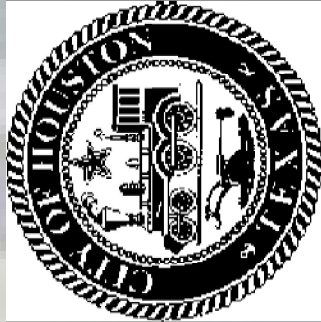


Exhibit 7

What is actually emitted from Area Sources: Results of a Special Study of Metals Recyclers

**Arturo J. Blanco
Loren Raun, PhD*
Don Richner, CIH**

**Houston Department of Health and
Human Services
Bureau of Pollution Control and
Prevention**





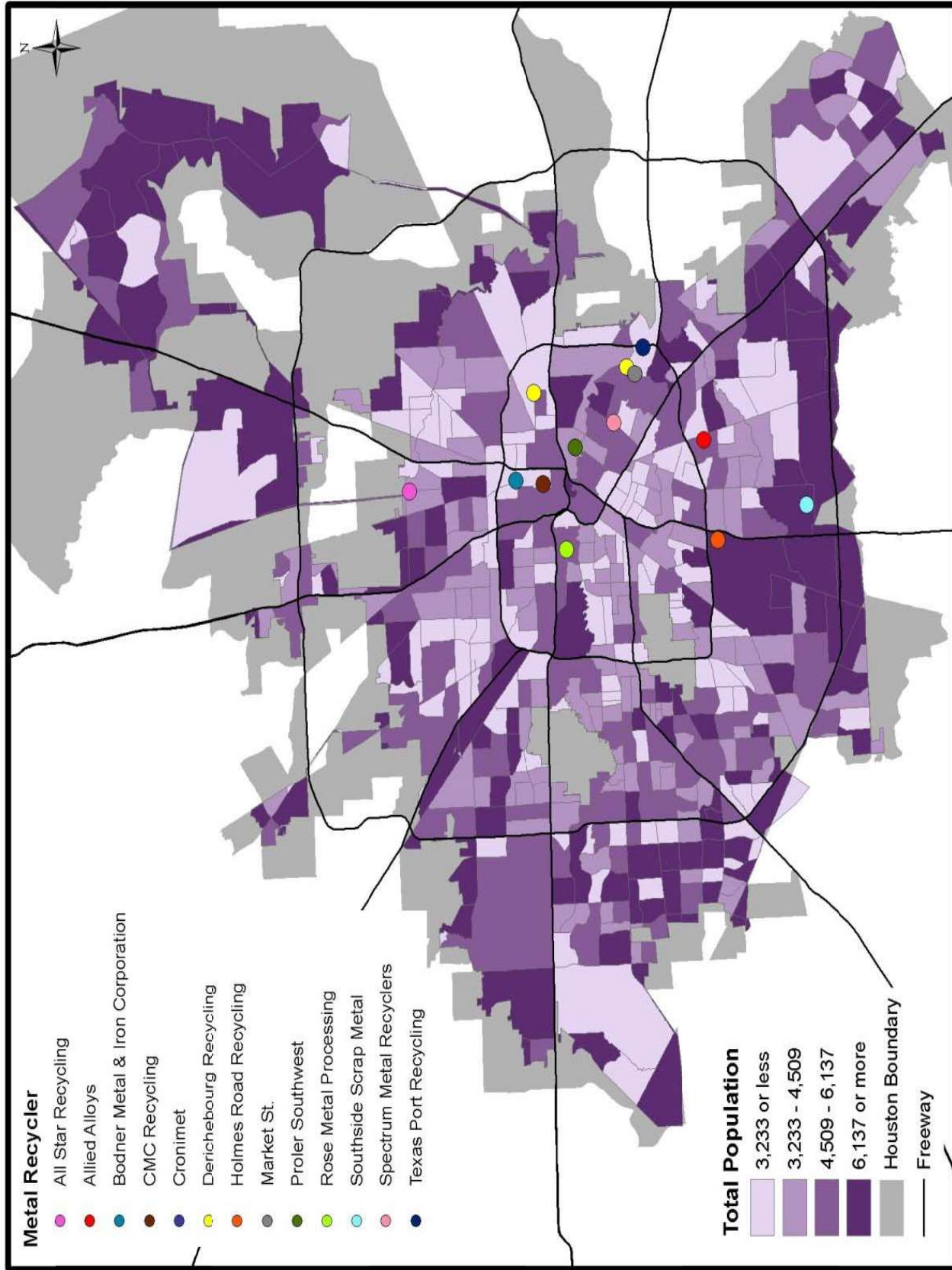
Houston Air Facts:

“A plethora of toxic pollutants are emitted into Houston's air by more than 400 chemical manufacturing facilities, including 2 of the 4 largest refineries in the U.S.”

What are they?

- Recycle metal waste
- Simple to sophisticated process and controls
- Not all the same focus
- Considered an Area Source
- No zoning
- Permit by Rule

Metal Recycling Sites and Houston Population









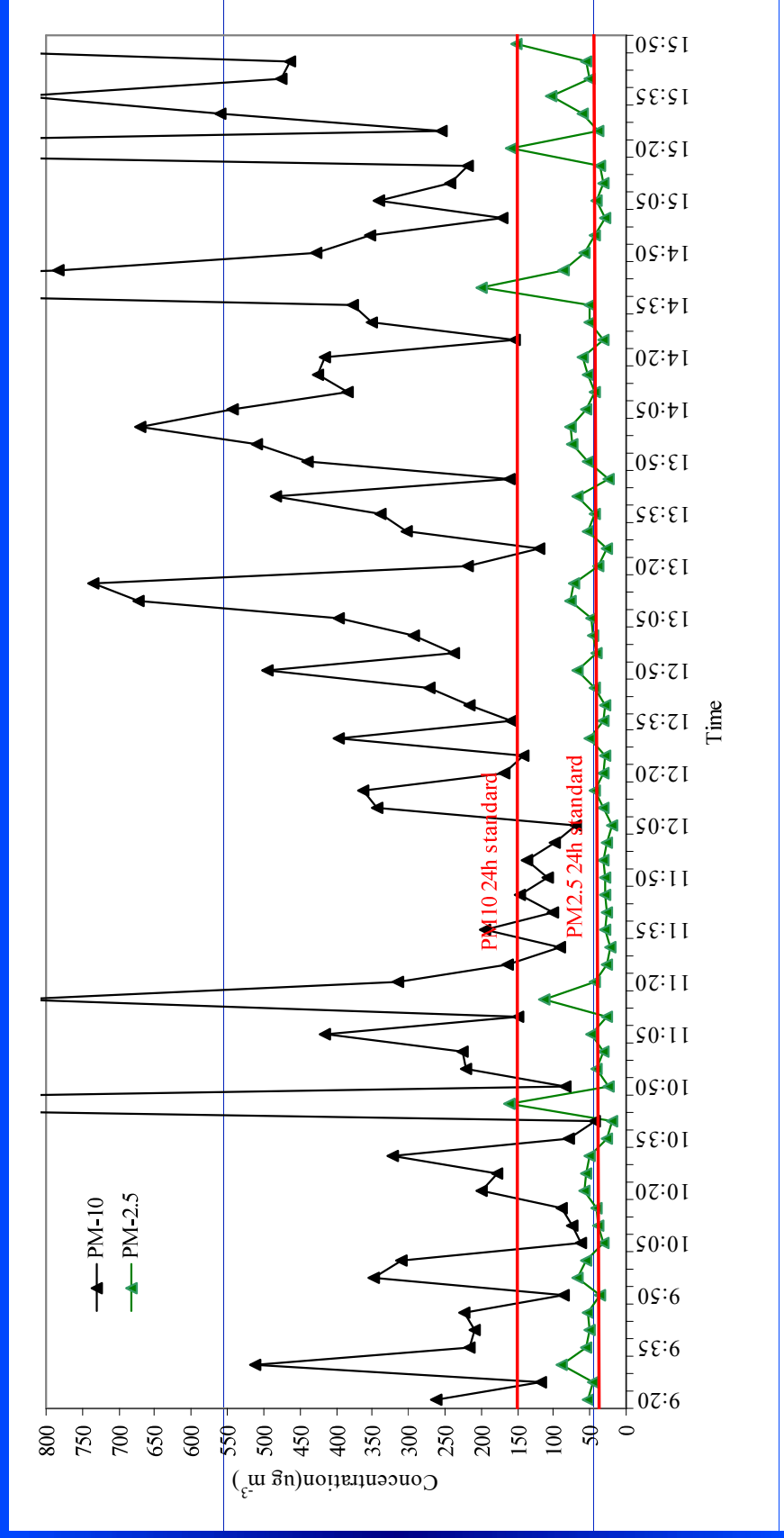




Allied Alloys



PM10 and PM2.5 1/5/2012



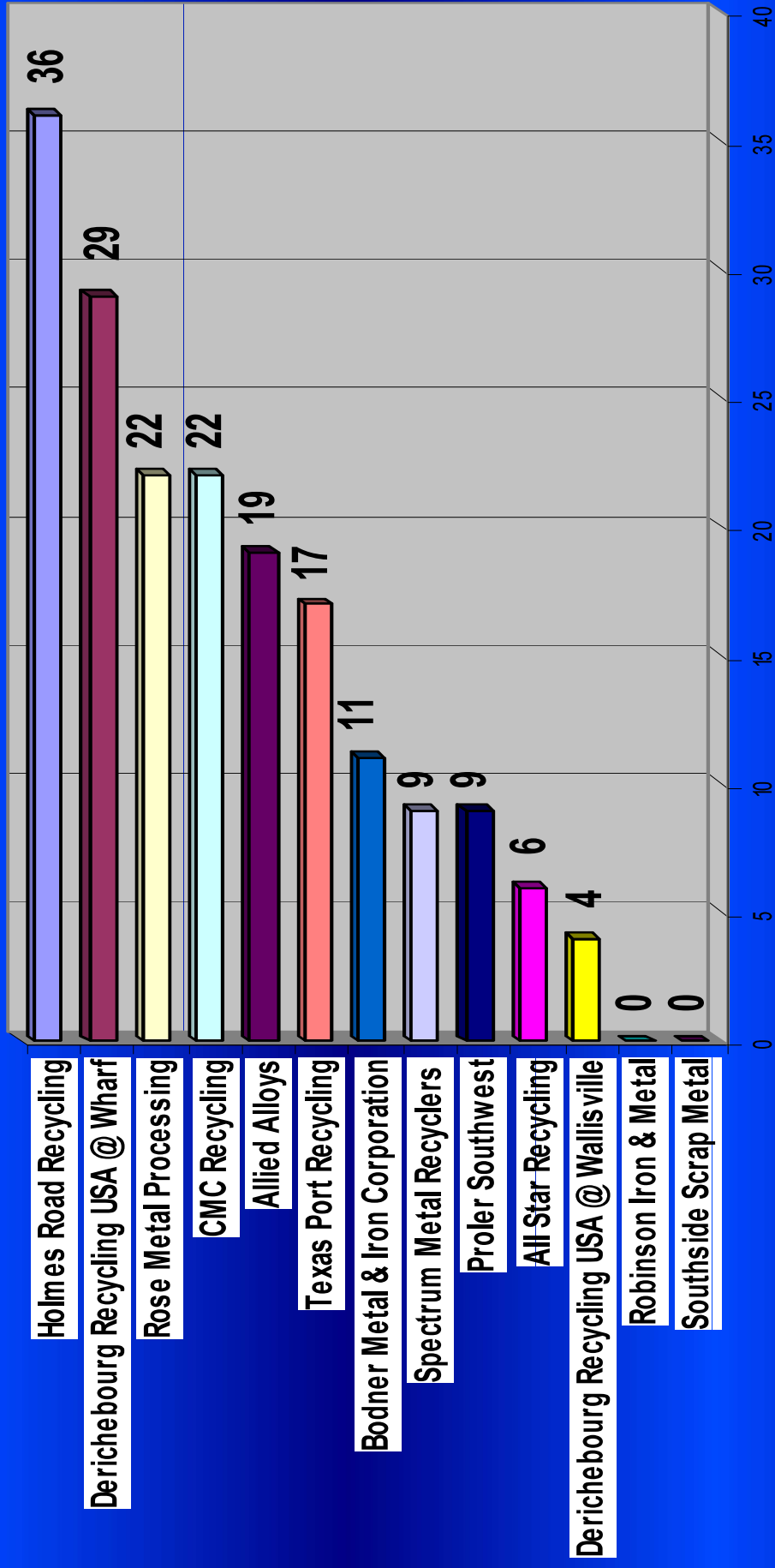
Priority Ranking System for Emission Sources

Priority Assigned is total of points

	Points
Death or serious injury onsite	4
Explosion or fire affecting offsite	3
Explosions onsite	2
Fires onsite	1
Adjacent Schools, Hospitals etc.	4
Adjacent Residential	3
Commercial	2
Industrial Area	1
Isolated Site	0
Large number of complaint <1 yr	3
Large number of complaint <5 yr	2
Few complaints in 5 yrs	1
No complaints	0
HAP metal > ESL	4
One or more metals > ST ESL	3
One or more metals > LT ESL	2
Many metals detected	1

	Points
Iron above LT ESL (not authorized)	1
HAP VOC > ESL	4
VOCs > ST ESL	3
VOCs > LT ESL	2
Many VOCs detected	1
Nuisance Odor	1
Freon compounds found	1
PM exceeds ST ESL	3
PM exceeds LT ESL	2
Many PM spikes above ST ESL	1
MS4 threatened by toxics	2
MS4 threatened by nontoxics	1
No MS4 issues identified	0
City NOVs or Citations	1
Opacity limit exceeded	1
Other agency NOV or Citation	1

Metal Recyclers Priority Ranking - November 2011

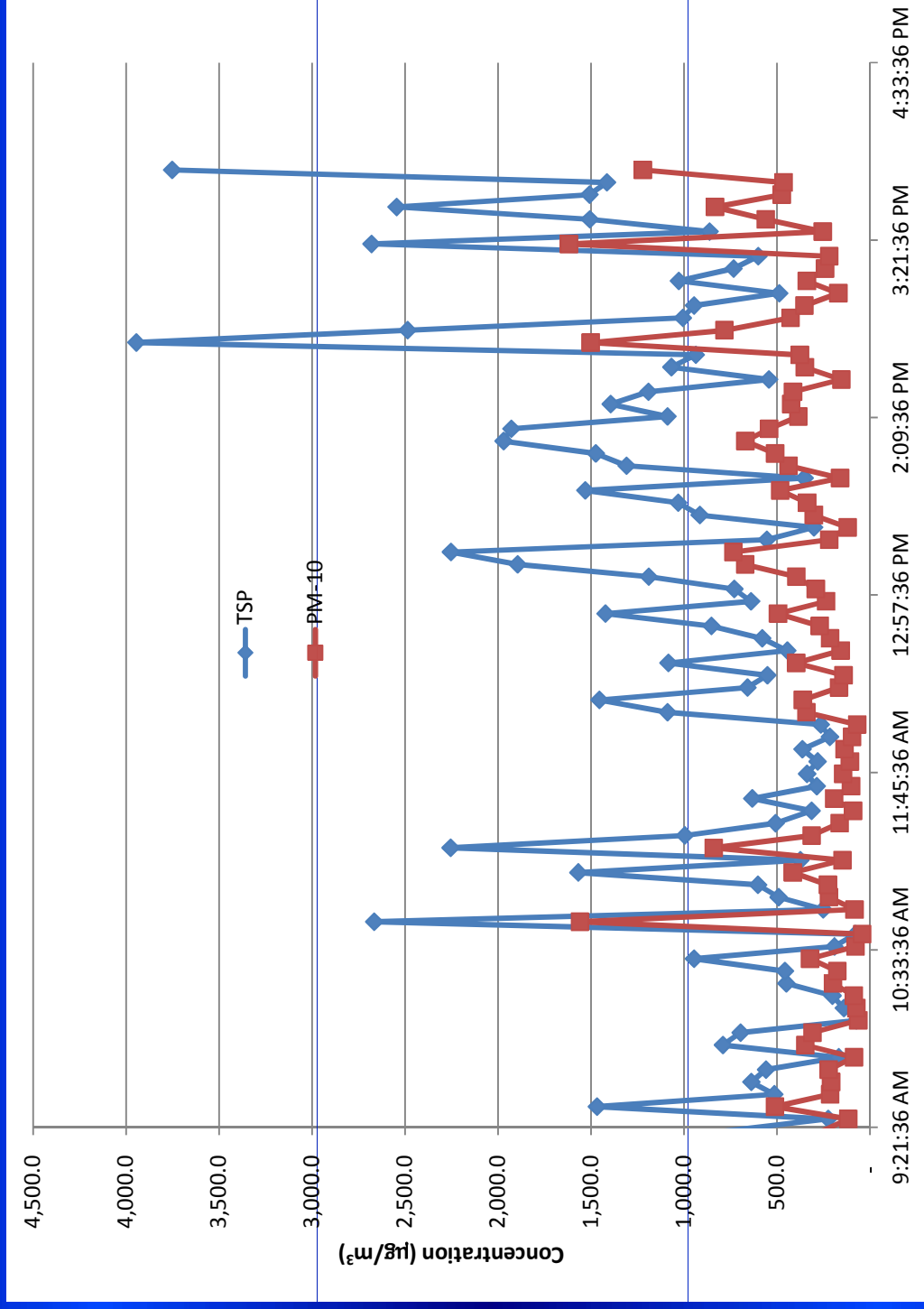


Sampling and Analysis



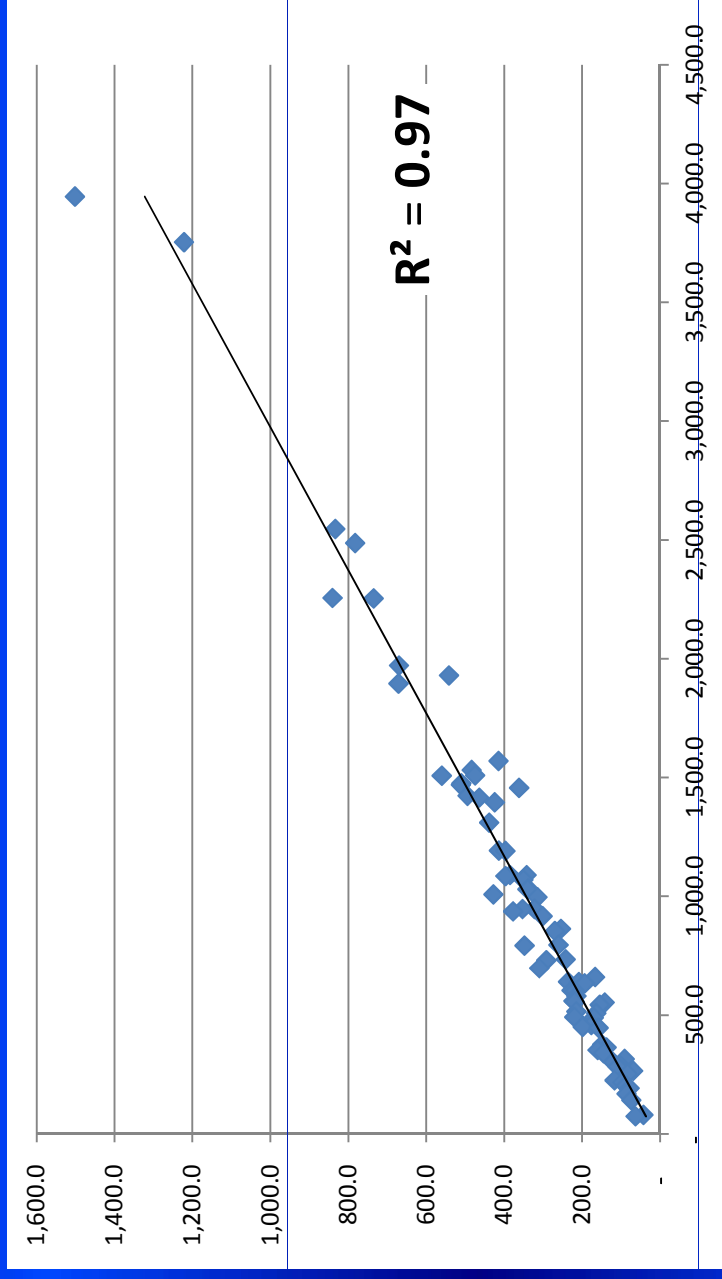
- 11 Metals and 75 VOCs:
 - Ag Cd Cr Cu Mn Ni Pb Zn Fe Co Hg
 - Zn eliminated
 - Cr (VI)

TSP and PM10 1/5/2012



Holmes Road 1/5/2012:

PM10 from TSP



	Standard			
	Coefficients	Error	t Stat	P-value
Intercept	12.24	8.17	1.49	0.13
TSP	0.331	0.006734	49.3	6.61E-59

Summary Statistics of Metals ($\mu\text{g}/\text{m}^3$)

Variable	N	Min	Max	Mean	Median	SD	% NDs
Cr (total)	72	0.013	1.641	0.155	0.0575	0.237	15.28%
Cu	72	0.02	2.63	0.372	0.202	0.45	5.56%
Mn	72	0.02	2.02	0.303	0.196	0.399	5.56%
Ni	65	0.038	2.07	0.28	0.116	0.394	29.23%
Pb	69	0.06	6.22	0.354	0.15	0.79	37.68%
Fe	65	0.375	354.00	25.95	10.95	50.45	3.08%
Cd	12	0.014	0.09	0.0274	0.0195	0.0228	66.67%
Co	16	0.013	0.34	0.0583	0.018	0.0982	43.75%
Ag	5	0.022	0.15	0.0722	0.065	0.05	20.00%

Risk Methodology

RAGS Part F

- Risk = IUR x EC
- Toxicity data from region 3 calculator
- Exposure concentration measured then assessed using EPA ProUCL



Toxicity IUR

Default

Resident Risk-Based Screening Levels (RSL) for Air

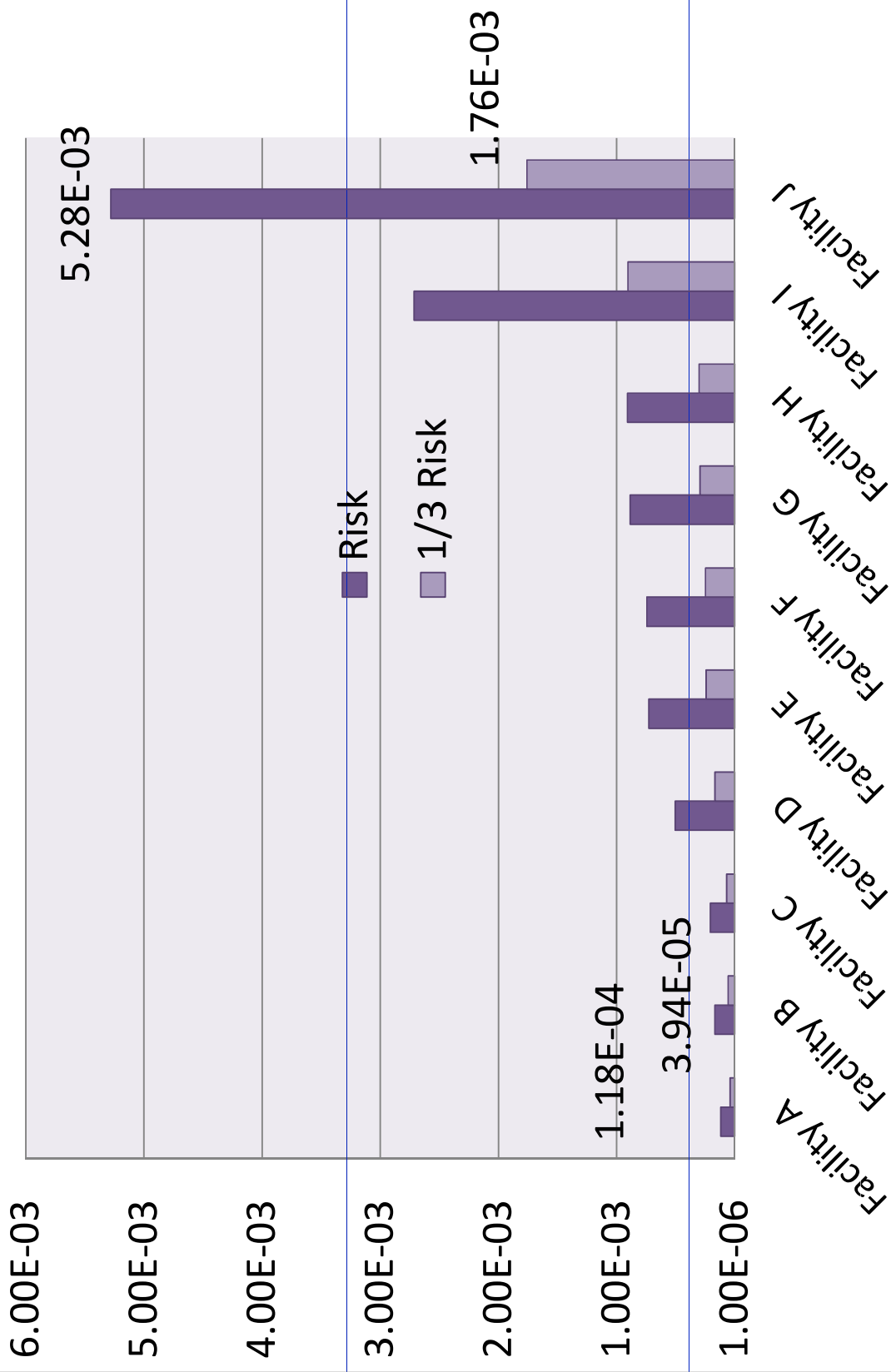
ca=Cancer, nc=Noncancer, ca* (Where nc SL < 100 x ca SL),

ca** (Where nc SL < 10 x ca SL),

max=SL exceeds ceiling limit (see User's Guide), sat=SL exceeds csat

Chemical	Inhalation Unit Risk (ug/m³)-1	IUR Ref	Chronic RfC (mg/m³)	RfC Ref	Carcinogenic SL TR=1.0E-6 (ug/m³)	Noncarcinogenic SL HI=1 (ug/m³)	Screening Level (ug/m³)
Cadmium	1.80E-03	I	2.00E-05	C	1.35E-03	2.09E-02	1.35E-03 ca*
Chromium(VI)	8.40E-02	S	1.00E-04	I	1.14E-05	1.04E-01	1.14E-05 ca
Cobalt	9.00E-03	P	6.00E-06	P	2.70E-04	6.26E-03	2.70E-04 ca*
Manganese	-	-	5.00E-05	I	-	5.21E-02	5.21E-02 nc
Nickel							
Refinery Dust	2.40E-04	I	5.00E-05	C	1.01E-02	5.21E-02	1.01E-02 ca**

Total Cancer Risk by Facility from Metals

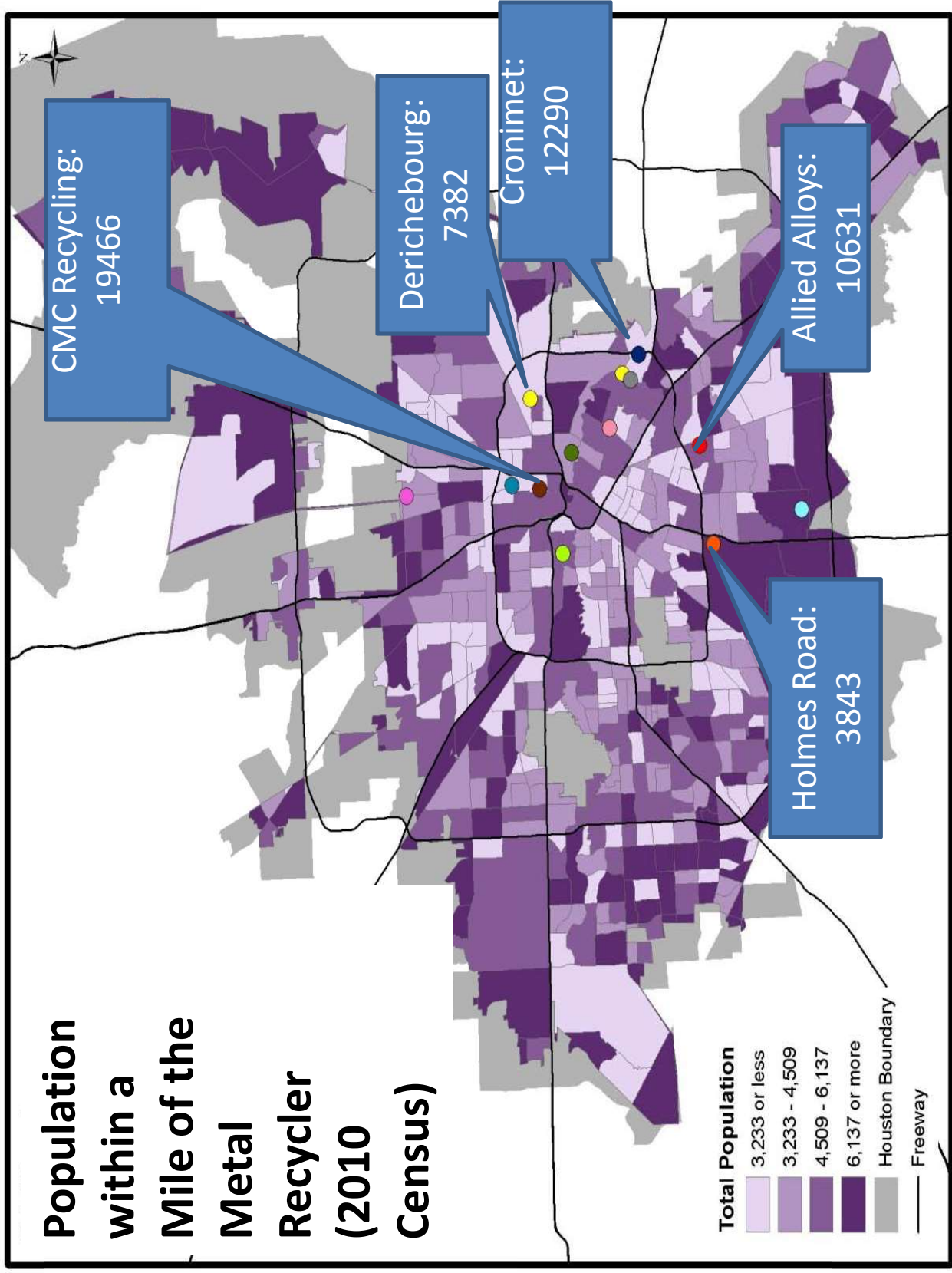


Site Specific Total Risk Estimate

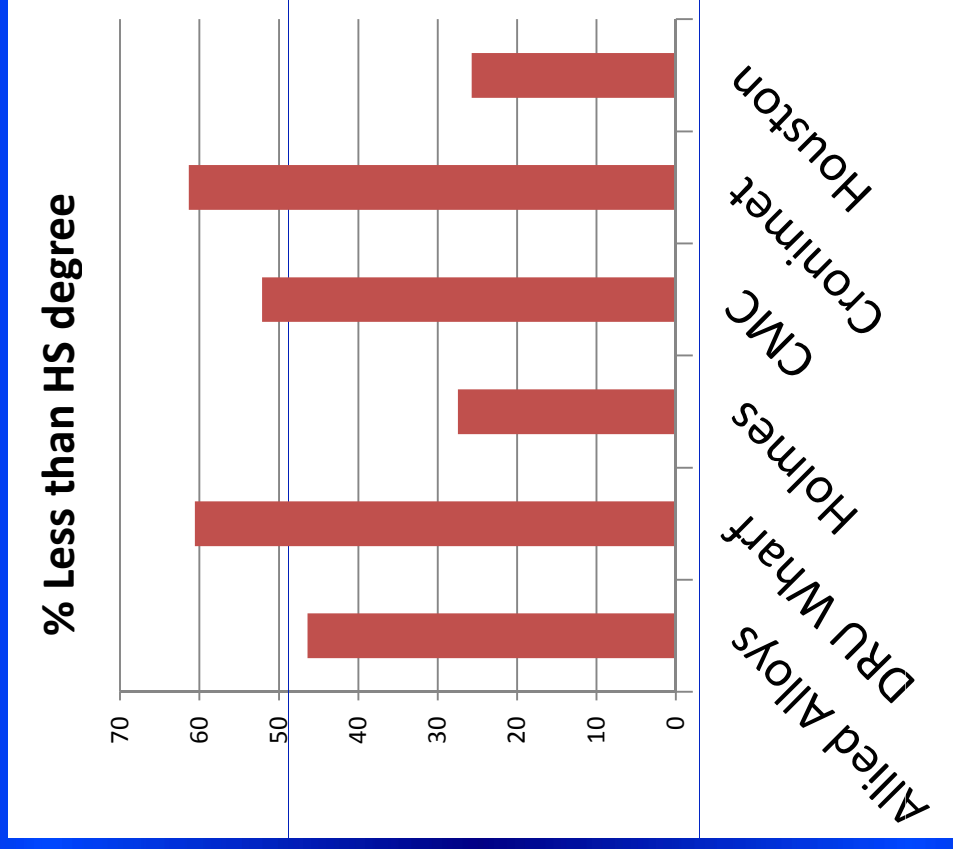
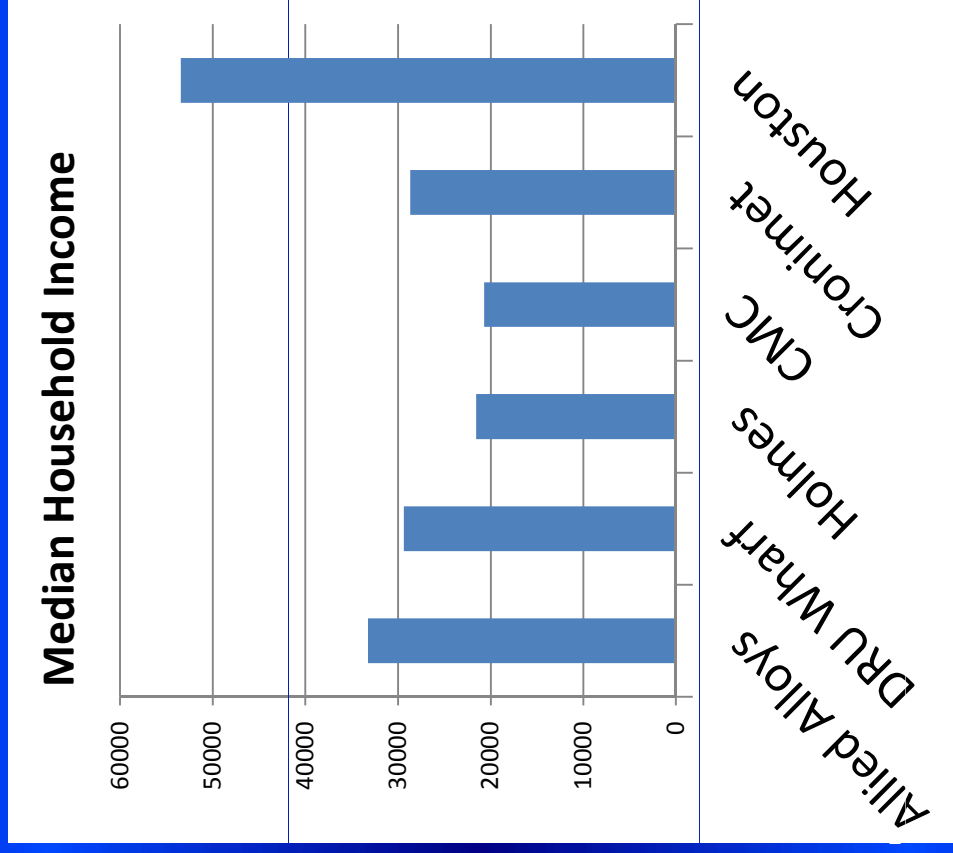
COC	IUR (ug/m ³) ⁻¹	Conc ug/m ³	Cancer Risk
1,4-Dichlorobenzene	1.10E-05	1.82E+00	2.00E-05
Benzene	7.80E-06	3.07E+00	2.39E-05
1,3 Butadiene	3.00E-05	6.15E-01	1.85E-05
Ethylbenzene	2.50E-06	4.10E+00	1.02E-05
MethyleneChloride	1.00E-08	9.14E-01	9.14E-09
Tetrachloroethylene	2.60E-07	7.85E-01	2.04E-07
VinylChloride	4.40E-06	2.31E-01	1.01E-06
Cr VI	8.40E-02	0.008	6.72E-04
Ni	2.40E-04	0.234	5.62E-05
Total VOC Risk			7.38E-05
Total Metal Risk			7.28E-04
Total Risk			8.02E-04
Total Metal Risk by 1/3			2.43E-04

Metal Recycling Sites and Houston Population

Population within a Mile of the Metal Recycler (2010 Census)



Demographics Near Recyclers: Disadvantaged Population



NATA Under Estimates

Recycler	Facility X	Facility Y		
Metal	Cr(VI)	Cr(VI)	Ni	Co
Risk City of Houston	1.26E-02	3.18E-02	2.74E-04	1.17E-03
NATA Risk	2.61E-06	1.19E-05	3.72E-07	0.00E+00

Recycler	Facility Z		Facility AA		
Metal	Cr(VI)	Ni	Cr(VI)	Ni	Co
Risk City of Houston	1.71E-02	6.29E-05	1.25E-01	1.28E-04	1.49E-04
NATA Risk	1.99E-06	3.02E-07	3.93E-06	5.29E-07	0.00E+00

Strengths and Weaknesses

Strengths:

- Measured data
- Negotiation leverage
- Verifiable improvements

Weaknesses:

- Relying on PM10 to TSP ratio
- Total Chromium to Hexavalent ratio

In Summary

Based on the current data and assumptions, we see a need to:

- Validate our findings
- Continue to work with companies to reduce exposure
- Work with the state to refine PBR
- Work with the impacted communities

Exhibit 8

Greenspace

(<http://www.latimes.com/science/sciencenow/>)

ENVIRONMENTAL NEWS FROM CALIFORNIA AND BEYOND

« Previous Post (<https://latimesblogs.latimes.com/greenspace/2011/09/clean-natural-gas-not-so-fast-study-says.html>) | Greenspace Home (<http://www.latimes.com/science/sciencenow/>) | Next Post » (<https://latimesblogs.latimes.com/greenspace/2011/09/second-hottest-summer-record-drought.html>)



Auto shredder to pay \$2.9 million to settle toxic waste case

SEPTEMBER 8, 2011 | 3:12 PM



The

(<https://latimesblogs.latimes.com/.a/6a00d8341c630a53ef014e8b63c140970d-pi>)

California Department of Toxic Substances Control and Los Angeles district attorney's office announced a \$2.9-million settlement Thursday with an Anaheim scrap metal company over allegations that it improperly handled hazardous materials.

A judge has accepted the agreement, which resolves complaints that the owner and operator of SA Recycling and Simms Metal West violated hazardous waste and air pollution laws by continuing operations after an air pollution control system was damaged by a May 2007 explosion at its Port of Los Angeles site. R 005442

At the time of the violations, the company was operated by Sims Hugo Neu West, a subsidiary of Sims Group Limited, which acquired substantially all of the recycling operations of Hugo Neu Corp. in October 2005. Sims Group merged the metal recycling operation with Adams Steel in 2007, creating SA Recycling, LLC.

The facility shreds automobiles, household appliances and other metal-based waste.

"We continue to deny that any of these allegations occurred," company spokesman Michael Bustamante said Thursday. "We're happy to put this behind us for the sake of the company and for the sake of the community."

The Department of Toxic Substances Control estimated that about 4.4 tons of unspecified "material" was released into the environment during that period.

State regulators have turned their attention to auto shredders and scrap processors, which crush and compress motor vehicles, consumer goods and other items for recycling, but leave behind residue dubbed "auto fluff," (<http://articles.latimes.com/2009/may/27/business/fi-shredder-toxic27>) consisting of glass, rubber, fiber, engine fluids and plastics, among other substances.

The complaint alleges that shredder residue "was illegally transported by unregistered hazardous waste haulers; the hazardous waste was illegally stored on site beyond the time permitted; the company failed to comply with employee training obligations; and the company illegally disposed of hazardous waste at the Simi Valley Landfill in Ventura County, the Chiquita Canyon Landfill in Santa Clarita and at SA Recycling facility in Anaheim."

Debbie Raphael, director of the Department of Toxic Substances Control, said the agreement "will enhance this facility's ability to stay in compliance with air emissions requirements. More work needs to be done with the metal shredder industry. Addressing the range of issues associated with this industry is one of my top priorities."

Under the settlement, the company will pay \$480,000 to a variety of academic, community and research organizations. In addition, it will reimburse \$428,640 for investigative costs and equipment to the state, and another \$321,175 to Los Angeles County for civil penalties,

investigative costs and equipment.

R 005445

The company also will spend \$1.7 million to install and update the air pollution control system at the Terminal Island shredding facility.

[For the Record, 1:27 p.m., Sept. 20: A previous version of this post included incorrect information from the Los Angeles County district attorney's office about the ownership and subsequent sale of the shredding facility. It was not owned by Hugo Neu Corp. at the time of the violations.]

ALSO:

Clean natural gas? Not so fast, study says

(<https://latimesblogs.latimes.com/greenspace/2011/09/clean-natural-gas-not-so-fast-study-says.html>)

\$24.5-million settlement proposed for Chevron

(<https://latimesblogs.latimes.com/greenspace/2011/09/25-million-settlement-proposed-for-chevron.html>)

Supermodels deliver (almost) naked truth of climate change

(<https://latimesblogs.latimes.com/greenspace/2011/09/supermodels-naked-truth-climate-change.html>)

-- Geoff Mohan

Photo: A truck is scrapped at SA Recycling's Terminal Island facility in 2008. Credit: Bob Chamberlin / Los Angeles Times

Comments

Exhibit 9

Find it in OSHA

Q

A TO Z INDEX

Safety and Health Topics / Combustible Dust: An Explosion Hazard

Combustible Dust: An Explosion Hazard

Combustible Dust Menu

Overview

Any combustible material can burn rapidly when in a finely divided form. If such a dust is suspended in air in the right concentration, under certain conditions, it can become explosible. Even materials that do not burn in larger pieces (such as aluminum or iron), given the proper conditions, can be explosible in dust form.

The force from such an explosion can cause employee deaths, injuries, and destruction of entire buildings. For example, 3 workers were killed in a 2010 titanium dust explosion in West Virginia, and 14 workers were killed in a 2008 sugar dust explosion in Georgia. The U.S. Chemical Safety and Hazard Investigation Board (CSB) identified 281 combustible dust incidents between 1980 and 2005 that led to the deaths of 119 workers, injured 718, and extensively damaged numerous industrial facilities.

A wide variety of materials that can be explosible in dust form exist in many industries. Examples of these materials include: food (e.g., candy, sugar, spice, starch, flour, feed), grain, tobacco, plastics, wood, paper, pulp, rubber, pesticides, pharmaceuticals, dyes, coal, metals (e.g., aluminum, chromium, iron, magnesium, and zinc). These materials are used in a wide range of industries and processes, such as agriculture, chemical manufacturing, pharmaceutical production, furniture, textiles, fossil fuel power generation, recycling operations, and metal working and processing which includes additive manufacturing and 3D printing.

Highlights

- *Precautions for Firefighters to Prevent Dust Explosions* [PDF]. OSHA QuickCard, Publication 3674-08 2013 (August 2013).
- *Firefighting Precautions at Facilities with Combustible Dust* [PDF]. OSHA Publication 3644-04-2013 (April 2013).
- Expert Forum Summary Report [PDF]. OSHA, (May 31, 2011), 58 pages.

Workers' Rights

Workers have the right to:

- Working conditions that do not pose a risk of serious harm.
- Receive information and training (in a language and vocabulary the worker understands) about workplace hazards, methods to prevent them, and the OSHA standards that apply to their workplace.
- Review records of work-related injuries and illnesses.
- File a complaint asking OSHA to inspect their workplace if they believe there is a serious hazard or that their employer is not following OSHA's rules. OSHA will keep all identities confidential.
- Exercise their rights under the law without retaliation, including reporting an injury or raising health and safety concerns with their employer or OSHA. If a worker has been retaliated against for using their rights, they must file a complaint with OSHA as soon as possible, but no later than 30 days.

For additional information, see OSHA's Workers page.

How to Contact OSHA

Under the Occupational Safety and Health Act of 1970, employers are responsible for providing safe and healthful workplaces for their employees. OSHA's role is to ensure these conditions for America's working men and women by setting and enforcing standards, and providing training, education and assistance. For more information, visit www.osha.gov or call OSHA at 1-800-321-OSHA (6742), TTY 1-877-889-5627.

UNITED STATES DEPARTMENT OF LABOR

Occupational Safety and Health Administration
200 Constitution Ave NW
Washington, DC 20210
☎ 800-321-6742 (OSHA)
TTY
www.OSHA.gov

FEDERAL GOVERNMENT

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Exhibit 10

New Brunswick

Meet the 'Scrap King': controversial scrap yard CEO visits Saint John



City, port seeking resolution after dozens of explosions

[Julia Wright](#) · CBC News · Posted: Nov 23, 2018 8:20 PM AT | Last Updated: November 24, 2018



'I'm not sure they're impacted the way they're claiming they're impacted,' said American Iron and Metal CEO Herb Black of the recent spate of explosions in Saint John. (Graham Thompson / CBC)

[comments](#)



After months of explosions in Saint John, Herbert Black — 74-year-old billionaire, art collector and CEO of American Iron and Metal — arrived with an entourage at City Hall on Friday afternoon.

Black, who some have called the "Scrap King of Montreal," met with Saint John Mayor Don Darling and Port Saint John officials to discuss a way forward after the Department of Environment issued a stop-work order to the company.

“I think people don't understand the difference between an explosion and a vibration.”

- Herbert Black, American Iron and Metal CEO

The order gave AIM 60 days to submit a plan to eliminate explosions and the impact of excessive noise.

Black said misinformation has been circulating about the operation.

"When you read some of the things that have been printed in the newspaper — I am not a second Donald Trump and I'm not going to say it's fake news, but I'm going to say it's incorrect news ... people are giving you false information and you are taking it at their word and you are printing it."



American Iron and Metal is capable of processing thousands of tonnes of scrap daily. Junked cars make up the majority of the material, and they can contain hazardous materials that have caused explosions. (Julia Wright / CBC) R 005453

"I think people don't understand the difference between an explosion and a vibration."

He initially disputed that Saint Johners have heard explosions and suggested they were exaggerating the impact.

- [Saint John scrap-metal plant ordered to shut down immediately](#)

"There might be some people that really have a problem, and I would be more than happy to meet with them and to discuss it with them and find a solution."

Unique explosion problem



The American Iron and Metal building opened on port property on the west side in 2008 and processes as many as 250,000 tonnes of scrap annually following an expansion of the shredder in 2011. (Julia Wright / CBC)

After a heated conversation between Black and city officials over whether the news media would be allowed to attend, the meeting was held in private. R 005454

Afterward, Darling said the parties will try to work together.

Black said American Iron and Metal is a "victim" of the explosions, "not the creator of them."



AIM signed a 40-year-lease for its Saint John scrapyard with the Port of Saint John in 2002. It's the first major lease the Port had landed since the 1980s. (Julia Wright / CBC)

The Saint John yard shreds and recycles old vehicles and other metal scraps into marketable metals. AIM's main suppliers are auto parts recycling centres from New Brunswick and some from P.E.I., Nova Scotia, and Maine.

Black said hazardous materials are sometimes "camouflaged" in the thousands of cars that can be processed daily.

"We're working to find out exactly who is shipping what, and we've tried hard but there are a lot of pieces of the puzzle," he said.

Black said Saint John's issue with explosions appears to be unique among his operations. Of AIM's 10 shredders, "I don't have the problem I have here with any of them," he said. R 005455

"I do have explosions from time to time. I have never had a shredder operate for a year without an explosion or two or three. It just doesn't happen."

'Nothing is perfect in life'

AIM upgraded its Saint John shredder in 2011 at a cost of \$30 million — increasing its output by roughly 500 per cent.

"I feel very confident that there won't be any problems in terms of dust or noise or other situations," Black told *CBC Information Morning Saint John* at the time.



Saint John Mayor Don Darling and Black 'are committed to working together in an open fashion,' Darling said. (Graham Thompson / CBC)

"And if there are, even if it's within the law and it makes people uncomfortable, I'll be the first one to correct it."

AIM's approval to operate certificate says it is the company's responsibility to inspect the material that gets shredded.

With 1,000 tonnes coming through the yard daily, Black said, things can fall through the cracks

R 005456

“There's such a thing as human error. They go for a coffee break, or they have to go to the bathroom, or something happens in between. Nothing is perfect in life.”

- Herbert Black

"There's such a thing as human error. They go for a coffee break, or they have to go to the bathroom, or something happens in between. Nothing is perfect in life."

Darling said that during the meeting, the port, city and AIM reached an agreement to "get going right away to get us to a better place."

"I'm a believer that we can have a coexistence between industry ... and citizens quality of life."

\$5 million lawsuit in Quebec

This isn't the first time Black has dealt with complaints about his operations.

When Black started a metal recycling plant at the former dump in Levis, Que., in 2005, the \$25 million project was met with opposition by local environmental groups.

They alleged the company lacked the proper permits and was polluting the nearby Etchemin River. The opponents managed to halt work on the plant by getting an injunction.





R 005457

Black sued a group of Quebec environmentalists who objected to the installation of a metal shredder in a dump in Levis, Que., in 2005. (Graham Thompson / CBC)

Black then filed a \$5 million lawsuit for what he called "malicious, reckless and abusive efforts" to stop the project.

The defendants alleged this response was a SLAPP suit — or strategic lawsuit against public participation — a tactic sometimes used by companies with deep financial reserves. Black denied the allegation.

SLAPP actions are designed to intimidate and silence opponents by dragging them through lengthy and expensive court proceedings until they abandon their cause.

The matter was settled out of court in 2007.



American Iron and Metal has no plans to relocate its Saint John facility, Black said. (Julia Wright / CBC)

'No flame and no fire'

On Friday, Black said all shredding activity has stopped for now at the west side operation — and AIM is working on a "program" to penalize suppliers who ship explosive material.

"If people don't ship the proper material and it would explode, that we could go back on them, we could find them, we could penalize them, we could shut them down, or we could do something," he said.

He also reiterated that the blasts have "no flame and no fire to it."

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Exhibit 11



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NO THANKS

ALLOW

Province

AIM says Sa can't be re



By Silas Brown
Reporter Global News

WATCH: The shredder at the AIM facility in Saint John has been quiet for a week. But as Silas Brown reports, the owner says the facility must be running by Monday or he may have to close up shop.

The owner of American Iron and Metal [AIM] says he wants to keep the lights on at his Saint John scrap metal facility, but says the province is forcing his hand.

"Obviously if environment doesn't come back to [me] and tell [me] what the problem is and give [me] an opportunity, if there is a problem, to correct it ... [I'll] unfortunately have to close up," said owner Herb Black.

"I feel terrible that they are forcing me by not giving me any answers."

Last week AIM received a stop work order from the Department of Environment and local government. The facility is still open but is unable to run its metal shredder, which has caused over 40 explosions in the last 16 months.

READ MORE: Saint John mayor says 'open and frank' discussion held over AIM explosions

Black says if the shredder isn't up and running again by Monday morning he wouldn't be able to fill a scrap order for December and would likely have to shut down.

On Friday minister Jeff Carr said the department was close to sending an amended order of compliance to the company that will include increased environmental testing.

"Our goal is to get the industry going down there and get scrap moving in a safe and environmentally sustainable way," he told reporters.

"I believe that we will see some of those things in the amended order. I haven't read the complete amended order myself, so we'll see that, but we want to have ongoing measures in place to make sure AIM is following what they're supposed to follow."

WATCH: 'I no longer live at my house': Neighbours speak out against Saint John AIM recycling plant

Raven Blue of Livable Saint John is calling for 24/7 monitoring of the site if it is reopened.

"The stop work order doesn't really address the primary issues that we're concerned with. We really want to see comprehensive testing done on the air, and the noise, and the vibration," he said.

“One of the k
the air safe t



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NO THANKS

ALLOW

800-549-1111
So here is is

dy meeting

Black said he is willing
requirements and want

“Everything, oh yeah,” he said when asked about the possibility of submitting to more testing.

“I put equipment in to environmentally test everything and I have all the f— results. I got 'em sitting here.”

Blue says that for most residents the shredder explosions weren't the problem and many are hoping more data will lead to the plant being moved when it comes up for review next year.

“If the stop work order was released we'd be supportive of that if there was a commitment from the province to do the sort of testing that residents have been asking for for such a long time,” he said.

“All of the decisions we make, they need to be evidence based. So we really need to get a better understanding of what's in the air.”

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Exhibit 12

New Brunswick

AIM's operating permit renewed, but scrap yard still on probation

Recycler that's rattled neighbourhood just completed its first 90-day probationary permit

[Connell Smith](#) · CBC News · Posted: Mar 07, 2019 7:42 PM AT | Last Updated: March 7



Gary MacDonald's waterfront condominium faces American Iron and Metal across the harbour. He's worried about noise and environmental issues. (Brian Chisholm, CBC)

New Brunswick's minister of environment has renewed a probationary approval that will allow American Iron and Metal to continue operating on the Saint John waterfront until early June.

That approval comes just 24 hours after Jeff Carr threatened to shut down the large scrap metal recycler, claiming it had not met requirements set out in December when the company was placed on probation for the first time.

Carr was speaking to reporters Wednesday when he let loose on the company.

Promised tough line

"If I'm not satisfied by the end of this week, I will not be signing their next order to operate," said the minister. "And they will be stopped until they come back with some of the reports I've looked for."

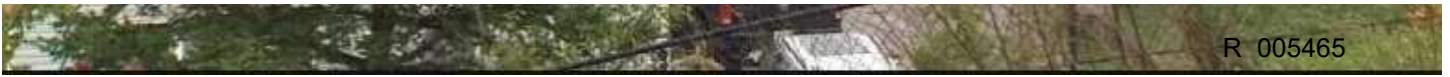
Carr said that with the deadline at that time just two days away, the company had failed to provide a plan on production levels and on how to reduce a huge volume of old scrap metal being stored on the site.

American Iron and metal announced the new approval Thursday afternoon.

"We are working with a talented team of professionals — including our employees, engineers and environmental specialists — on long-term solutions toward our environmental commitments," said company president Herbert Black.

"AIM is in continuous contact with the New Brunswick Department of Environment and Local Government as the company works toward a long-term renewal to operate, including air and water management issues."





American Iron and Metal's west Saint John scrap recycling facility has won last-minute approval to continue operating for another 90-day probationary period. The company has faced criticism from neighbours bothered by dust and noise. (CBC)

It's not clear if there's a connection between Carr's tough talk Wednesday and the agreement with the company on Thursday, but the minister's approach is meeting with approval from longtime critics of the company and its practices.

From his condominium across the Harbour, Gary MacDonald said he likes the way Carr is dealing with the AIM file.

MacDonald worries about what's in the dust coming from the scrap yard.

He has also had his windows rattled by explosions in the shredder building at AIM.

Noise lessened recently

There have been 12 blasts so far this year, though only one has exceeded the 109-decibel level that would force the company to halt operations and await an inspection by fire officials.

MacDonald said the amount of noise and dust has dropped off dramatically over the past month as has the volume of production.

He wondered if that is because of heightened scrutiny from provincial officials and the fact the company is on probation.

Mayor approves of Carr's steps

"I think the minister has exhibited the desire to say to the company, 'Look you're here but you're going to work within the guidelines that we set,'" said MacDonald.

"He shut it down last year. ... It's a straightforward no nonsense approach as far as he is concerned."

Saint John Mayor Don Darling also likes the way the province has been handling the situation since Carr become minister in November.

"If these documents and approvals that we give various companies, if they're not adhered to, then they're worthless pieces of paper," said Darling. "So I'm supportive and I'm appreciative of the minister taking the stand that there are requirements and those requirements have to be met."

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Exhibit 13

Exhibit 14

HONORABLE RICARDO S. MARTINEZ

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON
AT SEATTLE

PUGET SOUNDKEEPER ALLIANCE,	)	
	)	Case No. 12-01201RSM
Plaintiff,	)	
v.	)	PROPOSED CONSENT DECREE
	)	
SEATTLE IRON & METALS, CORP.,	)	
	)	
Defendant.	)	
	)	

I. STIPULATIONS

Plaintiff Puget Soundkeeper Alliance (“Soundkeeper”) sent a notice of intent to sue letter to Defendant Seattle Iron & Metals Corp. (“SIMC”) on May 11, 2012, alleging violations of the Clean Water Act (“CWA”), 33 U.S.C. § 1251 et seq., and the Resource Conservation and Recovery Act (“RCRA”), as amended, 42 U.S.C. § 6901 et seq., relating to releases of pollutants from SIMC’s Facilities in Seattle, Washington and seeking declaratory and injunctive relief, civil penalties and attorneys’ fees and costs (the “Notice Letter”). Soundkeeper sent a supplemental notice of intent to sue letter to SIMC on April 30, 2014, related to additional alleged violations of the CWA at Defendant’s Facilities (the “Supplemental Notice Letter”). Soundkeeper sent a second supplemental notice letter to SIMC on May 11, 2017, related to additional alleged

[PROPOSED] CONSENT DECREE

No. 12-01201RSM

- 1

SMITH & LOWNEY, P.L.L.C.
2317 EAST JOHN ST.
SEATTLE, WASHINGTON 98112
(206) 860-2883

violations of the CWA at Defendant's Facilities (the "Second Supplemental Notice Letter).

Soundkeeper and SIMC agree that settlement of these matters is in the best interest of the parties and the public, and that entry of this Consent Decree is the most appropriate means of resolving this action.

Soundkeeper and SIMC stipulate to the entry of this Consent Decree without trial, adjudication, or admission of any additional issues of fact or law regarding Soundkeeper's claims or allegations set forth in its second amended complaint and its Notice Letter, Supplemental Notice Letter, and Second Supplemental Notice Letter.

DATED this January 17, 2019

SEATTLE IRON & METALS CORP.

PUGET SOUNDKEEPER ALLIANCE

By [Signature]

By [Signature]

Title: PRESIDENT

Chris Wilke

Title: Executive Director & Soundkeeper

II. ORDER AND DECREE

THIS MATTER came before the Court upon the Parties' Joint Motion for Entry of Consent Decree and the foregoing Stipulations of the parties. Having considered the Stipulations and the promises set forth below, the Court hereby ORDERS, ADJUDGES, and DECREES as follows:

1. This court has jurisdiction over the parties and subject matter of this action.
2. Each signatory for the parties certifies for that party that he or she is authorized to enter into the agreements set forth below.
3. This Consent Decree applies to and binds the parties and their successors and assigns.
4. This Consent Decree applies to the operation, oversight, or both by Defendant SIMC of its primary facility located at or about 601 South Myrtle Street, (the "601 Facility"), and its secondary facility located at or about 730 South Myrtle Street, (the "730 Facility") in Seattle,

[PROPOSED] CONSENT DECREE
No. 12-01201RSM

-2

SMITH & LOWNEY, P.L.L.C.
2317 EAST JOHN ST.
SEATTLE, WASHINGTON 98112
(206) 860-2883

1 Washington (collectively, the “Facilities”) within the Duwamish River watershed.

2 5. This Consent Decree is a full and complete settlement of the claims in the
3 complaint and all other claims known and unknown existing as of the date of entry of this
4 Consent Decree that could be asserted under the CWA or RCRA arising from operations of the
5 Facilities. These claims are released and dismissed with prejudice. Enforcement of this decree is
6 Soundkeeper’s exclusive remedy for any violation of its terms.

7 6. This Consent Decree is a settlement of disputed facts and law. It is not an
8 admission or adjudication regarding any allegations by Soundkeeper in this case or of any fact or
9 conclusion of law related to those allegations.

10 7. SIMC agrees to the following terms and conditions in full and complete
11 satisfaction of the claims covered by this decree:

12 a. SIMC will comply fully with all conditions of its National Pollutant
13 Discharge Elimination System Permits Nos. WA003196 (the “Individual NPDES Permit”) and
14 WAR125002 (the “General NPDES Permit”) and any successor, modified, or
15 replacement permits;

16 b. 730 Facility Paving and Engineering Report and Implementation

17 i. SIMC will conduct monthly stormwater discharge monitoring for
18 the parameters identified in Table 1 of Administrative Order No. 13739 (Dkt. 42-23)
19 (including PCB testing by EPA method 8082) for two years, except that SIMC may cease
20 monthly monitoring for any non-PCB parameter that is not detected for twelve
21 consecutive months of sampling.

22 ii. If any one discharge sample required by subparagraph 7(b)(i) shows
23 (1) a violation of any effluent limitation; (2) any exceedance of a General NPDES Permit
24 benchmark; or (3) a detection of PCBs, SIMC will, within three months, replace media in
25 its Modular Wetland Treatment system with media that in the judgment of SIMC’s
26 consultants will result in compliance with General NPDES Permit limits and meeting

1 benchmarks, and no future detections of PCBs.

2 iii. If, following the corrective action identified in subparagraph
3 7(b)(ii), two or more of SIMC's discharge samples show: (1) a violation of any effluent
4 limitation; (2) any exceedance of a General NPDES Permit benchmark; or (3) a detection
5 of PCBs, SIMC will, within three months, install and make operational an enhanced
6 treatment system (Chitosan-enhanced sand filtration, electrocoagulation, ion exchange,
7 polishing adsorptive media, or other enhanced treatment system that is equivalent to the
8 foregoing and in the judgment of SIMC's consultants will result in compliance with
9 General NPDES Permit limits, meeting benchmarks, and no future detections of PCBs).

10 c. 601 Facility Outfall Diffuser and Mixing Zone Report

11 i. SIMC will complete replacement of the 601 Facility's outfall pipe
12 with a Washington Department of Ecology ("Ecology")-approved outfall at a lower
13 elevation;

14 ii. SIMC has submitted to Ecology a mixing zone modeling study and will respond in
15 good faith to any Ecology comments. The mixing zone modeling will not apply to PCBs, and
16 SIMC will not seek a mixing zone or dilution factor for PCBs. SIMC will seek dilution factors
17 similar to those in its existing permit.

18 d. 601 Facility Docks and Shoreline Cleanup

19 i. SIMC will keep the 601 Facility's south dock vacuum-swept and
20 will not keep, store, or stage materials or equipment on the south dock unless and until the
21 south dock is replaced or repaired such that all precipitation that falls on the south dock is
22 directed to the 601 Facility's wastewater treatment system. SIMC will, within 30 days of
23 filing this consent decree, amend its stormwater pollution prevention plan ("SWPPP") to
24 include the best management practices ("BMPs") identified in this subparagraph 7(d)(i)
25 and provide Soundkeeper with an electronic copy of its amended SWPPP.

26 ii. Not later than February 15, 2020, as long as SIMC receives the

1 Corps of Engineers in water permit by April 1, 2019, SIMC will complete repairs to the
2 601 Facility's south dock, including replacing the dock's deck, such that all precipitation
3 that falls on the south dock will be directed to the 601 Facility's wastewater treatment
4 system.

5 iii. SIMC will remove metal debris from the Duwamish River along the
6 601 Facility's shoreline under and around the south dock as part of the south dock repair
7 project and annually thereafter shall conduct an underwater survey and remove all
8 identified metal debris larger than six inches in any dimension. In addition, SIMC will
9 remove smaller metal debris from the same area using a magnet. SIMC must promptly
10 identify and apply for the permits necessary to complete timely debris removal. SIMC
11 will conduct the survey and debris removal under this paragraph in the area under and
12 around the south dock, including the area within 100 feet of the dock face.

13 iv. SIMC will conduct an underwater survey and remove all metal
14 debris from the Duwamish River along the 601 Facility's shoreline under and around the
15 north dock on an annual basis. SIMC must promptly identify and apply for the permits
16 necessary to complete timely debris removal. SIMC will conduct the survey and debris
17 removal under this paragraph in the area under and around the north dock, including the
18 area within 100 feet of the dock face.

19 e. Dust Control for Auto Shredder.

20 i. Not later than December 15, 2018, SIMC will complete design
21 drawings for the shredder enclosure, blower, and dust collection system that meet the
22 requirements of this section and are approved by Dr. Ranajit Sahu, the parties' joint consultant,
23 and submit complete, approvable applications for any permits required for SIMC to install the
24 enclosure, blower, and dust collection system. The shredder enclosure will address the dust from
25 the shredding process itself and will create sufficient containment to allow a blower to create
26 sufficient negative pressure within it to maximize the capture of dust emissions from the shredder,

1 to the satisfaction of Dr. Sahu.

2 ii. Upon permit approval, SIMC shall promptly submit bids for
3 fabrication of the dust control equipment. Upon completion of the fabrication, SIM shall
4 promptly construct the dust control equipment. SIMC shall complete this work as soon as
5 practicable, but no later than six months after permit approval.

6 iii. After the dust control equipment is installed and operational, SIMC
7 will not operate its auto shredder unless all components of the enclosure described are
8 fully intact and fully functional, and the blower, and dust capture system are fully
9 functional and properly maintained.

10 f. Wind fences.

11 SIMC must, by December 15, 2018 apply for any permits required for the wind
12 fences shown in green on **Attachment A**, and, within six months of permit approval,
13 install and thereafter maintain the dust fences shown in green on **Attachment A**.

14 g. Dust emissions monitoring and corrective action.

15 Under the direction of Dr. Sahu and with Soundkeeper's full involvement, SIMC
16 will design and implement a two-phase dust monitoring regime.

17 i. Phase I: Beginning in spring of 2019 SIM will conduct ten weeks
18 of "background" dust monitoring at no fewer than three monitoring stations offsite, with
19 the locations to be selected by Dr. Sahu with at least one station designed to capture dust
20 concentrations in the vicinity of SIMC where SIMC is not expected to be contributing to
21 TSP or other airborne pollutant concentrations. A meteorological station will also be
22 maintained during the study period at the same location as in Dr. Sahu's 2018 study. Each
23 monitoring station will monitor total suspended particulate ("TSP") and PM 2.5 on a
24
25
26

1 continuous basis, and will also collect TSP for the duration. The collected TSP will be
2 analyzed for PCBs using Method 1668, metals, and dioxins.

3 ii. Phase II: Beginning in the spring of 2020, starting on the same date
4 as the Phase I sampling started, SIMC will conduct two years of continuous dust
5 monitoring at the following locations: (1) the same two locations as in Dr. Sahu's 2018
6 study; and (2) at least three additional locations selected by Dr. Sahu on the north, south
7 and east fence lines of SIM's 701 Myrtle parcel. At least one of the locations must be
8 designed to capture dust from portions of the 701 Myrtle parcel where there is no dust
9 fencing. Each monitoring station will monitor total suspended particulate (TSP) and PM
10 2.5 on a continuous basis, and will also collect TSP for the duration. The collected TSP
11 will be analyzed for PCBs using Method 1668, metals, and dioxins, at the conclusion of
12 each quarter. At the same time that it submits the collected TSP to the laboratory for
13 analysis under Phase II, SIMC will also cause the dust collected during Dr. Sahu's 2018
14 monitoring to be analyzed for PCBs using Method 1668, metals, and dioxins. If there is
15 an insufficient volume of dust in any sample to complete the foregoing analyses,
16 Soundkeeper will determine the parameters to be analyzed.

17
18
19 iii. Soundkeeper and SIMC will be copied on all substantive correspondence to and
20 from Dr. Sahu by the other regarding dust analysis or the design of dust control measures or
21 studies. Soundkeeper and SIMC will be invited to participate in any substantive meetings or
22 conference calls with Dr. Sahu and the other entity. All data and documentation from the dust
23 monitoring studies described in this consent decree will be shared with Soundkeeper within seven
24 days of it becoming available to SIMC.
25
26

iv. Corrective action: The data from the first dry season of the Phase II dust monitoring described above must be analyzed to determine if the controls are effective. If the controls are not effective at reducing the dust concentrations during SIMC's operating hours (during dry weather) to 10 $\mu\text{g}/\text{m}^3$, or the background level determined by Dr. Sahu based on additional data collection, and reducing PCBs to the background PCB levels determined in Phase I monitoring completed under subparagraph 7(g)(i) of this consent decree (hereinafter, the "Phase I background PCB level"), SIMC must commit to enhancing the controls as follows:

1. If the dust controls installed at the 601 Myrtle parcel of the 601 Facility, or the 701 parcel of the 601 Facility are insufficient to reduce the dust concentrations during SIM's operating hours (during dry weather) to 10 $\mu\text{g}/\text{m}^3$, or the background level determined by Dr. Sahu based on additional data collection, or the PCBs are above the Phase I background PCB levels, SIMC will engage Dr. Sahu to inspect the pertinent facility and make recommendations for appropriate improvements to address the issues. Within two months of being consulted, Dr. Sahu will issue his recommendations. SIMC must implement Dr. Sahu's recommendations before the onset of the second dry season of the Phase II monitoring period. If SIMC determines that one or more of the recommendations are not practicable or implementable then it must invoke the dispute resolution provisions of the consent decree and obtain relief from Dr. Sahu's recommendations from the Court in the form of a modification of the consent decree.

v. SIMC will pay into Smith & Lowney PLLC's client trust account money sufficient to cover the cost of Dr. Sahu's work under this consent decree. Smith &

1 Lowney PLLC will administer the funds to Dr. Sahu, but SIMC is solely responsible for
2 adequately funding the trust account to cover the cost of Dr. Sahu's work and any
3 subcontractors and laboratory costs.

4 vi. SIMC will continue to maintain daily logs of dust observations and
5 dust control efforts at the 601 Facility during the period May 1 through September 30 each
6 year, and during extended dry periods (defined by the absence of rainfall for more than
7 five days) during the period October 1 through April 30. Not later than the date of entry
8 of this Consent Decree, SIMC will begin keeping track of whether its auto shredder is
9 operating normally and any unusual shredding activities with the potential to generate dust
10 on the daily logs. Log entries shall be made for all hours during which the Facility and/or
11 the shredder operates.
12

13 vii. Not later than the date of entry of this Consent Decree, SIMC will
14 implement a program to discourage truck traffic associated with the Facilities from using
15 certain residential streets nearby the Facilities. Specifically, SIMC will post the Approved
16 and Restricted Traffic Routes map and legend, attached to this Consent Decree as
17 **Attachment B**, to its website, and provide copies of the map to and instruct trucks
18 entering and exiting the Facilities to use the Approved Routes and avoid the Restricted
19 Routes identified in Attachment B.
20

21 vii. SIMC will arrange a meeting with Soundkeeper, the City of Seattle,
22 and Ecology to discuss the Filterra treatment systems in the city right-of-way abutting the
23 north and south sides of the 601 Facility and will employ its best efforts to coordinate with
24 the City of Seattle and Ecology regarding this issue.
25
26

g. Auto shredder residue (“ASR”) piles.

i. Effective the date of execution of this Consent Decree, SIMC will limit the height of all ASR piles at the 601 Facility (including the 701 Myrtle parcel) to 12 (twelve) feet. SIMC must implement an adequate operational control to ensure compliance with this height limit.

ii. As soon as possible and not later than March 1, 2019, SIM will install an infrared heat monitoring and integrated fire suppression system for its ASR pile(s) at the 601 Myrtle parcel of the 601 Facility. The fire suppression system will use only water. The fire suppression system will be calibrated to avoid creating excessive runoff from the ASR piles. If fires occur at ASR pile(s) at the 701 parcel of the 601 Facility, SIM will evaluate installing a similar system at the 701 parcel.

h. Starting on the date of entry of this Consent Decree and continuing for five years, SIMC will forward all correspondence to and from the Department of Ecology, and all documents provided to the Department of Ecology, related to the NPDES Permits, and monthly dust control logs and dust observation or complaint emails SIMC receives in the corresponding month, to Soundkeeper on a monthly basis, and provide written summaries to Soundkeeper on its progress implementing the consent decree, on a quarterly basis. Where practicable, as in the case of structural improvements, SIMC will include photographs of tasks completed in its quarterly progress reports to Soundkeeper. SIMC will also provide Soundkeeper with electronic copies of its SWPPPs as required herein and upon request within 5 days.

i. Not later than thirty days after invoicing, SIMC will pay Soundkeeper its reasonable costs, including expert and attorneys’ fees, of monitoring SIMC’s compliance with this consent decree, and conferring regarding corrective actions and dispute resolution pursuant to this consent decree, in an amount not to exceed \$50,000 (FIFTY THOUSAND DOLLARS).

1 8. Not later than thirty days after the entry of this Consent Decree, SIMC will pay
2 \$200,000 (TWO HUNDRED THOUSAND DOLLARS) to the Rose Foundation for Communities
3 and the Environment, as described in **Attachment C** of this Consent Decree, for environmental
4 and human health benefit projects in the Duwamish River and central Puget Sound watersheds,
5 with an emphasis on projects that relate to the intersection of water quality and human health,
6 including aerial deposition of pollutants, in the Duwamish River watershed and food chains which
7 rely on central Puget Sound and the health of its waters. Payment will be made to the order of
8 and delivered to Tim Little, Rose Foundation for Communities and the Environment, 201 4th
9 Street, Suite 102, Oakland, California 94607. Payment shall include the following reference in a
10 cover letter or on the check: "Consent Decree, Soundkeeper v. Seattle Iron & Metals Corps." A
11 copy of the check and cover letter, shall be sent simultaneously to Soundkeeper.

12 9. SIMC will pay Soundkeeper's reasonable attorney and expert fees and costs in the
13 amount of \$1,200,000 (ONE MILLION TWO HUNDRED THOUSAND DOLLARS). Payment
14 will be made within 30 days of the entry of this decree by check payable and mailed to Smith &
15 Lowney, PLLC, 2317 E. John Street, Seattle, Washington 98112, attn: Richard Smith. This
16 payment is full and complete satisfaction of any claims Soundkeeper may have under the Clean
17 Water Act and RCRA for fees and costs.

18 10. A force majeure event is any event outside the reasonable control of SIMC that
19 causes a delay in performing tasks required by this decree that cannot be cured by due diligence.
20 Delay in performance of a task required by this decree caused by a force majeure event is not a
21 failure to comply with the terms of this decree, provided that SIMC notifies Soundkeeper of the
22 event, the steps that SIMC will take to perform the task, the projected time that will be needed to
23 complete the task, and the measures that have been taken or will be taken to prevent or minimize
24 any impacts to stormwater quality resulting from delay in completing the task.

25 SIMC will notify Soundkeeper of the occurrence of a force majeure event as soon as
26 reasonably possible but, in any case, no later than fifteen days after the occurrence of the event.

1 In such event, the time for performance of the task will be extended for a reasonable period of
2 time following the force majeure event.

3 By way of example and not limitation, force majeure events include

- 4 a. Acts of God, war, insurrection, or civil disturbance;
5 b. Earthquakes, landslides, fire, floods;
6 c. Actions or inactions of third parties over which defendant has no control;
7 d. Restraint by court order or order of public authority;
8 e. Strikes; and
9 f. Litigation, arbitration, or mediation that causes delay.

10 11. This court retains jurisdiction over this matter. And, while this decree remains in
11 force, this case may be reopened without filing fee so that the parties may apply to the Court for
12 any further order that may be necessary to enforce compliance with this decree or to resolve any
13 dispute regarding the terms or conditions of this decree. In the event of a dispute regarding
14 implementation of, or compliance with, this decree, the parties must first attempt to resolve the
15 dispute by meeting to discuss the dispute and any suggested measures for resolving the dispute.
16 Such a meeting should be held as soon as practical but must be held within thirty (30) days after
17 notice of a request for such a meeting to the other party and its counsel of record. If no resolution
18 is reached at that meeting or within thirty (30) days of the notice, whichever occurs first, either
19 party may file a motion with this court to resolve the dispute. The provisions of section 505(d) of
20 the Clean Water Act, 33 U.S.C. § 1365(d), regarding awards of costs of litigation (including
21 reasonable attorney and expert witness fees) to any prevailing or substantially prevailing party,
22 shall apply to any proceedings seeking to enforce the terms and conditions of this Consent
23 Decree.

24 12. The parties recognize that, pursuant to 33 U.S.C. § 1365(c)(3), no consent
25 judgment can be entered in a Clean Water Act suit in which the United States is not a party prior
26 to forty-five (45) days following the receipt of a copy of the proposed consent judgment by the

1 U.S. Attorney General and the Administrator of the U.S. EPA. Therefore, upon the signing of
2 this Consent Decree by the parties, Soundkeeper shall serve copies of it upon the Administrator of
3 the U.S. EPA and the Attorney General.

4 13. This Consent Decree takes effect upon entry by the court. It terminates five years
5 after entry by the Court.

6 14. Both parties have participated in drafting this decree.

7 15. This Consent Decree may be modified only upon the approval of the court.

8 16. If for any reason the court should decline to approve this Consent Decree in the
9 form presented, this Consent Decree is voidable at the discretion of either party. The parties
10 agree to continue negotiations in good faith in an attempt to cure any objection raised by the court
11 to entry of this Consent Decree.

12 17. Notifications required by this Consent Decree must be in writing. The sending
13 party may use any of the following methods of delivery: (1) personal delivery; (2) registered or
14 certified mail, in each case return receipt requested and postage prepaid; (3) a nationally
15 recognized overnight courier, with all fees prepaid; or (4) e-mail. For a notice or other
16 communication regarding this Consent Decree to be valid, it must be delivered to the receiving
17 party at the addresses listed below or to any other address designated by the receiving party in a
18 notice in accordance with this paragraph 17.

19 **if to Soundkeeper:**

20 Katelyn Kinn
21 Puget Soundkeeper Alliance
22 130 Nickerson Street, Suite 107
Seattle WA 98109

23 email: katelyn@pugetsoundkeeper.org

24 **and to:**

25 Smith & Lowney PLLC
26 2317 East John St.
Seattle, WA 98112

1 email: Claire@smithandlowney.com

2 **if to Seattle Iron & Metals Corp.:**

3 Stephen R. Parkinson

4 JOYCE ZIKER PARKINSON, PLLC

5 1601 Fifth Avenue, Suite 2040

6 Seattle, WA 98101

7 Email: sparkinson@jzplaw.com

8 A notice or other communication regarding this Consent Decree will be effective when
9 received unless the notice or other communication is received after 5:00 p.m. on a business day,
10 or on a day that is not a business day, then the notice will be deemed received at 9:00 a.m. on the
11 next business day. A notice or other communication will be deemed to have been received: (a) if
12 it is delivered in person or sent by registered or certified mail or by nationally recognized
13 overnight courier, upon receipt as indicated by the date on the signed receipt; or (b) if the
14 receiving party rejects or otherwise refuses to accept it, or if it cannot be delivered because of a
15 change in address for which no notice was given, then upon that rejection, refusal, or inability to
16 deliver; or (c) for notice provided via e-mail, upon receipt of a response by the party providing
17 notice or other communication regarding this Consent Decree.

18 DATED this ____ day of _____, 2019.

19 _____
20 HON. RICARDO S. MARTINEZ
21 UNITED STATES DISTRICT JUDGE
22
23
24
25
26

1 Presented by:

2 JOYCE ZIKER PARKINSON, PLLC

SMITH & LOWNEY PLLC

3
4 By: /s/Stephen R. Parkinson

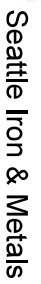
5 Stephen R. Parkinson, WSBA No. 21111
6 Attorneys for Defendant SIMC

By: /s/Claire E. Tonry

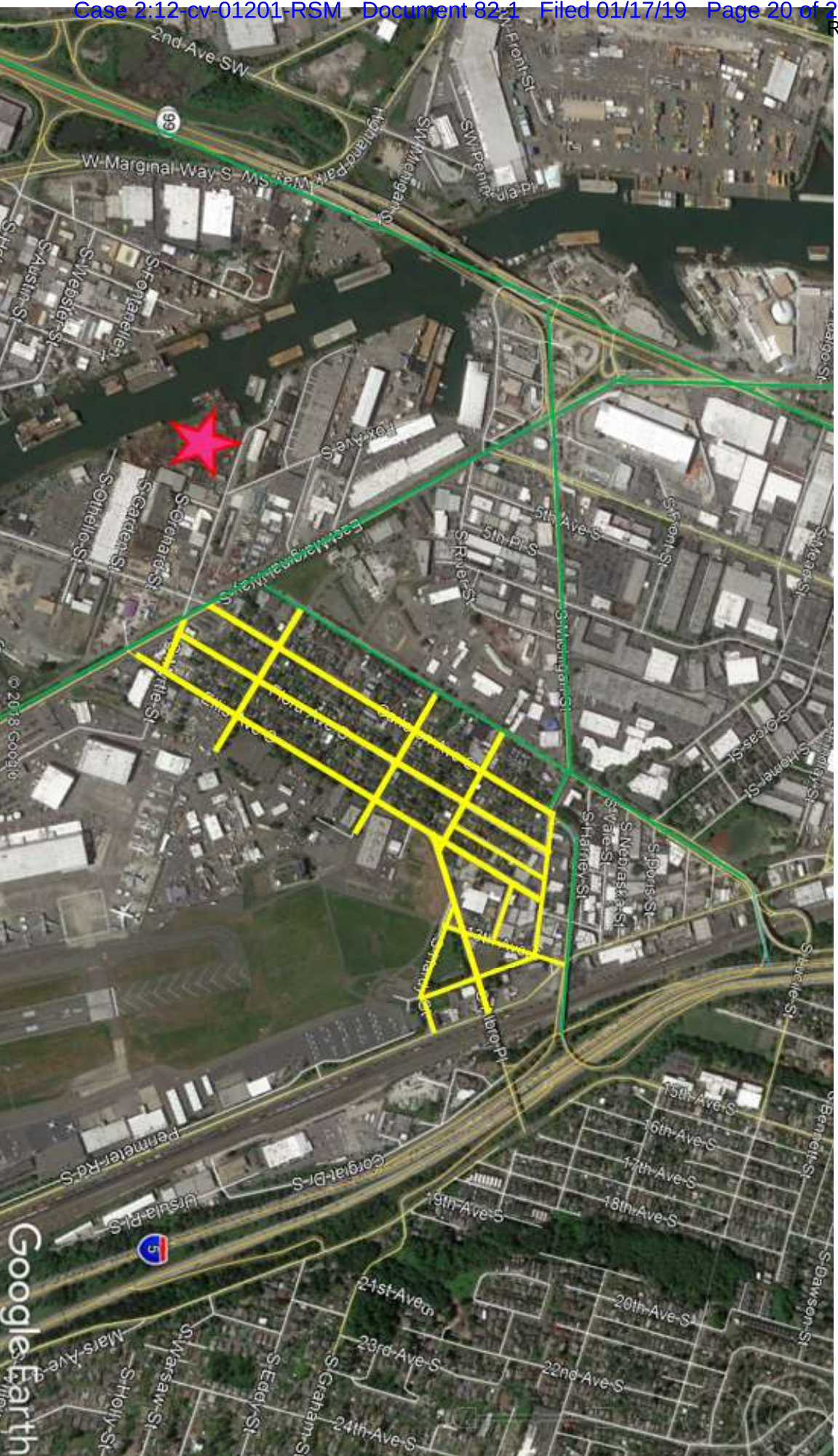
7 Richard A. Smith, WSBA No. 21788
8 Claire E. Tonry, WSBA No. 44497
9 Attorneys for Plaintiff Soundkeeper
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Attachment A

Attachment B



RESTRICTED & APPROVED TRUCK TRAFFIC ROUTES



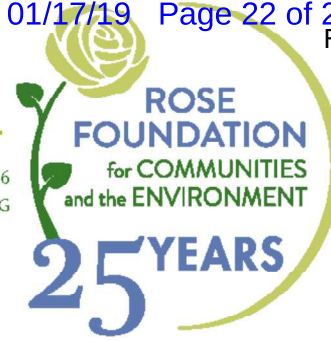
Seattle Iron & Metals Corp.
South Myrtle Street
Seattle WA, 98108



SEATTLE IRON & METALS CORP.

Attachment C

201 4TH STREET, SUITE 102, OAKLAND, CA 94607-4396
ROSE@ROSEFDN.ORG



WWW.ROSEFDN.ORG

OFFICE: 510.658.0702
FAX: 510.658.0732

November 12, 2018

Thomas Swegle
Environment & Natural Resources Division
Law and Policy Section
P.O. Box 7415
Ben Franklin Station
Washington, D.C. 20044-7415

Re: Puget Soundkeeper Alliance v. Seattle Iron & Metals, Corp. (Case No: 12-01201RSM)

Dear Mr. Swegle,

This letter is intended to provide assurance that I have received the proposed Consent Decree between Puget Soundkeeper Alliance and Seattle Iron & Metals, Corp. ("SIMC") and that I am authorized by my Board of Directors to make the following binding commitments on behalf of the Rose Foundation.

- 1) I understand that the Rose Foundation should receive funds from SIMC as specified in the proposed Consent Decree.
- 2) The Rose Foundation shall prioritize the use of SIMC funds for projects that relate to the intersection of water quality and human health, including aerial deposition of pollutants, in the Duwamish River watershed and food chains which rely on central Puget Sound and the health of its waters. The funds shall be dispersed through the Rose Foundation's Puget Sound Stewardship & Mitigation Fund, a grantmaking fund which is wholly dedicated to supporting projects which benefit the water quality of Puget Sound.
- 3) Due to the disproportionate impact of pollution from facilities such as SIMC on low-income neighborhoods and communities of color, the Rose Foundation's policy is to prioritize projects from these neighborhoods in selecting grantees.
- 4) After the funds have been disbursed, the Rose Foundation shall send a report to the Justice Department, the Court and the Parties describing how the funds were utilized and demonstrating conformance with the nexus of the Consent Decree.

Rose Foundation for Communities and the Environment

The Rose Foundation is a 501(c)(3) public charity (tax ID#94-3179772). Its mission is to support grassroots initiatives to inspire community action to protect the environment, consumers and public health. To fulfill this mission, the Rose Foundation conducts the following activities:

- Raise money to award as grants to qualified non-profit organizations conducting charitable operations. The Rose Foundation does not support lobbying activities that are prohibited by

Section 501(c)(3) of the IRS Code, and no portion of the SIMC funds shall be used to support any political lobbying activities whatsoever.

- Work directly in schools and in the community to encourage environmental stewardship and civic participation.
- Help government efforts to control pollution and protect the environment by encouraging community engagement in local, state and federal research and policy development.

Within this broad range of activities, all of the Rose Foundation's work revolves around one or more of the following strategic themes:

- Build and maintain a bridge between the community and organized philanthropy.
- Protect the natural environment, public health, and community and consumer rights.
- Promote collaboration between labor, environmental, business, consumer and social interests.
- Cultivate a new generation of environmental stewards and social policy leaders.
- Respect the inalienable rights protected by our nation's constitution, and the essential human rights to clean air, clean water, and individual dignity and privacy.

The Rose Foundation is governed by a Board of Directors. Grant applicants are required to submit written proposals, which must include at a minimum specific information about the goals, activities and projected outcomes of the proposed project, background about the charitable applicant, budget information, and a specific funding request. The Foundation may require additional information in order to fully evaluate the application. Applications are first screened by Foundation staff. Staff then makes recommendations to the Foundation Board for action. The Foundation requires all projects to submit written reports within one year of receipt of the grant award describing work conducted under the grant, thereby providing an accountability mechanism over funds awarded. Annual audits by the certified public accounting firm Maze and Associates are posted on the Foundation's website www.rosefdn.org.

I hope this provides you with the information you require. Please do not hesitate to contact me with any questions, or for additional information at (510) 658-0702 or tlittle@rosefdn.org.

Sincerely,



Tim Little, Executive Director

Exhibit 15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JUL 18 2010

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

REPLY TO THE ATTENTION OF:

Mr. Adam Labkon
General Iron Industries, Inc.
1909 N. Clifton Ave.
Chicago, Illinois 60614

Re: Notice and Finding of Violation
General Iron Industries, Inc.
Chicago, Illinois

Dear Mr. Labkon:

The U.S. Environmental Protection Agency (EPA) is issuing the enclosed Notice and Finding of Violation (NOV/FOV) to General Iron Industries, Inc. (you) under Sections 113(a)(1) and 113(a)(3) of the Clean Air Act (CAA), 42 U.S.C. §§ 7413(a)(1) and 7413(a)(3). We find that you are violating and have violated the Illinois State Implementation Plan, Title V of the CAA, 42 U.S.C. §§ 7661a-7661f, and Section 114 of the CAA, 42 U.S.C. § 7414, at your facility in Chicago, Illinois.

Section 113 of the CAA gives the EPA several enforcement options. These options include issuing an administrative compliance order, issuing an administrative penalty order and bringing a judicial civil or criminal action.

While we have been in discussions with you for some time regarding conditions at your facility, the emissions tests you have performed, and possible options for pollution controls, this letter provides formal notice of the violations, and offers you an opportunity to confer with us about those violations as alleged in the NOV/FOV. The conference will give you an opportunity to present information on the specific findings of violation, any efforts you have taken to comply and the steps you will take to prevent future violations. In addition, in order to make the conference more productive, we encourage you to submit to us information responsive to the NOV/FOV prior to the conference date.

Please plan for your facility's technical and management personnel to attend the conference to discuss compliance measures and commitments. You may have an attorney represent you at this conference.

The EPA contact in this matter is Mr. Scott Connolly. You may call or email him at (312) 886-1493 or connolly.scott@epa.gov to request a conference. You may also have your attorney contact Erik Olson at (312) 886-6829 or olson.erik@epa.gov. You should make the request within 10 calendar days following receipt of this letter. We should hold any conference within 30 calendar days following receipt of this letter.

Sincerely,



Edward Nam
Director
Air and Radiation Division

Enclosure

cc: Julie Armitage, Chief, Bureau of Air

Ann Zwick
Freeborn and Peters LLP
311 South Wacker Drive
Suite 3000
Chicago, IL 60606

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5**

IN THE MATTER OF:

General Iron Industries, Inc.

Chicago, Illinois

Proceedings Pursuant to
Section 113(a)(1) of the
Clean Air Act, 42 U.S.C.
§ 7413(a)(1)

**NOTICE AND FINDING
OF VIOLATION**

EPA-5-18-IL-14

NOTICE AND FINDING OF VIOLATION

The U.S. Environmental Protection Agency (EPA) is issuing this Notice and Finding of Violation (NOV/FOV) under Sections 113(a)(1) and 113(a)(3) of the Clean Air Act (CAA), 42 U.S.C. §§ 7413(a)(1) and 7413(a)(2). EPA finds that General Iron Industries, Inc. (General Iron) is violating Section 114(a)(1) of the CAA, 42 U.S.C. § 7414, Title V of the CAA, 42 U.S.C. §§ 7661a-7661f, and the Illinois State Implementation Plan (SIP), as follows:

Statutory and Regulatory Background

1. The Administrator of EPA may require any person who owns or operates an emission source who is subject to any requirement of the CAA to provide information required by the Administrator under Section 114(a)(1) of the CAA, 42 U.S.C. § 7414(a)(1). The Administrator has delegated this authority to the Director of the Air and Radiation Division.
2. Title V of the CAA, 42 U.S.C. §§ 7661a-7661f, establishes an operating permit program for certain sources, including "major sources" and "major stationary sources."
3. Section 502(a) of the CAA, 42 U.S.C. § 7661a(a), and 40 C.F.R. § 70.7(b) provide that, after the effective date of any permit program approved or promulgated under Title V of the CAA, no source subject to Title V may operate except in compliance with a Title V permit.
4. 40 C.F.R. § 70.1(b) provides that all sources subject to the Part 70 regulations shall have a permit to operate that assures compliance by the source with all applicable requirements, as defined in 40 C.F.R. § 70.2.
5. Section 503(c) of the CAA, 42 U.S.C. § 7661b(c), and 40 C.F.R. § 70.5(a) provide that any person required to have a permit under Title V must timely submit an application for a permit.

6. U.S. EPA granted full approval to the Illinois Title V operating permit program (CAAPP) on December 4, 2001, set forth at 415 Illinois Compiled Statutes (ILCS) Section 5/39.5. The program became effective on November 30, 2001. 66 Fed. Reg. 62946.
7. Section 39.5(6)(b) of the Illinois Environmental Protection Act states that no person shall operate a CAAPP source without a CAAPP permit unless a CAAPP permit or renewal application has been timely submitted. 415 ILCS § 5/39.5(6)(b).
8. Section 502 of the CAA, 42 U.S.C. § 7661a, applies to all major stationary sources, defined at Section 501 of the CAA, 42 U.S.C. § 7602.
9. Section 39.5 of the Illinois Environmental Protection Act applies to any source defined as a major source or major stationary source. 415 ILCS § 5/39.5(2)(a)(ii).
10. The definition of “major stationary source” includes any stationary source located in a “marginal” or “moderate” ozone non-attainment area that emits or has the potential to emit 100 tons per year or more of volatile organic compounds. 415 ILCS § 5/39.5(2)(c)(iii).
11. Section 110 of the CAA, 42 U.S.C. § 7410, requires each state to adopt and submit to EPA for approval a SIP that provides for the implementation, maintenance, and enforcement of the National Ambient Air Quality Standards (NAAQS).
12. The Administrator of the EPA approved Illinois’ plan for the attainment and maintenance of the NAAQS under Section 110 of the CAA. *See* 40 C.F.R. § 52.722 and 55 Fed. Reg. 40661 (October 4, 1990).
13. On May 31, 1972, EPA approved Section 201.122 of Title 35 of the Illinois Administrative Code (IAC) as part of the federally enforceable Illinois SIP. 37 Fed. Reg. 10862.
14. 35 IAC § 201.122 states that evidence that specified air contaminant emissions, as calculated on the basis of standard emission factors or other factors generally accepted as true by those persons engaged in the field of air pollution control, exceed the limitations prescribed under 35 IAC, Chapter 1, shall constitute adequate proof of a violation, in the absence of a showing that actual emissions are in compliance.
15. On September 9, 1994, EPA approved Part 211 of the IAC as part of the federally enforceable Illinois SIP. 59 Fed. Reg. 46567.
16. 35 IAC § 211.3690 defines “maximum theoretical emissions” as the quantity of volatile organic material emissions that theoretically could be emitted by a stationary source before add-on controls based on the design capacity or maximum production capacity of the source and 8760 hours per year.
17. 35 IAC § 211.4970 defines “potential to emit” as the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restriction on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation is federally enforceable. *See also* 40 C.F.R. § 70.2; 415 ILCS § 5/39.5(1).

18. On February 21, 1980, EPA approved 35 IAC § 212.301 as part of the federally enforceable Illinois SIP. 45 Fed. Reg. 11493.
19. 35 IAC § 212.301 states that no person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally toward the zenith at a point beyond the property line of the emission source.
20. On March 12, 1997, EPA approved 35 IAC § 218.980, as part of the federally enforceable SIP. 62 Fed. Reg. 11327.
21. 35 IAC § 218.980(a)(1) states that a source is subject to 35 IAC Part 218, Subpart TT, if it contains process emission units not regulated by the Subparts identified in 35 IAC § 218.980(a)(1), which as a group have a maximum theoretical emissions of 100 tons or more per calendar year of volatile organic matter (VOM) and are not limited to less than 100 ton of VOM emissions per calendar year in the absence of air pollution control equipment through production or capacity limitations contained in a federally enforceable permit or SIP revision.
22. 35 IAC § 218.980(b)(1) states, in pertinent part, that a source is subject to 35 IAC Part 218, Subpart TT, if it has the potential to emit 25 tons or more of VOM per year, in aggregate, from emission units, that are not regulated by the Subparts identified in 35 IAC § 218.980(b)(1)(A) and not included in the categories listed in 35 IAC § 218.980(b)(1)(B).
23. On October 21, 1996, EPA approved 35 IAC §§ 218.986 and 987, as part of the federally enforceable SIP. 61 Fed. Reg. 54556.
24. 35 IAC § 218.986 states that every owner or operator of an emission unit subject to 35 IAC Part 218, Subpart TT shall comply with 35 IAC § 218.986(a).
25. 35 IAC § 218.986(a) requires every owner or operator to operate emission capture and control equipment which achieves an overall reduction in uncontrolled VOM emissions of at least 81 percent from each emission unit.
26. 35 IAC §§ 218.987 and 218.106(c) require every owner or operator of an emission unit which is subject to 35 IAC Part 218, Subpart TT to comply with the requirements of 35 IAC Part 218, Subpart TT, by March 15, 1995.

Findings

27. General Iron owns and operates a metal shredding and recycling facility at 1909 North Clifton Ave, Chicago, Illinois (Facility), which is located in Cook County.
28. Cook County is part of the Chicago-Naperville, IL-IN-WI nonattainment area which is classified as “marginal” or “moderate.”
29. General Iron stores, processes, and recycles ferrous and non-ferrous scrap metals from cars and post-consumer sheet metal at the Facility.
30. Scrap metal is shredded in a hammermill shredder at the Facility.
31. On or about June 13, 2017, May 24 & 25, 2018 and June 13, 2018, EPA conducted onsite inspections at the Facility, including inspections during emissions testing conducted by the Facility.
32. On or about November 11, 2017, EPA issued a Section 114 Information Request (2017 Information Request) to General Iron regarding the Facility. The 2017 Information Request, among other things, required General Iron to conduct emission testing at the facility and to provide the results of the emission testing to EPA. The required emissions testing included evaluations of VOM, particulate matter (PM) and metals emissions.
33. On December 13, 2017 and May 21, 2018, General Iron met with EPA to discuss the 2017 Information Request.
34. General Iron conducted testing as required by the 2017 Information Request on May 24, 2018, May 25, 2018, including testing for VOM, PM, and metals emissions, and on June 13, 2018 and June 14, 2018, including testing for PM and metals emissions.
35. During the May 24 & 25, 2018 inspection, EPA observed and recorded hydrocarbons exiting the hammermill shredder with a FLIR infrared camera.
36. During the June 13, 2018 inspection, EPA observed fugitive particulate matter emitted from the hammermill shredder crossing the property line.
37. On or about December 12, 2017 and June 27, 2018, General Iron provided responses to the 2017 Information Request, including the results of emissions testing for VOM conducted on May 24 and 25, 2018 and emissions testing for PM and metals conducted on June 13 and 14, 2018.
38. General Iron did not provide to EPA the results of the emissions testing for PM and metals conducted on May 24 and 25, 2018.
39. Based on the results of the emissions testing, the Facility emits or has the potential to emit more than 100 tons per calendar year of volatile organic compounds.

40. General Iron is a “major source” as defined at 42 U.S.C. § 7661(2) and 415 ILCS § 5/39.5(2)(c)(i).
41. By operating as a major source, General Iron is subject to the requirements of the CAA’s Title V, 42 U.S.C. §§ 7661a-7661f, at the Facility.
42. To date, General Iron has not submitted a complete CAAPP permit application to Illinois EPA.
43. To date, General Iron has not received a CAAPP permit from Illinois EPA.
44. Based on the December 12, 2017 response and the results of the emissions testing, the hammermill shredder at the Facility has maximum theoretical emissions rate of more than 100 tons per calendar year of VOM.
45. Based on the December 12, 2017 response and the results of the emissions testing, the hammermill shredder alone emits 25 tons or more of VOM per year.
46. To date, General Iron does not have any emission capture or control equipment that achieves an overall reduction of uncontrolled VOM emissions of at least 81 percent at the hammermill shredder nor does it have in place a federally enforceable alternative control plan that achieves an overall reduction of uncontrolled VOM emissions of at least 81 percent at the hammermill shredder.

Violations

47. By failing to submit a timely and complete CAAPP permit application to Illinois EPA, General Iron has violated of Section 503 of the CAA, the regulations at 40 C.F.R. §§ 70.5(a) and 70.7(b), and the Illinois Environmental Protection Act at 415 ILCS § 5/39.5(4)(c).
48. By operating as a major stationary source without a Title V permit, General Iron has violated Section 502 of the CAA, the regulations at 40 C.F.R. §§ 70.1(b) and 70.7(b), and the Illinois Environmental Protection Act at 415 ILCS § 5/39.5(6)(b).
49. General Iron allowed fugitive particulate matter from the hammermill shredder that was visible by an observer looking generally toward the zenith to cross the property line of the Facility on at least June 13, 2018, in violation of 35 IAC § 212.301 and the SIP.
50. To date, General Iron has failed to install any emission capture or control equipment that achieves an overall reduction of uncontrolled VOM emissions of at least of 81 percent at the hammermill shredder or, alternatively, obtain a federally enforceable equivalent control plan at the hammermill shredder, in violation of 35 IAC § 218.986(a) and the SIP.

51. To date, General Iron has failed to provide the results of the May 24 and 25 PM and metals emissions testing as required by the 2017 Information Request, in violation of Section 114 of the CAA, 42 U.S.C. § 7414.

Environmental Impact of Violations

52. These violations can cause and have caused excess emissions of VOMs and particulate matter.
53. VOMs are photochemical oxidants associated with a number of detrimental health effects, which include birth defects and cancer, as well as environmental and ecological effects. In the presence of sunlight, VOMs are influenced by a variety of meteorological conditions and have the ability to create photochemical smog. VOMs react with oxygen in the air to produce ground-level ozone.
54. Breathing ozone contributes to a variety of health problems including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level ozone also can reduce lung function and inflame lung tissue. Repeated exposure may permanently scar lung tissue.
55. Particulate matter, especially fine particulates, contains microscopic solids or liquid droplets, which can get deep into the lungs and cause serious health problems. Particulate matter exposure contributes to:
- irritation of the airways, coughing, and difficulty breathing;
 - decreased lung function;
 - aggravated asthma;
 - chronic bronchitis;
 - irregular heartbeat;
 - nonfatal heart attacks; and
 - premature death in people with heart or lung disease.

Date

7/18/18

Edward Nam

Director

Air and Radiation Division

CERTIFICATE OF MAILING

I certify that I sent a Notice of Violation, No. EPA-5-18-IL-14, by Certified Mail, Return

Receipt Requested, to:

Adam Labkon
Vice President
General Iron Industries Inc.
1909 North Clifton Street
Chicago, IL 60608

I also certify that I sent copies of the Notice of Violation by email to:

Julie Armitage
Chief
Bureau of Air
Julie.armitage@Illinois.gov

Ann Zwick
azwick@freeborn.com

On the 19th day of July 2018.

Kathy Jones

Kathy Jones
Program Technician
AECAB, PAS

CERTIFIED MAIL RECEIPT NUMBER:

7017 1070 0000 1030 0102

Exhibit 16



R 005506

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD

CHICAGO, IL 60604-3590

DEC 20 2018

REPLY TO THE ATTENTION OF:

VIA E-MAIL

RETURN RECEIPT REQUESTED

Mark LaRose
LaRose & Bosco, Ltd.
200 N. LaSalle Street
Suite 2810
Chicago, Illinois 60601
Email: mlarose@laroseboscolaw.com

Dear Mr. LaRose:

Enclosed is a file-stamped Consent Agreement and Final Order (CAFO) which resolves Metal Management Midwest, Inc., d/b/a Sims Metal Management, docket no. CAA-05-2019-0006. As indicated by the filing stamp on its first page, we filed the CAFO with the Regional Hearing Clerk on 12/20/2018.

Pursuant to paragraph 46 of the CAFO, Metal Management Midwest, Inc., d/b/a Sims Metal Management must pay the civil penalty within 30 days of the filing date. Your electronic funds transfer must display the case name and case docket number.

Please direct any questions regarding this case to Nidhi O'Meara, Associate Regional Counsel, at (312) 886-0568.

Sincerely,

Nathan Frank, Chief
Air Enforcement and Compliance Assurance Section (IL/IN)

Enclosure

cc: Ann Coyle, Regional Judicial Officer/C-14J
Regional Hearing Clerk/E-19J
Nidhi O'Meara/C-14J
Julie Armitage/via electronic mail

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5**

In the Matter of:

**Metal Management Midwest, Inc.
d/b/a Sims Metal Management
2500 South Paulina Street
Chicago, Illinois**

Respondent.

Docket No. CAA-05-2019-0006

**Proceeding to Assess a Civil Penalty
Under Section 113(d) of the Clean Air Act,
42 U.S.C. § 7413(d)**



Consent Agreement and Final Order

Preliminary Statement

1. This is an administrative action commenced and concluded under Section 113(d) of the Clean Air Act (CAA), 42 U.S.C. § 7413(d), and Sections 22.1(a)(2), 22.13(b) and 22.18(b)(2) and (3) of the Consolidated Rules of Practice Governing the Administrative Assessment of Civil Penalties and the Revocation/Termination or Suspension of Permits (Consolidated Rules), as codified at 40 C.F.R. Part 22.
2. Complainant is the Director of the Air and Radiation Division, U.S. Environmental Protection Agency (EPA), Region 5.
3. Respondent is Metal Management Midwest, Inc., d/b/a Sims Metal Management (MMMI), a corporation doing business in Illinois.
4. Where the parties agree to settle one or more causes of action before the filing of a complaint, the administrative action may be commenced and concluded simultaneously by the issuance of a consent agreement and final order (CAFO). 40 C.F.R. § 22.13(b).
5. The parties agree that settling this action without the filing of a complaint or the adjudication of any issue of fact or law is in their interest and in the public interest.

6. Respondent consents to the assessment of the civil penalty specified in this CAFO and to the terms of this CAFO.

Jurisdiction and Waiver of Right to Hearing

7. Respondent admits the jurisdictional allegations in this CAFO and neither admits nor denies the factual allegations and violations alleged in this CAFO. Neither this CAFO nor anything herein constitutes or shall be construed as an admission of liability on the part of MMMI.

8. Respondent waives its right to request a hearing as provided at 40 C.F.R. § 22.15(c), any right to contest the allegations in this CAFO and its right to appeal this CAFO.

Statutory and Regulatory Background

9. Section 110 of the CAA, 42 U.S.C. § 7410, requires each state to adopt and submit to EPA for approval a State Implementation Plan (SIP) that provides for the implementation, maintenance, and enforcement of the National Ambient Air Quality Standards (NAAQS).

10. The administrator of the EPA approved Illinois' plan for the attainment and maintenance of the NAAQS under Section 110 of the CAA. See 40 C.F.R. § 52.722 and 55 Fed. Reg. 40661 (October 4, 1990).

11. On May 31, 1972, EPA approved Part 201.122 of Title 35 of the Illinois Administrative Code (IAC) as part of the federally enforceable Illinois SIP. 37 Fed. Reg. 10862.

12. 35 IAC § 201.122 states that evidence that specified air contaminant emissions, as calculated on the basis of standard emission factors or other factors generally accepted as true by those persons engaged in the field of air pollution control, exceed the limitations prescribed under 35 IAC, Chapter 1, shall constitute adequate proof of a violation, in the absence of a showing that actual emissions are in compliance.

13. On September 9, 1994, and through subsequent SIP amendment approvals, EPA approved Part 211 of the IAC as part of the federally enforceable Illinois SIP. 59 Fed. Reg. 46567.

14. 35 IAC § 211.3690 defines “maximum theoretical emissions” as the quantity of volatile organic material (VOM) emissions that theoretically could be emitted by a stationary source before add-on controls based on the design capacity or maximum production capacity of the source and 8760 hours per year.

15. 35 IAC § 211.4970 defines “potential to emit” as the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

16. On February 21, 1980, EPA approved Part 212 of the IAC as part of the federally enforceable Illinois SIP. 45 Fed. Reg. 11493.

17. 35 IAC § 212.301 states that no person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally toward the zenith at a point beyond the property line of the emission source.

18. On March 12, 1997, EPA approved 35 IAC § 218.980, as part of the federally enforceable SIP. 62 Fed. Reg. 11327.

19. 35 IAC § 218.980(a)(1) states that a source is subject to 35 IAC Part 218, Subpart TT, if it contains process emission units not regulated by the Subparts identified in 35 IAC § 218.980(a)(1), which as a group both have maximum theoretical emissions of 100 tons or more per calendar year of VOM and are not limited to less than 100 ton of VOM emissions per calendar year in the absence of air pollution control equipment through production or capacity limitations contained in a federally enforceable permit or SIP revision.

20. 35 IAC § 218.980(b)(1) states, in pertinent part, that a source is subject to 35 IAC Part 218, Subpart TT, if it has the potential to emit 25 tons or more of VOM per year, in aggregate, from emission units, that are not regulated by the Subparts identified in 35 IAC § 218.980(b)(1)(A) and not included in the categories listed in 35 IAC § 218.980(b)(1)(B).

21. On October 21, 1996, EPA approved 35 IAC §§ 218.986 and 987, as part of the federally enforceable SIP. 61 Fed. Reg. 54556.

22. 35 IAC § 218.986 states that every owner or operator of an emission unit subject to 35 IAC Part 218, Subpart TT shall comply with the requirements of 35 IAC § 218.986.

23. 35 IAC § 218.987 requires every owner or operator of an emissions unit which is subject to 35 IAC Part 218, Subpart TT to comply with the requirements of 35 IAC Part 218, Subpart TT, on and after March 25, 1995.

Federal Enforcement

24. The Administrator of EPA (the Administrator) may assess a civil penalty of up to \$37,500 per day of violation up to a total of \$295,000 for CAA violations that occurred after January 12, 2009, through December 6, 2013; \$37,500 per day of violation up to a total of \$320,000 for CAA violations that occurred after December 6, 2013, through November 2, 2015; and \$45,268 per day of violation up to a total of \$362,141 for violations that occurred after November 2, 2015, under Section 113(d)(1) of the CAA, 42 U.S.C. § 7413(d)(1), and 40 C.F.R. Part 19.

25. Section 113(d)(1) limits the Administrator's authority to matters where the first alleged date of violation occurred no more than 12 months prior to initiation of the administrative action, except where the Administrator and the Attorney General of the United

States jointly determine that a matter involving a longer period of violation is appropriate for an administrative penalty action.

26. The Administrator and the Attorney General of the United States, each through their respective delegates, have determined jointly that an administrative penalty action is appropriate for the period of violations alleged in this CAFO.

Factual Allegations and Alleged Violations

Factual Allegations

27. MMMI owns and operates a metal shredding and recycling facility at 2500 South Paulina Street, Chicago, Illinois (Paulina Street Facility).

28. MMMI receives, handles, stockpiles and/or otherwise stores, processes, otherwise recycles, and ships ferrous and non-ferrous recyclable metallic materials such as end-of-life vehicles (ELVs), major appliances and other post-consumer sheet metal and metal clips received directly from manufacturers, and/or the specification-grade recyclable metals resulting from such processing and recycling, at the Paulina Street Facility.

29. ELVs and other recyclable metallic materials are processed in a hammermill shredder at the Paulina Street Facility.

30. During an EPA off site surveillance of the Paulina Street Facility conducted on September 7, 2016, EPA observed fugitive particulate matter emitted from the hammermill shredder crossing the property line.

31. On or about December 2, 2016, EPA conducted an onsite inspection at the Paulina Street Facility.

32. During the December 2, 2016 inspection, EPA observed and recorded hydrocarbons exiting the hammermill shredder with a FLIR infrared camera.

33. On or about December 2, 2016, EPA again observed fugitive particulate matter emitted from the hammermill shredder crossing the property line of the Paulina Street Facility.

34. On or about February 24, 2017, EPA issued a Section 114 Information Request (2017 Information Request) to MMMI regarding the Paulina Street Facility.

35. On or about March 31, 2017, MMMI provided a response to the 2017 Information Request.

36. Based on the March 31, 2017 response provided by MMMI, the hammermill shredder at the Paulina Street Facility has a maximum theoretical emissions rate of more than 100 tons per calendar year of VOM.

37. Based on the March 31, 2017 response provided by MMMI, the hammermill shredder alone has the potential to emit 25 tons or more of VOM per year.

38. On or about August 10, 2017, EPA issued a Notice of Violation (NOV) to MMMI alleging that it violated provisions of the Illinois SIP.

39. MMMI will submit an application for a federally enforceable state operating permit for the metal shredder at the Paulina Street Facility which will: (a) limit the quantity of ELVs and other recyclable metallic material it will feed into and process in the metal shredder at the Paulina Street Facility to 344,000 net tons per year, (b) limit the potential to emit VOM at the Paulina Street Facility to below 25 tons per year, and (c) incorporate an updated Fugitive Dust Plan for the Paulina Street Facility.

Alleged Violations

40. The preceding paragraphs are incorporated by reference.

41. MMMI allowed fugitive particulate matter from the hammermill shredder that was visible by an observer looking generally toward the zenith to cross the property line of the

Paulina Street Facility on at least September 7, 2016 and December 2, 2016, in violation of 35 IAC § 212.301.

42. Respondent's violation of 35 IAC § 212.301 subjects Respondent to the issuance of an Administrative Complaint assessing a civil penalty under Section 113(d) of the CAA, for each day of violation.

43. To date, MMMI has not complied with 35 IAC § 218.986.

44. Respondent's violation of 35 IAC § 218.986 subjects Respondent to the issuance of an Administrative Complaint assessing a civil penalty under Section 113(d) of the CAA, for each day of violation.

Civil Penalty

45. Based on analysis of the factors specified in Section 113(e) of the CAA, 42 U.S.C. § 7413(e), the facts of this case and Respondent's agreement to enter into an Administrative Consent Order under Section 113(a) and 114(a) to bring the facility into compliance with the CAA, Complainant has determined that an appropriate civil penalty to settle this action is \$225,000.00.

46. Within 30 days after the effective date of this CAFO, Respondent must pay a \$225,000.00 civil penalty by electronic funds transfer, payable to "Treasurer, United States of America," and sent to:

Federal Reserve Bank of New York
ABA No. 021030004
Account No. 68010727
33 Liberty Street
New York, New York 10045
Field Tag 4200 of the Fedwire message should read:
"D68010727 Environmental Protection Agency"

In the comment or description field of the electronic funds transfer, state Respondent's name and the docket number of this CAFO.

47. Respondent must send a notice of payment that states Respondent's name and the docket number of this CAFO to EPA at the following addresses when it pays the penalty:

Attn: Compliance Tracker (AE-18J)
Air Enforcement and Compliance Assurance Branch
Air and Radiation Division
U.S. Environmental Protection Agency, Region 5
77 W. Jackson Boulevard
Chicago, Illinois 60604

Nidhi O'Meara (C-14J)
Office of Regional Counsel
U.S. Environmental Protection Agency, Region 5
77 W. Jackson Boulevard
Chicago, Illinois 60604

Regional Hearing Clerk (E-19J)
U.S. Environmental Protection Agency, Region 5
77 W. Jackson Boulevard
Chicago, Illinois 60604

48. This civil penalty is not deductible for federal tax purposes.

49. If Respondent does not pay timely the civil penalty, EPA may request the Attorney General of the United States to bring an action to collect any unpaid portion of the penalty with interest, nonpayment penalties and the United States enforcement expenses for the collection action under Section 113(d)(5) of the CAA, 42 U.S.C. § 7413(d)(5). The validity, amount and appropriateness of the civil penalty are not reviewable in a collection action.

50. Respondent must pay the following on any amount overdue under this CAFO. Interest will accrue on any overdue amount from the date payment was due at a rate established by the Secretary of the Treasury pursuant to 26 U.S.C. § 6621(a)(2). Respondent must pay the United States enforcement expenses, including but not limited to attorneys' fees and costs incurred by the United States for collection proceedings. In addition, Respondent must pay a quarterly nonpayment penalty each quarter during which the assessed penalty is overdue. This

nonpayment penalty will be 10 percent of the aggregate amount of the outstanding penalties and nonpayment penalties accrued from the beginning of the quarter. 42 U.S.C. § 7413(d)(5).

General Provisions

51. Consistent with the Standing Order Authorizing E-Mail Service of Orders and Other Documents Issued by the Regional Administrator or Regional Judicial Officer under the Consolidated Rules, dated March 27, 2015, the parties consent to service of this CAFO by e-mail at the following e-mail addresses: omeara.nidhi@epa.gov (for Complainant), and mlarose@laroseboscology.com (for Respondent). The parties waive their right to service by the methods specified in 40 C.F.R. § 22.6.

52. This CAFO resolves only Respondent's liability for federal civil penalties for the violations alleged in this CAFO and the related Notice of Violation.

53. The CAFO does not affect the rights of EPA or the United States to pursue appropriate injunctive or other equitable relief or criminal sanctions for any violations of the law.

54. This CAFO does not affect Respondent's responsibility to comply with the CAA and other applicable federal, state and local laws. Except as provided in paragraph 52, above, compliance with this CAFO will not be a defense to any actions subsequently commenced pursuant to federal laws administered by EPA.

55. Except as otherwise provided for herein, Respondent certifies based upon information and belief formed after reasonable inquiry that it is complying at the Paulina Street Facility with the CAA.

56. With respect to the subject matter hereof, this CAFO constitutes an "enforcement response" as that term is used in EPA's Clean Air Act Stationary Civil Penalty Policy to

determine Respondent's "full compliance history" under Section 113(e) of the CAA, 42 U.S.C. § 7413(e).

57. The terms of this CAFO bind Respondent, its successors and assigns.

58. Each person signing this consent agreement certifies that he or she has the authority to sign for the party whom he or she represents and to bind that party to its terms.

59. Each party agrees to bear its own costs and attorneys' fees in this action.

60. This CAFO constitutes the entire agreement between the parties.

Metal Management Midwest, Inc. d/b/a Sims Metal Management, Respondent

12/7/2018
Date

P. Bird
Peter Bird
President, Metal Management Midwest, Inc.

United States Environmental Protection Agency, Complainant

12/18/18
Date


Edward Nam
Director
Air and Radiation Division
U.S. Environmental Protection Agency, Region 5

Consent Agreement and Final Order

In the Matter of: Metal Management Midwest, Inc., d/b/a Sims Metal Management

Docket No. CAA-05-2019-0006

Final Order

This Consent Agreement and Final Order, as agreed to by the parties, shall become effective immediately upon filing with the Regional Hearing Clerk. This Final Order concludes this proceeding pursuant to 40 C.F.R. §§ 22.18 and 22.31. IT IS SO ORDERED.

December 19, 2018
Date

Ann L. Coyle
Ann L. Coyle
Regional Judicial Officer
U.S. Environmental Protection Agency
Region 5

Consent Agreement and Final Order

In the matter of: Metal Management Midwest, Inc. d/b/a Sims Metal Management

Docket Number: CAA-05-2019-0006

CERTIFICATE OF SERVICE

I certify that I served a true and correct copy of the foregoing **Consent Agreement and Final Order**, docket number CAA-05-2019-0006, which was filed on 12/20/2018, in the following manner to the following addressees:

Copy by E-mail to Nidhi O'Meara
Attorney for Complainant: omeara.nidhi@epa.gov

Copy by E-mail to Mark A. LaRose
Attorney for Respondent: mlarose@laroseboscolaw.com

Copy by E-mail to Ann Coyle
Regional Judicial Officer: coyle.ann@epa.gov

Dated: 12/20/2018

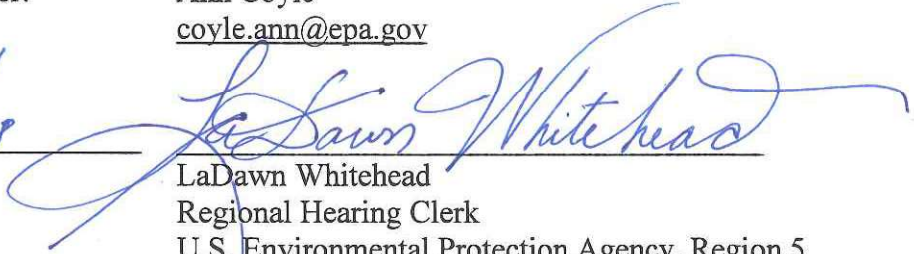

LaDawn Whitehead
Regional Hearing Clerk
U.S. Environmental Protection Agency, Region 5

Exhibit 17

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Illinois EPA scrutinizes Chicago area shredding plant

State agency alleges objects were ejected from shredder in Blue Island and landed on adjoining property.

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April 27, 2014

Recycling Today Staff (/author/2836)

Auto Shredding (/news/category/Auto-Shredding)

Legislation & Regulations (/news/category/Legislation-Regulations)

The Illinois Environmental Protection Agency (EPA) has referred an enforcement action against Metal Recycling Systems Inc. (<http://www.metalrecyclingsystems.com/>), Blue Island, Ill., to the Illinois Attorney General’s office for allegedly violating the Illinois Environmental Protection Act and Illinois Pollution Control Board regulations. The Illinois EPA is seeking what it calls “immediate injunctive relief” and is asking the Attorney General’s office to order the shredding plant to cease operations.

Metal Recycling Systems, which operates an auto shredder and nonferrous metals separation system in Blue Island, near Chicago, has been the subject of a violation notice issued by the Illinois EPA on April 2, 2014. Since then, the agency says it has received additional complaints that resulted in an inspection of the

property and the referral seeking the injunctive relief. Start your FREE one-year subscription to RECYCLING TODAY to secure our next issue. 005523

While visiting the facility the Illinois EPA says it observed objects that had allegedly been ejected from the company's shredder onto adjacent property beyond the facility's boundaries. The agency also observed damage to a nearby structure allegedly caused by an object ejected from the shredder. The Illinois EPA believes conditions at the facility have changed since a violation notice was issued in early April and that there currently "is an imminent threat to public health and welfare."

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In the referral, the EPA cited violations of public nuisance common law related to the ejection of objects from the shredder, allowing emissions of particulate matter to extend beyond the facility boundaries and other recordkeeping and reporting violations.

The Illinois EPA has asked the Illinois Attorney General to require Metal Recycling Systems to immediately cease all operations at the Blue Island facility until what it calls "proper measures" can be taken to protect public health and safety. The measures include development, implementation and submittal of a compliance plan to address projectiles and particulate matter emissions from the facility as well as correcting the alleged recordkeeping and reporting requirements.

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Fire hits Chicago scrap yard

Fire breaks out in shredder feedstock at General Iron in Chicago.

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December 8, 2015

Recycling Today Staff (/author/2836)

Auto Shredding (/news/category/Auto-Shredding)	Ferrous (/news/category/Ferrous)
Nonferrous (/news/category/Nonferrous)	Safety (/news/category/safety)

Chicago fire crews responded to a blaze at the General Iron scrap yard on the north side of Chicago Sunday, Dec. 6, 2015.

An online report (<http://wgntv.com/2015/12/06/scrap-yard-fire-on-chicagos-near-nw-side/>) from Chicago’s WGN TV described the fire as having emanated from “a seven-story pile of cars.”

Chicago fire crews were alerted to the fire around 9:30 the morning of Dec. 6, according to the report, and responded as if they fire may contain hazardous materials.

A fire fighter quoted by WGN said the scrap stockpile consisted of “unprocessed scrap” that included “cars, refrigerators [and] anything you could think of that someone would take to a scrap yard.”

The fire was extinguished in two hours, according to the report, though crews remained on the scene to monitor the air quality at and near the General Iron location.

R 005529

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Exhibit 19



State of Ohio Environmental Protection Agency

STREET ADDRESS:

Lazarus Government Center
50 W. Town St., Suite 700
Columbus, Ohio 43215

TELE: (614) 644-3020 FAX: (614) 644-3184
www.epa.state.oh.us

MAILING ADDRESS:

P.O. Box 1049
Columbus, OH 43216-1049

7/31/2008

JAMES SHOLLENBERGER
OMNISOURCE CORP
2453 HILL AVE
TOLEDO, OH 43607

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
Facility ID: 0448011189
Permit Number: P0103630
Permit Type: Initial installation
County: Lucas

Certified Mail

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR
No	CEMS
No	MACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install and Operate for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit comments on the permit. A public notice will appear in the Ohio EPA Weekly Review and the local newspaper, Toledo Blade. A copy of the public notice and the draft permit are enclosed. This permit has been posted to the Division of Air Pollution Control Web page <http://www.epa.state.oh.us/dapc> in Microsoft Word and Adobe Acrobat format. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall
Permit Review/Development Section
Ohio EPA, DAPC
122 South Front Street
Columbus, Ohio 43215

and Toledo Department of Environmental Services
348 South Erie Street
Toledo, OH 43604

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install and operate will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install and Operate is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Toledo Department of Environmental Services at (419)936-3015.

Sincerely,

Michael W. Ahern, Manager
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA Region 5 *Via E-Mail Notification*
TDES; Michigan; Indiana; Canada

Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

Lucas County

PUBLIC NOTICE
Issuance of Draft Air Pollution Permit-To-Install and Operate
OMNISOURCE CORP

Issue Date: 7/31/2008

Permit Number: P0103630

Permit Type: Initial installation

Permit Description: F003 - magnetic separation and conveying of nonferrous material to open storage piles, conveying of ferrous material to open storage piles and ferrous material handling F004 - 12 torching stations, used to disassemble miscellaneous metal parts before they are fed to the shredder F005 - metal shredder, comprised of an enclosed hammermill driven by an electric motor and the associated material separation equipment (z-box with cyclone) K001 - misc metal parts spray booth <10 gpd

Facility ID: 0448011189

Facility Location: OMNISOURCE CORP
5000 N. DETROIT AVE,
TOLEDO, OH 43612

Facility Description: Recyclable Material Merchant Wholesalers

Chris Korleski, Director of the Ohio Environmental Protection Agency, 50 West Town Street, Columbus Ohio has issued a draft action of an air pollution control, federally enforceable permit-to-install and operate (PTIO) for the facility at the location identified above on the date indicated. Comments concerning this draft action, or a request for a public meeting, must be sent in writing no later than thirty (30) days from the date this notice is published. All comments, questions, requests for permit applications or other pertinent documentation, and correspondence concerning this action must be directed to Mary Lehman-Schmidt at Toledo Department of Environmental Services, 348 South Erie Street or (419)936-3015. The permit can be downloaded from the Web page: www.epa.state.oh.us/dapc

Permit Strategy Write-Up

1. Check all that apply:

☒ Synthetic Minor Determination

☐ Netting Determination

2. Source Description:

OmniSource Corporation operates a metal recycling center at 5130 North Detroit Ave. in Toledo, Ohio. A permit to install application was submitted on December 10, 2007 for a new shredder with modifications to the existing permits. The plant is comprised of various material handling operations, a hammermill, storage piles, paved and unpaved roadways, torching operations, surface coating operations.

3. Facility Emissions and Attainment Status:

Omni Source currently operates as a synthetic minor source for all pollutants with restrictions on monthly fuel usage maintaining minor source emission status for CO for two natural gas fired engines used to power an existing shredder. After replacement of the existing shredder by a electric powered shredder, the CO will no longer be a concern, however the new unrestricted facility-wide emissions of VOC would exceed 100 tons per year. With a restriction of 720,000 tons of scrap processed per year, total facility emissions will be minor for all criteria pollutants. Lucas County has the following attainment status:

Pollutants	Air Quality Description
Particulate Matter	Unclassified
PM10	Attainment
Sulfur Dioxide	Attainment
Organic Compounds	Attainment
Nitrogen Oxides	Attainment
Carbon Monoxide	Attainment
Lead	Unclassified

4. Source Emissions:

This permit is one of three permits related to this project and is for the installation of emissions units F003 - material handling (magnetic separation and conveying of nonferrous material to open storage piles, conveying of ferrous material to open storage piles and ferrous material handling), F004 - torching stations, F005 - metal shredder and K001 - miscellaneous metal spray booth. Total federally enforceable potential to emit from these emissions units will be 30.46 tons of particulate emissions (PE) per year, 14.25 tons of particulate matter emissions less than or equal to 10 microns in diameter (PM10) and 92.58 tons of volatile organic compounds (VOC).

Project Emission Summary

tpy	Allowable Emissions		
	PE	PM10	VOC
F001	1.96	0.54	0.00
F002	3.91	1.30	0.00
F003	24.60	8.95	0.00
F004	4.99	4.99	0.00
F005	0.86	0.30	88.92
K001	0.01	0.01	3.66
Permit total	36.33	16.09	92.58

Fugitive emissions from this facility are not included in the calculations for major source applicability.

PSD/Title V Emissions (stack emissions only)

Tpy	Allowable Emissions		
	PE	PM10	VOC
F003 (Z-box)	4.93	1.73	0.00
F005 (shredder)	0.86	0.30	88.92
K001	0.01	0.01	3.66
Total	5.80	2.04	92.58

5. Conclusion:

OmniSource is not an existing major source for PSD or Title V purposes. With a throughput restriction, and enforceable control requirements, this project increases allowable emissions of PE by 30.92 tons per year, PM10 by 16.09 tons per year and VOC by 92.58 tons per year. These increases do not trigger the requirements for PSD review or Title V applicability.

6. Please provide additional notes or comments as necessary:

Description

OmniSource Corporation operates a metal recycling center at 5130 North Detroit Ave. in Toledo, Ohio. This facility was permitted under PTI 04-957 issued May 3, 1995 with sources identified as F001 roadways and parking lots, F002 storage piles and P002 & P003 natural gas fired engines #1 and #2. A permit to install application was submitted on December 10, 2007 for a new shredder with potential modifications to the existing permits.

Omni Source currently operates as a synthetic minor for CO with restrictions on monthly fuel usage for two natural gas fired engines used to power an existing shredder. The plant is comprised of various material handling operations, a hammermill, storage piles, paved and unpaved roadways, torching operations, surface coating operations. Controls are watering, chemical suppression and enclosure. Omni Source is updating the

salvage yard to operate as a more efficient facility. The existing hammermill along with the material handling equipment will be replaced. The two internal combustion engines are being removed from the facility as the new shredder is to be electric motor powered. Both internal combustion engines will be decommissioned and removed from the yard. The facility will no longer be subject to synthetic minor federally enforceable limits for CO. Because the modifications to this facility include altering traffic patterns and constructing new roadways, this permit may involve a modification to the emission units of PTI 04-0957 and 04-1061 (which itself was a modification to PTI 04-0957). The synthetic minor limitation on the engines used to power the shredder is considered to be adequate to have limited all particulate emissions to less than 250 tpy and therefore this facility will not be considered to be an existing major source for PSD purposes.

Engineering guide 25 lists the following recommended break down for the sources located at a metal salvage operation:

FXXX - All roadways and parking lots (F001).

FXXX - All torching stations (F004).

FXXX - One permit per shredder (F005).

FXXX - Magnetic separation and conveying of nonferrous material onto open storage piles, conveying of ferrous material onto open storage piles and ferrous material handling and loadout (F003)

FXXX - All ferrous scrap stockpiles and nonferrous material stockpiles (if stored on-site) (F002)

Because metal recycling is not a listed source of pollutants in one of the 28 PSD source categories, fugitive emissions will not be counted towards Title V applicability.

BAT analysis

Existing emissions units/allowable emissions

PTI 04-0957 addressed the following:

P002	1750 hp engine	to be withdrawn
P003	1750 hp engine	to be withdrawn
F001	roadways	0.014 lb PM/hr (paved)
	and parking lots	no VE except 1 minute/hr (paved)
		1.21 lb PM/hr (unpaved)
		no VE except 3 minute/hr (unpaved)
		5.34 tpy PM
F002	storage piles	0.0171lb PM/hr
		no VE except 1 minute/hr
		0.07 tpy PM

PTI 04-1061 addressed P002 and P003 only and will be withdrawn

Proposed emissions units/allowable emissions

F003 - MATERIAL HANDLING - Magnetic separation and conveying of nonferrous material to open storage piles, conveying of ferrous material to open storage piles and ferrous material handling. Note that the load in and load out of the storage piles has been assigned to the storage pile permit in accordance with the RACM document guidance.

The company identifies the poker picker, magnet, vibrator, combining chute, Zbox and manual sorting as being "enclosed" with a 100% effective control. However with the exception of the Zbox which is equipped with a cyclone, they identify no control equipment other than the building proper, and a causal examination of the

processes suggests little potential for the operation of an "air tight" enclosure. Probable control for these processes would be in the 50 to 90% range for the material which becomes airborne, dependent on the degree of enclosure and the applicable permit BAT requirement (typically, 90% control might require a permit restriction of 0% opacity for building egresses). Since the actual airborne emission are inherently low due to the very high moisture levels of the materials being handled the tpy difference is expected to be insignificant, however without additional information, we would be hesitant to allow greater than 50% control for the proposed enclosure.

OmniSource submitted emission calculations based on emission factors taken from AP-42, Chapter 11.19.2. Table 11.19.2-2 EMISSION FACTORS FOR CRUSHED STONE PROCESSING OPERATIONS dated 8/04 for conveyor belt transfer points: 0.0030#PE/t uncontrolled and 0.00014#PE/t controlled by wet suppression, 0.0011#PM10/t uncontrolled and 0.000046#/t controlled by wet suppression. These emissions factors are assumed to overestimate the actual emissions of freshly shredded materials. OmniSource estimated these material handling PTE emissions at 44.19 tpy PE and 12.50 tpy PM10.

Adjusting our calculations to normalize for 720,000 tons maximum of throughput we find:

Potential to emit, PM&PM10

transfer point, wet; 1 emission point

$224 \text{ tons/hr} (720,000 \text{ tons/yr} \div 224 \text{ tons/hr})(0.00014 \text{ lb/ton})(1 \text{ ton}/2000 \text{ lb})(1) = 0.05 \text{ tpy PM}$

$224 \text{ tons/hr} (720,000 \text{ tons/yr} \div 224 \text{ tons/hr})(0.000046 \text{ lb/ton})(1 \text{ ton}/2000 \text{ lb})(1) = 0.02 \text{ tpy PM10}$

transfer point, dry; 3 emission points

$0.56 \text{ ton/hr} (720,000 \text{ tons/yr} \div 224 \text{ tons/hr})(0.0030 \text{ lb/ton})(1 \text{ ton}/2000 \text{ lb})(3) = 0.01 \text{ tpy PM}$

$0.56 \text{ ton/hr} (720,000 \text{ tons/yr} \div 224 \text{ tons/hr})(0.0011 \text{ lb/ton})(1 \text{ ton}/2000 \text{ lb})(3) = 0.01 \text{ tpy PM10}$

transfer point, dry, 5 emission points

$1.12 \text{ ton/hr} (720,000 \text{ tons/yr} \div 224 \text{ tons/hr})(0.0030 \text{ lb/ton})(1 \text{ ton}/2000 \text{ lb})(5) = 0.03 \text{ tpy PM}$

$1.12 \text{ ton/hr} (720,000 \text{ tons/yr} \div 224 \text{ tons/hr})(0.0011 \text{ lb/ton})(1 \text{ ton}/2000 \text{ lb})(5) = 0.01 \text{ tpy PM10}$

transfer point, dry; 2 emission points

$1.68 \text{ ton/hr} (720,000 \text{ tons/yr} \div 224 \text{ tons/hr})(0.0030 \text{ lb/ton})(1 \text{ ton}/2000 \text{ lb})(2) = 0.02 \text{ tpy PM}$

$1.68 \text{ ton/hr} (720,000 \text{ tons/yr} \div 224 \text{ tons/hr})(0.0011 \text{ lb/ton})(1 \text{ ton}/2000 \text{ lb})(2) = 0.01 \text{ tpy PM10}$

transfer point, dry; 8 emission points

$2.24 \text{ ton/hr} (720,000 \text{ tons/yr} \div 224 \text{ tons/hr})(0.003 \text{ lb/ton})(1 \text{ ton}/2000 \text{ lb})(8) = 0.09 \text{ tpy PM}$

$2.24 \text{ ton/hr} (720,000 \text{ tons/yr} \div 224 \text{ tons/hr})(0.0011 \text{ lb/ton})(1 \text{ ton}/2000 \text{ lb})(8) = 0.03 \text{ tpy PM10}$

transfer point, dry; 2 emission points

$2.52 \text{ ton/hr} (720,000 \text{ tons/yr} \div 224 \text{ tons/hr})(0.0030 \text{ lb/ton})(1 \text{ ton}/2000 \text{ lb})(2) = 0.02 \text{ tpy PM}$

$2.52 \text{ ton/hr} (720,000 \text{ tons/yr} \div 224 \text{ tons/hr})(0.0011 \text{ lb/ton})(1 \text{ ton}/2000 \text{ lb})(2) = 0.01 \text{ tpy PM10}$

transfer point, dry; 4 emission points

$2.8 \text{ ton/hr} (720,000 \text{ tons/yr} \div 224 \text{ tons/hr})(0.0030 \text{ lb/ton})(1 \text{ ton}/2000 \text{ lb})(4) = 0.05 \text{ tpy PM}$

$2.8 \text{ ton/hr} (720,000 \text{ tons/yr} \div 224 \text{ tons/hr})(0.0011 \text{ lb/ton})(1 \text{ ton}/2000 \text{ lb})(4) = 0.02 \text{ tpy PM10}$

transfer point, dry; 10 emission points

$17.92 \text{ ton/hr} (720,000 \text{ tons/yr} \div 224 \text{ tons/hr})(0.0030 \text{ lb/ton})(1 \text{ ton}/2000 \text{ lb})(10) = 0.86 \text{ tpy PM}$

$17.92 \text{ ton/hr} (720,000 \text{ tons/yr} \div 224 \text{ tons/hr})(0.0011 \text{ lb/ton})(1 \text{ ton}/2000 \text{ lb})(10) = 0.32 \text{ tpy PM10}$

transfer point, dry; 5 emission points

$22.4 \text{ ton/hr} (720,000 \text{ tons/yr} \div 224 \text{ tons/hr})(0.0030 \text{ lb/ton})(1 \text{ ton}/2000 \text{ lb})(5) = 0.54 \text{ tpy PM}$

$22.4 \text{ ton/hr} (720,000 \text{ tons/yr} \div 224 \text{ tons/hr})(0.0011 \text{ lb/ton})(1 \text{ ton}/2000 \text{ lb})(5) = 0.20 \text{ tpy PM10}$

transfer point, dry; 4 emission points

$$39.76 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(4) = 0.77 tpy PM}$$

$$39.76 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(4) = 0.28 tpy PM}_{10}$$

transfer point, dry; 1 emission point

$$42.56 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(1) = 0.21 tpy PM}$$

$$42.56 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(1) = 0.08 tpy PM}_{10}$$

transfer point, dry; 5 emission points

$$44.8 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(5) = 1.08 tpy PM}$$

$$44.8 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(5) = 0.40 tpy PM}_{10}$$

transfer point, dry; 2 emission points

$$47.88 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0030 lb/ton)(1 ton/2000 lbs)(2) = 0.46 tpy PM}$$

$$47.88 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(2) = 0.17 tpy PM}_{10}$$

transfer point, dry; 6 emission points

$$49 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(6) = 1.42 tpy PM}$$

$$49 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(6) = 0.52 tpy PM}_{10}$$

transfer point, dry; 5 emission points

$$51.24 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(5) = 1.24 tpy PM}$$

$$51.24 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(5) = 0.45 tpy PM}_{10}$$

transfer point, dry; 3 emission points

$$53.48 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(3) = 0.77 tpy PM}$$

$$53.48 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(3) = 0.28 tpy PM}_{10}$$

transfer point, dry; 3 emission points

$$168 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0030 lb/ton)(1 ton/2000 lbs)(3) = 2.43 tpy PM}$$

$$168 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(3) = 0.89 tpy PM}_{10}$$

transfer point, dry; 1 emission point

$$173.6 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0030 lb/ton)(1 ton/2000 lbs)(1) = 0.84 tpy PM}$$

$$173.6 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(1) = 0.31 tpy PM}_{10}$$

transfer point, dry; 1 emission point

$$201.6 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(1) = 0.97 tpy PM}$$

$$201.6 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(1) = 0.36 tpy PM}_{10}$$

transfer point, dry; 2 emission point

$$224 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0030 lb/ton)(1 ton/2000 lbs)(2) = 2.16 tpy PM}$$

$$224 \text{ ton/hr (720,000 tons/yr} \div 224 \text{ tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(2) = 0.79 tpy PM}_{10}$$

Total allowable emissions from conveying operations are estimated at 14.02 tpy PE and 5.16 tpy PM₁₀.

With no additional information from the company, emissions from the poker picker, magnet, vibrator, combining chute and manual sorting will be typified as the equivalent of 10 transfer points:

$$720,000 \text{ tons/yr (0.0030 lb/ton)(1 ton/2000 lbs)(10) = 10.80 tpy PM}$$

$$720,000 \text{ tons/yr (0.0011 lb/ton)(1 ton/2000 lb)(10) = 3.96 tpy PM}_{10}$$

Stack emissions from the Z box separator and cyclone (Z-box bleed-off) have been identified as 0.0137 lb/ton for PE and PM10 based on the Institute of Scrap Recycling Industries, Inc. "Title V Applicability Workbook" Appendix D, Table D-11.E dated 1996. Our expectation is that PM10 emissions represent approximately 35% of the PE.

Stack emissions from the Z box separator and cyclone are estimated at:

221.76 tpy (0.0137 lb/ton) = 3.04 lb PE/hr
 720,000 tpy (0.0137 lb/ton)(1 t/2000 lb) = 4.93 tpy PE
 3.04 lb PE/hr (35%) = 1.06 lb/hr PM10
 4.93 tpy PE (35%) = 1.73 tpy PM10

Uncontrolled fugitive emissions are estimated at 10% of the stack allowables:

4.93 tpy PE (10%) = 0.49 tpy PE
 1.73 tpy PM10 (10%) = 0.17 tpy PM10

Uncontrolled fugitive emissions from the poker picker, magnet, vibrator, combining chute, Z box separator and manual sorting are estimated as;

10.80 tpy PE + 0.49 tpy PE = 11.29 tpy PE
 3.96 tpy PM10 + 0.17 tpy PM10 = 4.13 tpy PM10

Emissions controlled with enforceable permit terms by the building enclosure are estimated to be 50% of these values or 5.65 tpy PE and 2.06 tpy PM10. As a worst case BAT for fugitive emissions, operating at 224 tons per hour:

$(14.02 \text{ tpy} + 5.65 \text{ tpy PE})((224 \text{ tons/hr}) \div (720,000 \text{ tons/yr}))(2000 \text{ lb/ton}) = 12.24 \text{ lb PE/hr}$
 $(5.16 \text{ tpy} + 2.06 \text{ tpy PM10})((224 \text{ tons/hr}) \div (720,000 \text{ tons/yr}))(2000 \text{ lb/ton}) = 4.49 \text{ lb PM10/hr}$

Material Handling Emissions

tpy	OmniSource		Uncontrolled Emissions		Allowable Emissions	
	PE	PM10	PE	PM10	PE	PM10
conveying	44.19	12.50	14.02	5.16	14.02	5.16
building emissions	-	-	11.29	4.13	5.65	2.06
stack emissions	13.31	11.88	49.30 ¹	17.30 ¹	4.93	1.73
F003 total	57.50	24.38	74.61	26.59	24.60	8.95

¹ Allowing for an 90% effective control by utilization of a cyclone

Because this emissions unit existed without a permit prior to 2006, SB265 does not apply.

Applicable requirements are:

OAC rule 3745-17-07 (A)(1) stack - 20% opacity except for a period of time not to exceed 6 minutes during any 60-minute period

OAC rule 3745-17-07 (B)(1) fugitive - 20% opacity except for a period of time not to exceed 3 minutes during any 60-minute period

OAC rule 3745-17-08 (B), (B)(3) reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust the installation and use of hoods, fans, and other equipment to adequately enclose, contain, capture, vent and control the fugitive dust

OAC rule 3745-31-05(A)(3) fugitive - 10% opacity except for a period of time not to exceed 3 minutes during any 60-minute period (BAT from cement general permit)
stack - 3.04 lb/hr PE, 1.06 lb PM10/hr, 10% opacity except for a period of time not to exceed fugitive 3 minutes during any 60-minute period (BAT from cement general permit)

OAC rule 3745-31-05(D) 24.60 ton PE/yr, 8.95 ton PM10/yr

Note: While no VOC emissions have been identified as being associated with the Z-box stack, it is reasonable to assume that some minor amount of VOC would be entrained with the fluff and evaporate from this source. Preventative control measures for these emissions are included in the terms and conditions of F005 and no additional consideration of VOC was included in this permit.

F004 - Torching stations

The permittee identifies 19 torching stations, used to disassemble miscellaneous metal parts before they are fed to the shredder with annual emissions of 3.15 tpy PE And PM10. At a fugitive particulate emission rate for cutting clean steel of 0.06 lb/hr from ISRI TitleV applicability Workbook, Appendix D, Table D-5 dated 1996, operating 8760 hrs/yr, emissions are estimated at:

$$19 (0.06 \text{ lb/station-hr}) = 1.14 \text{ lb PE/hr}$$

$$1.14 \text{ lb PE/hr} (8760 \text{ hr/yr}) (1 \text{ t}/2000 \text{ lb}) = 4.99 \text{ tpy PE}$$

OmniSource identified 7 of the torching operations as occurring indoors, and apparently claimed 100% effective capture and control of the fugitive emissions. The nature of the particulate suggests that all PE may be considered to be PM10. Since the emissions are <10 tpy, the operation will be exempted from BAT requirements by S.B. 265. RACT will be required, 20% as a 3-minute average. Since this emissions unit is not restricted by enforceable controls, PTE for federal purposes is 4.99 tpy as PE and PM10. It is not necessary to apply OAC rule 3745-31-05(D) limitations.

Note: the emissions factor utilized in this calculation assumes that the material being cut is steel. The torching of materials other than clean metals which result in opacities in excess of the allowable limitation will be considered to result in emissions at higher rate than 0.06 lb/station-hr. Restrictions will be added to the permit to clarify this matter. The immediate extinguishment of any open flames is a key requirement for this process.

Applicable requirements are:

OAC rule 3745-17-07 (B)(1) 20% opacity except for a period of time not to exceed 3 minutes during any 60-minute period

OAC rule 3745-17-08 (B), (B)(3) reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust

Because this emissions unit existed without a permit prior to 2006, SB265 does not apply. PTE voluntary emission limitations will be set as 4.99 tpy PE and PM10 under OAC rule 3745-31-05(D).

F005 - Metal shredder.

The metal shredder is comprised of an enclosed hammermill driven by an electric motor. Other than the material inlet and outlets, this equipment is intended to operate fully enclosed. The hammermill is equipped with water sprays directed onto the material at the inlet of the shredder, cutterhead and output chute. This means of inherent control when followed with a cyclone and venturi scrubber is deemed to result in stack emissions no greater than 0.0109 lb PE/ton based on the Institute of Scrap Recycling Industries, Inc. "Title V Applicability Workbook" Appendix D, Table D-10.D.1. dated 1996 which notes that all batteries, gas tanks, and tires were removed and all fluids drained from processed vehicles. The company indicated that prior to processing of the metal materials, all combustible fluids, mercury switches and CFC's are to be removed. OmniSource states in a June 16, 2008 communication proposing testing of a similar source to establish VOC and HAP emissions factors: "Most shredders operate without air pollution control equipment..." and has not identified any control beyond the injection of water for the process in their Toledo application. In the same communication while describing the Jackson, Michigan OmniSource facility to be tested, they state: "Emissions from the shredder are captured and routed to a cyclone followed by a venturi scrubber..." at that source. On February 27, 2008 OmniSource presented stack testing results for PE from an OmniSource facility located in Indianapolis, Indiana (Capitol City Metals, LLC) which was replacing the existing cyclone and venturi scrubber with a Smart water injection system of the same (Toledo) configuration. This emissions unit tested at 0.16 lb PE/hr with a production rate of 67.5 tons per hour (0.0024 lb PE/ton). Simultaneous Method 9 opacity readings indicated that this level of emissions resulted in no visible emissions during any test period. Based on this test, OmniSource represented their Toledo PTE as 0.53 pounds of PE per hour and 2.4 tons per year (using 0.0024 lb PE/ton, 224 tons per hour and 8760 hours per year).

Since control by cyclone and scrubber is not unknown in this industry (considering OmniSource's references and the Toledo Shredding installation), we would anticipate a source with these controls could be established as a baseline BAT (e.g., a minimum emissions factor of 0.0109 lb PE/ton). OmniSource has volunteered a more restrictive BAT of 0.0024 lb PE/ton, and unless contrary comment is received, we are willing to accept this BAT level as comprising innovative technology (although it appears that water is also injected into the shredder in the scrubber controlled sources). Because OmniSource has indicated that no stack will be provided for an initial performance demonstration of PE emissions, we will drop PE testing requirements in lieu of the company provided test result calibrations (i.e., 0% opacity by method 9).

OmniSource requested an annual throughput restriction to 720,000 tons per year to avoid the applicability of Title V to this emissions unit (720,000 tpy ÷ 12 mo/yr = 60,000 t/mo).

$$224 \text{ t/hr (0.0024 lb PE/ton)} = 0.54 \text{ lb PE/hr}$$

$$720,000 \text{ tpy (0.0024 lb PE/ton)}(1 \text{ t/2000 lb)} = 0.86 \text{ tpy PE}$$

Our expectation is that PM10 emissions will represent approximately 35% of the PE.

$$0.54 \text{ lb PE/hr (35\%)} = 0.19 \text{ lb PM10/hr}$$

$$0.86 \text{ tpy PE (35\%)} = 0.30 \text{ ton PM10/yr}$$

In their initial application, OmniSource identified emissions from this source as 2.44 lb PE/hr, 10.69 ton PE/yr, 2.18 lb PM10/hr and 9.55 ton PM10/yr.

Also based on stack testing performed at Toledo Shredding, OmniSource requested an emissions limitation for VOC of 0.247 lb/ton. OmniSource requested an annual throughput restriction to 720,000 tons per year to avoid the applicability of Title V to this emissions unit. Should OmniSource develop site specific emissions factors for this emissions unit, a permit modification could be utilized to modify or remove the throughput limitations.

224 ton/hr (0.247 lb/ton) = 55.33 lb VOC/hr
 55.33 lb VOC/hr (8760 hr/yr)(1 t/2000 lb) = 242 tpy VOC
 720,000 ton/yr (0.247 lb/ton)(1 t/2000 lb) = 88.92 tpy VOC

Note: OmniSource proposed as BAT for VOC control, a program of operational practices designed to limit the amount of VOC entering the airstream with the scrap including the removal (draining) of all VOC containing fluids and "once through" water usage in the shredder. We will accept operational restrictions in lieu of control equipment as BAT for VOC. Also, while these emissions might be described as fugitive, it is apparent that shredder emissions could be passed through a stack. As such, even if the specific equipment to be installed at this site does not have a provision for a stack, it may be considered circumvention of PSD review to not consider these "fugitives" in our major source determination.

A recent similar permit installation for Interstate Shredding, LLC, Facility ID: 0278020750, PTI 02-22999 issued 6/10/2008 for Emissions Unit ID: F001 added as BAT:

Prior to shredding automobiles, appliances, scrap metal, etc., the following items shall be removed:

- a. gasoline tanks;
- b. batteries;
- c. all combustible fluids;
- d. all refrigerants from air conditioning systems; and
- e. any switches or components containing mercury.

tpy	OmniSource		Uncontrolled Emissions		Allowable Emissions	
	PE	PM10	PE	PM10	PE	PM10
total	2.4	2.4	39.06 ¹	13.63 ¹	0.86 ²	0.30 ²

¹ assuming 720,000 tpy throughput but based on 90% effective control with a venturi scrubber [i.e., $(0.86)(0.0109/0.0024)/(1-0.90) = 39.06$].

² This level of emissions allows the applicability of SB-265 for PE and PM10 with voluntary restrictions resulting in tpy limitation (not a rolling, 12-month limitation because Title V was not avoided).

Applicable rules

OAC rule 3745-31-05(A)(3) 55.33 lb VOC per hour

OAC rule 3745-31-05(D) PE 0.86 ton per year
 PM 10 0.30 ton per year
 88.92 ton VOC per rolling 12 month period
 visible emissions shall not exceed 0% opacity as a 3-minute average

OAC rule 3745-17-07(B)(1) visible fugitive emissions shall not exceed 20% opacity for a 3-minute average

OAC rule 3745-17-08(B) reasonably available control measures that are sufficient to minimize or eliminate visible emissions

OAC rule 3745-17-08(B)(3)(a) The collection efficiency is sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design; and

OAC rule 3745-17-08(B)(3)(b) the control equipment achieves an outlet emission rate of not greater than 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases or there are no visible particulate emissions from the exhaust stack(s), whichever is less stringent

K001 Miscellaneous parts coating

Also among the operations is a maintenance spray paint booth used for maintenance painting of 80 cubic yard metal roll-offs. OmniSource identifies an average of 200 units painted per year with 6 gallons of paint used per roll-off (1200 gallons per year). They identify emissions as 4.88 lb/VOC/gallon, 48.80 lb VOC/day (10 gallon per day stated maximum), 2.92 tons of VOC per year, 30 pounds of HAP per day, and 1.82 tons of HAP per year. OmniSource identifies the enclosure as a DeVilbiss cross flow spray booth with paper filter and the operation as airless spray painting, air dried. Ohio EPA has initiated a General Permit program for paint spray booths with less than 10 gallons of usage per day. This permit restricts the user to 74 pounds of VOC per day, 14 tons of VOC per year, 0.551 lb PE/hr and 2.41 ton of PE/yr.

Since OmniSource has identified annual VOC emissions as a concern, we will restrict annual usage using the General Permit as the basis of our BAT:

1,500 gallons/yr (4.88 lb VOC/gallon of paint)(1 ton/2000 lb) = 3.66 tpy VOC

10 gallons/day (7.6 lb/gal)(0.30 lb solid/lb paint) (1-TE) (1-CE)

10 gallons/day (7.6 lb/gal)(0.30 lb/lb) (1-0.80) (1-0.99)(1 ton/2000 lb) = 0.05 lb/day PE

1,500 gallons/yr (7.6 lb/gal)(0.30 lb solid/lb paint) (1-TE) (1-CE)

1,500 gallons/yr (7.6 lb/gal)(0.30 lb/lb) (1-0.80) (1-0.99)(1 ton/2000 lb) = 0.01 tpy PE

where

E = PE rate (lbs/hr);

TE = fractional transfer efficiency, which is the ratio of the amount of coating solids deposited on the coated part to the amount of coating solids used (0.80% -Table 4.2.2.4-2. ESTIMATED CONTROL EFFICIENCIES FOR METAL COATING LINES

CE = fractional control efficiency of the control equipment (0.99)
Table 4.2.2.1-2 (Metric And English Units). TYPICAL DENSITIES AND SOLIDS CONTENTS OF COATINGS lists air dry enamel characteristics as 7.6 lb/gallon and 39.6% solids by volume (30% by weight per application)

PM10 will be equated to PE for this emissions unit.

Because this emissions unit existed without a permit prior to 2006, SB265 does not apply.

Applicable rules

OAC rule 3745-31-05(A)(3) 0.01 tpy PE

0.01 tpy PM10

3.66 tpy VOC

OAC rule 3745-17-07(A)(1) visible emissions shall not exceed 20% opacity for a 6-minute average

OAC rule 3745-17-11(B)(1) 0.551 pound PE per hour

OmniSource lists HAPs as a concern at <1.66 tpy individual and < 1.82 tpy combined, however failed to provide adequate information to perform state mandated modeling in compliance with the State's air modeling policy. Terms and conditions will be added to the permit to address compliance with the Air Toxics requirements.

Summary (for informational purposes only):
Total Permit Allowable Emissions

<u>Pollutant</u>	<u>Tons Per Year</u>
<u>PE</u>	30.46
<u>PM10</u>	14.25
<u>VOC</u>	92.58



**State of Ohio Environmental Protection Agency
Division of Air Pollution Control**

DRAFT

**Air Pollution Permit-to-Install and Operate
for
OMNISOURCE CORP**

Facility ID: 0448011189
Permit Number: P0103630
Permit Type: Initial installation
Issued: 7/31/2008
Effective: To be entered upon final issuance
Expiration: To be entered upon final issuance



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Air Pollution Permit-to-Install and Operate
for
OMNISOURCE CORP

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State of Ohio Environmental Protection Agency
Division of Air Pollution Control

R 005554
Draft Permit-to-Install and Operate
Permit Number: P0103630
Facility ID: 0448011189
Effective Date: To be entered upon final issuance

Authorization

Facility ID: 0448011189
Application Number(s): A0005480, A0035533
Permit Number: P0103630
Permit Description: F003 - magnetic separation and conveying of nonferrous material to open storage piles, conveying of ferrous material to open storage piles and ferrous material handling F004 - 12 torching stations, used to disassemble miscellaneous metal parts before they are fed to the shredder F005 - metal shredder, comprised of an enclosed hammermill driven by an electric motor and the associated material separation equipment (z-box with cyclone) K001 - misc metal parts spray booth <10 gpd
Permit Type: Initial installation
Permit Fee: \$0.00 *DO NOT send payment at this time - subject to change before final issuance*
Issue Date: 7/31/2008
Effective Date: To be entered upon final issuance
Expiration Date: To be entered upon final issuance
Permit Evaluation Report (PER) Annual Date: To be entered upon final issuance

This document constitutes issuance to:

OMNISOURCE CORP
5000 N. DETROIT AVE
TOLEDO, OH 43612

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Toledo Department of Environmental Services
348 South Erie Street
Toledo, OH 43604
(419)936-3015

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and Federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski
Director



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

R 005555
Draft Permit-to-Install and Operate
Permit Number: P0103630
Facility ID: 0448011189
Effective Date: To be entered upon final issuance

Authorization (continued)

Permit Number: P0103630
Permit Description: F003 - magnetic separation and conveying of nonferrous material to open storage piles, conveying of ferrous material to open storage piles and ferrous material handling F004 - 12 torching stations, used to disassemble miscellaneous metal parts before they are fed to the shredder F005 - metal shredder, comprised of an enclosed hammermill driven by an electric motor and the associated material separation equipment (z-box with cyclone) K001 - misc metal parts spray booth <10 gpd

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

Emissions Unit ID:	F003
Company Equipment ID:	material handling
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F004
Company Equipment ID:	torching stations
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F005
Company Equipment ID:	scrap metal shredder
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K001
Company Equipment ID:	spray booth
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

R 005556

Draft Permit-to-Install and Operate

Permit Number: P0103630

Facility ID: 0448011189

Effective Date: To be entered upon final issuance

A. Standard Terms and Conditions



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

R 005557

Draft Permit-to-Install and Operate

Permit Number: P0103630

Facility ID: 0448011189

Effective Date: To be entered upon final issuance

1. What does this permit-to-install and operate ("PTIO") allow me to do?

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

2. Who is responsible for complying with this permit?

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

3. What records must I keep under this permit?

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

4. What are my permit fees and when do I pay them?

There are two fees associated with permitted air contaminant sources in Ohio:

- PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

5. When does my PTIO expire, and when do I need to submit my renewal application?

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

R 005558
Draft Permit-to-Install and Operate
Permit Number: P0103630
Facility ID: 0448011189
Effective Date: To be entered upon final issuance

very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

6. What happens to this permit if my project is delayed or I do not install or modify my source?

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

7. What reports must I submit under this permit?

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.



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R 005559
Draft Permit-to-Install and Operate
Permit Number: P0103630
Facility ID: 0448011189
Effective Date: To be entered upon final issuance

10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Toledo Department of Environmental Services in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

12. What happens if one or more emissions units operated under this permit is/are shut down permanently?

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emission unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

13. Can I transfer this permit to a new owner or operator?

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

R 005560

Draft Permit-to-Install and Operate

Permit Number: P0103630

Facility ID: 0448011189

Effective Date: To be entered upon final issuance

14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

15. What happens if a portion of this permit is determined to be invalid?

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

R 005561

Draft Permit-to-Install and Operate

Permit Number: P0103630

Facility ID: 0448011189

Effective Date: To be entered upon final issuance

B. Facility-Wide Terms and Conditions



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

R 005562

Draft Permit-to-Install and Operate

Permit Number: P0103630

Facility ID: 0448011189

Effective Date: To be entered upon final issuance

1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
 - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
 - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (1) None.



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

R 005563

Draft Permit-to-Install and Operate

Permit Number: P0103630

Facility ID: 0448011189

Effective Date: To be entered upon final issuance

C. Emissions Unit Terms and Conditions



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

R 005564

Draft Permit-to-Install and Operate

Permit Number: P0103630

Facility ID: 0448011189

Effective Date: To be entered upon final issuance

1. F003, material handling

Operations, Property and/or Equipment Description:

material handling - magnetic separation and conveying of nonferrous material to open storage piles, conveying of ferrous material to open storage piles and ferrous material handling.

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	visible fugitive particulate emissions from this emissions unit shall not exceed 10% opacity as a 3-minute average visible particulate emissions from the cyclone stack shall not exceed 10% opacity as a 6-minute average particulate emissions (PE) from the stack serving the cyclone shall not exceed 3.04 pounds per hour fugitive PE from this emissions unit shall not exceed 12.24 pounds per hour particulate matter emissions less than or equal to 10 microns in diameter (PM10) from the stack serving the cyclone shall not exceed 1.06 pounds per hour fugitive PM10 from this emissions unit shall not exceed 4.49 pounds per hour



State of Ohio Environmental Protection Agency
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R 005565
Draft Permit-to-Install and Operate
Permit Number: P0103630
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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		see (2)a.
b.	OAC rule 3745-31-05(D)	PE, stack and fugitive, from this emissions unit shall not exceed 24.60 tons per year PM10, stack and fugitive, from this emissions unit shall not exceed 8.95 tons per year see (2)b.
c.	OAC rule 3745-17-07(A)(1)	the emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3)
d.	OAC rule 3745-17-07(B)(1)	the emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3)
e.	OAC rule 3745-17-08(B), (B)(3)	the permittee shall utilize reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust see (2)c.

(2) Additional Terms and Conditions

- a. The permittee shall employ best available control measures on all material handling operations for the purpose of ensuring compliance with the above-mentioned applicable PE requirements. In accordance with the permittee's application, the permittee has committed to the maintenance of a moisture content of all processed material sufficient to meet the required visible emission limits above at all times and to maintain minimal drop heights to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- b. Permit to Install and Operate P0103630 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment) as proposed by the permittee:
 - i. maintenance of a moisture content of all processed material sufficient to meet the required visible emission limits at all times;
 - ii. maintain minimal drop heights to ensure compliance; and



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- iii. restrict the throughput of materials in this emissions unit to 720,000 tons per year measured as the rolling, 12-month total quantity of material shredded and made enforceable based on a maximum of 720,000 tons per year of material shredded at emissions unit F005.
 - c. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the reasonably available technology requirements of OAC rule 3745-17-08.
- c) Operational Restrictions
 - (1) None.
- d) Monitoring and/or Recordkeeping Requirements
 - (1) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack and for any visible emissions of fugitive dust from the egress points (i.e., conveyors, conveyor transfer points, separators building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the location and color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.
- e) Reporting Requirements
 - (1) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.



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f) Testing Requirements

- (1) Compliance with the emission limitations in Section b)(1) of the terms and conditions of this permit shall be determined in accordance with the following methods:

a. Emission Limitation:

visible fugitive particulate emissions from this emissions unit shall not exceed 10% opacity as a 3-minute average

Applicable Compliance Method:

Compliance shall be determined in accordance with U.S. EPA Method 9, with the following modifications:

- i. the data reduction and average opacity calculation shall be based upon sets of twelve consecutive visible emission observations recorded at 15-second intervals;
- ii. opacity observations shall be made from a position that provides the observer a clear view of the emissions unit and the fugitive dust, with the sun behind the observer;
- iii. where possible, visible opacity observations shall be conducted at a position of at least fifteen feet from the source of emissions and the line of sight should be approximately perpendicular to the flow of fugitive dust and to the longer axis of the emissions; and
- iv. the visible opacity observations shall be made for the point of highest opacity within the fugitive dust emitted from the source.

b. Emission Limitation:

visible particulate emissions from the exhaust stack serving this emissions unit shall not exceed 10% opacity as a 6-minute average

Applicable Compliance Method:

Compliance shall be determined by visible emission evaluations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and OAC rule 3745-17-03(B)(1).

c. Emission Limitation:

PE from the stack serving the cyclone shall not exceed 3.04 pounds per hour

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit based upon an emissions factor for stack emissions from a Z box separator and cyclone (0.0137 pound of PE per ton for Z-box bleed-off) identified by the Scrap Recycling Industries, Inc. "Title V Applicability Workbook" Appendix



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D, Table D-11.E dated 1996, and a maximum shredder processing rate of 224 tons per hour (equivalent to 221.76 tons per hour at the Z box).

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1-5 of 40 CFR, Part 60 Appendix A and procedures specified in OAC rule 3745-17-03(B)(10). Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

d. Emission Limitation:

fugitive PE from this emissions unit shall not exceed 12.24 pounds per hour

Applicable Compliance Method:

This emission limitation was established to reflect the worst case maximum rate of fugitive emissions from this emissions unit based on a normalization of the maximum annual allowable fugitive emission rate (14.02 tons per year from conveying operations and 5.65 tons per year from fugitive process emissions in the building), the maximum process throughput rate of the shredder (224 tons per year) and the maximum annual total process throughput rate (720,000 tons per year), as follows:

$$(14.02 \text{ tons/yr} + 5.65 \text{ tons/yr PE})(2000 \text{ lb/ton})(224 \text{ tons/hr}) \div (720,000 \text{ tons/yr})$$

e. Emission Limitation:

PM10 from the stack serving the cyclone shall not exceed 1.06 pounds per hour

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit based upon an assumption that PM10 constitutes 35% of the PE content.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M. Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

f. Emission Limitation:

fugitive PM10 from this emissions unit shall not exceed 4.49 pounds per hour

Applicable Compliance Method:

This emission limitation was established to reflect the worst case maximum rate of fugitive emissions from this emissions unit based on a normalization of the maximum annual allowable fugitive emission rate (5.16 tons per year from conveying operations and 2.06 tons per year from fugitive process emissions in the building), the maximum process throughput rate of the shredder (224 tons



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per year) and the maximum annual total process throughput rate (720,000 tons per year), as follows:

$(5.16 \text{ tons/yr} + 2.06 \text{ tons/yr PM}_{10})(2000 \text{ lb/ton})(224 \text{ tons/hr}) \div (720,000 \text{ tons/yr})$

g. Emissions Limitations:

PE, stack and fugitive, from this emissions unit shall not exceed 24.60 tons per year

PM₁₀, stack and fugitive, from this emissions unit shall not exceed 8.95 tons per year

Applicable Compliance Method:

These limitations were established by calculations adding the individual contributions of the stack and fugitive sources to reflect the full potential to emit for this emissions unit based on a maximum of 720,000 tons per year of material shredded at emissions unit F005 (712,800 tons per year at the Z box).

Stack PE and PM₁₀ limitations shall be determined by multiplying the emission factor for stack emissions from a Z box separator and cyclone (Z box bleed-off) identified by the Institute of Scrap Recycling Industries, Inc. "Title V Applicability Workbook" Appendix D, Table D-11.E dated 1996 (0.0137 pound of PE per ton for PE) utilized to generate the short term emissions factor, by the maximum annual throughput of this emissions unit (712,800 tons per year), assuming PM₁₀ to comprise 35% of the PE by weight.

Fugitive PE and PM₁₀ limitations shall be determined by calculations adding the individual contributions of the fugitive sources as follows:

- i. conveyor belt transfer points were estimated using the emission factors taken from AP-42, Chapter 11.19.2. Table 11.19.2-2 EMISSION FACTORS FOR CRUSHED STONE PROCESSING OPERATIONS dated 8/04: 0.0030 pound PE per ton uncontrolled and 0.00014 pound PE per ton controlled by wet suppression, 0.0011 pound PM₁₀ per ton uncontrolled and 0.000046 pound per ton PM₁₀ controlled by wet suppression and 720,000 tons per year of material shredded at emissions unit F005;
- ii. Z box emissions were estimated as 10% of the stack allowable emissions;
- iii. emissions from the poker picker, magnet, vibrator, combining chute and manual sorting were typified as the equivalent of 10 transfer conveyor belt points;
- iv. 50% effective control was allowed based on a building enclosure; and
- v. PM₁₀ was assumed to comprise 35% of the PE by weight.

- (2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:



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- a. The emission testing shall be conducted within 180 days of initial start-up.
 - b. The emission testing shall be conducted to demonstrate compliance with the following emissions limitations:
 - i. for visible emissions from the cyclone stack; and
 - ii. for visible emissions from all egress points (i.e., conveyors, separators, building windows, doors, roof monitors, etc.) for which monitoring as performed under d)(1) has indicated the presence of visible emissions.
 - c. The following test method(s) shall be employed to demonstrate compliance with the allowable visible emissions limitations:
 - i. for the cyclone stack, Method 9 of 40 CFR Part 60, Appendix A; and
 - ii. for all egress points (i.e., conveyors, separators, building windows, doors, roof monitors, etc.) serving this emissions unit for the conveyor transfer points, the procedures outlined in OAC rule 3745-17-03(B)(3) shall be used.
 - d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Toledo Division of Environmental Services.
 - e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Toledo Division of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Toledo Division of Environmental Services' refusal to accept the results of the emission test(s).
 - f. Personnel from the Toledo Division of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
 - g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Toledo Division of Environmental Services within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Toledo Division of Environmental Services.
- g) Miscellaneous Requirements
- (1) None.



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2. F004, torching stations

Operations, Property and/or Equipment Description:

19 torching stations, used to disassemble miscellaneous metal parts before they are fed to the shredder

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)	fugitive particulate emissions (PE) shall not exceed 4.99 tons per year fugitive particulate matter emissions less than or equal to 10 microns in diameter (PM10) shall not exceed 4.99 tons per year see (2)a.
b.	OAC rule 3745-17-07(B)(1)	visible fugitive particulate emissions from this emissions unit shall not exceed 20% opacity as a 3-minute average
c.	OAC rule 3745-17-08(B), (B)(3)	the permittee shall utilize reasonably available control measures that are sufficient to minimize or eliminate



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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		visible emissions of fugitive dust see (2)b.

(2) Additional Terms and Conditions

a. Permit to Install and Operate P0103630 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements for PM₁₀ under OAC rule 3745-31-05(A)(3)(b):

- i. The permittee shall have fire extinguishers of the appropriate type located near any cutting stations and they shall be employed promptly to extinguish any accidental fires caused by cutting operations.
- ii. The permittee shall employ accepted practices when cutting torches are being used to minimize resulting visible emissions. Such practices shall include, but not be limited to, the following items: cutting metal that is clean of any oil(s) or other combustible fluids, the minimization of flame impingement with the ground, and the use of the appropriately sized cutting torch(s).
- iii. Oxygen lances or powder metal cutting will not be used.

Implementation of these control measures will be considered adequate to restrict controlled potential particulate emissions to less than 10.0 tons per year. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

b. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the reasonably available technology requirements of OAC rule 3745-17-08.

c) Operational Restrictions

- (1) The permittee shall have fire extinguishers of the appropriate type located near any cutting station(s) and they shall be employed promptly to extinguish any accidental fires caused by cutting operations.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain daily records that document, while the emissions unit was in operation, any time periods when:
 - a. fire extinguishers of the appropriate type were not located near any cutting station(s); and/or



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- b. fire extinguishers were not employed promptly to extinguish any accidental fires caused by cutting operations when the emissions unit was in operation.
- (2) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the location and color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

e) Reporting Requirements

- (1) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

f) Testing Requirements

- (1) Compliance with the emission limitations in Section b)(1) of the terms and conditions of this permit shall be determined in accordance with the following methods:
 - a. Emission Limitation

Visible emissions of fugitive dust shall not exceed 20 percent opacity as a three-minute average.



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Applicable Compliance Method

Compliance shall be determined in accordance with U.S. EPA Method 9, with the following modifications:

- i. the data reduction and average opacity calculation shall be based upon sets of twelve consecutive visible emission observations recorded at 15-second intervals;
- ii. opacity observations shall be made from a position that provides the observer a clear view of the emissions unit and the fugitive dust, with the sun behind the observer;
- iii. where possible, visible opacity observations shall be conducted at a position of at least fifteen feet from the source of emissions and the line of sight should be approximately perpendicular to the flow of fugitive dust and to the longer axis of the emissions; and
- iv. the visible opacity observations shall be made for the point of highest opacity within the fugitive dust emitted from the source.

b. Emissions Limitations:

fugitive PE shall not exceed 4.99 tons per year

fugitive PM10 shall not exceed 4.99 tons per year

Applicable Compliance Method:

Compliance with the fugitive PE and PM10 limitations shall be determined by multiplying the fugitive emission factor for cutting clean steel from the Scrap Recycling Industries, Inc. "Title V Applicability Workbook" Appendix D, Table D-5 dated 1996 (0.06 lb/hr), by the number of torching stations (19) and by the maximum annual operating hours for this emissions unit (8,760 hours per year) divided by 2000 pounds per ton. Should updates in the established emission factor occur, the most current emission factor shall be used to determine compliance with these limitations.

g) Miscellaneous Requirements

- (1) None.



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3. F005, scrap metal shredder

Operations, Property and/or Equipment Description:

224 TPH Scrap metal shredder with electric motor

- a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

- (1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

- (2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

- b) Applicable Emissions Limitations and/or Control Requirements

- (1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	emissions of volatile organic compounds (VOC) from this emissions unit shall not exceed 55.33 pounds per hour see (2)a. and b.
b.	OAC rule 3745-31-05(D)	visible fugitive particulate emissions from this emissions unit shall not exceed 0% opacity as a 3-minute average fugitive particulate emissions (PE) shall not exceed 0.86 ton per year fugitive particulate matter emissions less than or equal to 10 microns in diameter (PM10) shall not exceed 0.30 ton per year emissions of VOC from this emissions unit shall not exceed 88.92 tons per rolling, 12-month period



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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		see (2)c.
c.	OAC rule 3745-17-07(B)(1)	the emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(D)
d.	OAC rule 3745-17-08(B), (B)(3)	the permittee shall utilize reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust see (2)d.

(2) Additional Terms and Conditions

- a. The permittee shall employ best available control measures on all shredding operations for the purpose of ensuring compliance with the above-mentioned applicable VOC requirements. In accordance with the permittee's application, the permittee has committed to a program of operational practices designed to limit the amount of VOC entering the airstream with the scrap including the removal (draining) of combustible and VOC containing fluids from uncrushed autos, communication to upstream suppliers of OmniSource's Prohibited Materials Program policies and a "once through" water usage in the shredder

Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

- b. Prior to shredding uncrushed automobiles, appliances, scrap metal, etc., the following items shall be removed (to the extent practicable):
- gasoline tanks;
 - batteries;
 - all combustible fluids;
 - all refrigerants from air conditioning systems; and
 - any mercury containing convenience switches or components.
- c. Permit to Install and Operate P0103630 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment) as proposed by the permittee:
- restrict the throughput of materials in this emissions unit to 720,000 tons per year measured as the rolling, 12-month total quantity of material;



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- ii. removal (draining) of all combustible fluids from materials being processed;
 - iii. water sprays directed at the input chute, cutterhead and output chute; and
 - iv. "once through" water usage in the shredder.
- d. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the reasonably available technology requirements of OAC rule 3745-17-08.

c) Operational Restrictions

- (1) Water shall be injected directly into the shredder at the cutterheads, at the input chute and the output chute to control dust emissions. Monitoring, recordkeeping and reporting requirements for the water injection system are not required due to the water injection system being an inherent part of the shredding process.
- (2) The moisture content of all processed material shall be maintained sufficiently high enough to meet the required visible emission limits above at all times.
- (3) The maximum annual production rate for this emissions unit shall not exceed 720,000 tons per year, based upon a rolling, 12-month summation of the production rates.

To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the production levels specified in the following table:

Month	Maximum Allowable Cumulative Production
1	160,000
1-2	320,000
1-3	480,000
1-4	640,000
1-5	720,000
1-6	720,000
1-7	720,000
1-8	720,000
1-9	720,000
1-10	720,000
1-11	720,000
1-12	720,000



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After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual production rate limitation shall be based upon a rolling, 12-month summation of the production rates.

d) **Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall maintain monthly records of any failure to remove prior to shredding automobiles, appliances, scrap metal, etc., the following items:
 - a. gasoline tanks;
 - b. batteries;
 - c. all combustible fluids;
 - d. all refrigerants from air conditioning systems; and
 - e. all mercury containing convenience switches or components.
- (2) The permittee shall maintain monthly records of the following information:
 - a. the production rate for each month; and
 - b. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the production rates.
- (3) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible emissions of fugitive dust from the egress points (i.e., feeder, shredder, discharge chute, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the location and color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the



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emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify:

- a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the Potential to Emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. all exceedances of the rolling, 12-month production rate limitation; and
 - ii. for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, all exceedances of the maximum allowable cumulative production rate levels;
- b. the probable cause of each deviation (excursion);
- c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the director (the Toledo Division of Environmental Services).

- (2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

f) Testing Requirements

- (1) Compliance with the emission limitations in Section b)(1) of the terms and conditions of this permit shall be determined in accordance with the following methods:

a. Emission Limitation:

visible fugitive particulate emissions from this emissions unit shall not exceed 0% opacity as a 3-minute average



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Applicable Compliance Method:

Compliance shall be determined in accordance with U.S. EPA Method 9, with the following modifications:

- i. the data reduction and average opacity calculation shall be based upon sets of twelve consecutive visible emission observations recorded at 15-second intervals;
- ii. opacity observations shall be made from a position that provides the observer a clear view of the emissions unit and the fugitive dust, with the sun behind the observer;
- iii. where possible, visible opacity observations shall be conducted at a position of at least fifteen feet from the source of emissions and the line of sight should be approximately perpendicular to the flow of fugitive dust and to the longer axis of the emissions; and
- iv. the visible opacity observations shall be made for the point of highest opacity within the fugitive dust emitted from the source.

b. Emission Limitation:

fugitive PE shall not exceed 0.86 ton per year

fugitive PM10 shall not exceed 0.30 ton per year

Applicable Compliance Method:

These limitations were established to reflect the full potential to emit for this emissions unit based on a maximum of 720,000 tons per year of material shredded utilizing a company supplied emissions factor (0.0024 lb PE/ton) determined during stack testing of a similar emissions unit. PM10 was established as 35% of the PE emissions.

If required, the permittee shall demonstrate compliance with the short term emission limitations (lb/ton) in accordance with Methods 1 thru 5 of 40 CFR Part 60, Appendix A and Methods 201 and 202 of 40 CFR Part 51, Appendix M. Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

If required, the capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)



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c. Emission Limitation:

emissions of VOC from this emissions unit shall not exceed 55.33 pounds per hour

This limitation was established to reflect the full potential to emit for this emissions unit utilizing a company supplied emissions factor (0.247 lb VOC/ton) determined during stack testing of a similar emissions unit.

If required, the permittee shall demonstrate compliance with this emission limitations in accordance with Methods 1 thru 4 and 25 or 25 A, as appropriate, of 40 CFR Part 60, Appendix A, and the procedures outlined in OAC rule 3745-21-10(C). Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

If required, the capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

d. Emission Limitation:

emissions of VOC from this emissions unit shall not exceed 88.92 tons per rolling, 12-month period

Applicable Compliance Method:

These limitations were established to reflect the full potential to emit for this emissions unit based on a maximum of 720,000 tons per rolling, 12-month period of material shredded utilizing a company supplied emissions factor (0.247 lb VOC/ton) determined during stack testing of a similar emissions unit.

If required, the permittee shall demonstrate compliance with the short term emission limitation (lb/ton) in accordance with Methods 1 thru 4 and 25 or 25 A, as appropriate, of 40 CFR Part 60, Appendix A, and the procedures outlined in OAC rule 3745-21-10(C). Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services. The capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

- (2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:



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- a. The emission testing shall be conducted within 90 days of achieving the maximum capacity at which this emissions unit will be operated, but not less than 180 days after initial startup.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable visible particulate emissions limitation.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

U.S. EPA Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3). Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Toledo Division of Environmental Services.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Toledo Division of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Toledo Division of Environmental Services' refusal to accept the results of the emission test(s).
- f. Personnel from the Toledo Division of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Toledo Division of Environmental Services within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Toledo Division of Environmental Services.

g) **Miscellaneous Requirements**

- (1) None.



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4. K001, spray booth

Operations, Property and/or Equipment Description:

Miscellaneous coating operations

- a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
- (1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
- a. c)(3) and d)(4)
- (2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
- a. None.
- b) Applicable Emissions Limitations and/or Control Requirements
- (1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)	particulate emissions (PE) from the stack serving this emissions unit shall not exceed 0.01 ton per year particulate matter emissions less than or equal to 10 microns in diameter (PM10) from the stack serving this emissions unit shall not exceed 0.01 ton per year the emissions of volatile organic compound (VOC) from the stack serving this emissions unit shall not exceed 3.66 tons per rolling 12-month period, including both coatings and cleanup materials see (2)a.
b.	OAC rule 3745-17-07(A)(1)	visible emissions from the stack serving this emissions unit shall not exceed 20% opacity, as a six - minute



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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		average, except as specified by rule
c.	OAC rule 3745-17-11(B)(1)	PE from the stack serving this emissions unit shall not exceed 0.551 pound per hour
d.	OAC rule 3745-21-09(U)(2)(e)(iii)	Exempt, see (2)b.

(2) Additional Terms and Conditions

- a. Permit to Install and Operate P0103630 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements for PM₁₀ under OAC rule 3745-31-05(A)(3)(b):
- i. the permittee shall not use more than 10 gallons of coating material per day;
 - ii. the permittee shall not use more than 1500 gallons of coating material per rolling, 12-month period;
 - iii. the permittee shall a maximum 4.88 pound of VOC per gallon coating material, as applied, for the coating of miscellaneous metal parts;
 - iv. the permittee shall utilize no VOC containing clean up materials or solvents in the coating operations for parts cleaning, thinning or reducing coatings, to clean paint guns, booth walls, etc.;
 - v. all coating operations will utilize an airless spray gun; and
 - vi. all coating operations will utilize a paint spray booth equipped with an exhaust gas filtration system.
- b. The permittee shall not use more than 10 gallons of coating material per day for the coating of miscellaneous metal parts.

c) Operational Restrictions

- (1) The permittee shall operate the dry filtration system for control of particulate emissions whenever this emissions unit is in operation.
- (2) The maximum annual coating usage rate for this emissions unit shall not exceed 1,500 gallons per year, based upon a rolling, 12-month summation of the coating usage rates.

To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the coating usage levels specified in the following table:



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Month	Maximum Allowable Cumulative Coating Usage (gallons)
1	300
1-2	600
1-3	900
1-4	1,200
1-5	1,500
1-6	1,500
1-7	1,500
1-8	1,500
1-9	1,500
1-10	1,500
1-11	1,500
1-12	1,500

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual coating usage rate limitation shall be based upon a rolling, 12-month summation of the coating usage rates.

- (3) Prior to the use of any coating in this coating line, the permittee shall determine that the coating meets the toxic screening criteria described below.

Purpose: The purpose of this test is to evaluate coatings to determine if the chemical compounds in the coatings would be emitted at acceptable levels for the general permit.

Data Needed: (1) MSDS sheet for each coating to be evaluated. (2) Information on the maximum coating usage rate for the line as discussed in Step 1 below.

Step 1. Using the following factors, calculate the maximum coating usage rate in terms of gallons per hour:

- a. Assume the coating line operates at its maximum speed while still making usable product.
- b. Assume the coating line is operating at its largest coating laydown rate. This would typically be accomplished by assuming the coating line is painting the largest part available.

Step 2. Review the material safety data sheet (MSDS) for the coating. Note each chemical compound listed its TLV and the percent by weight of the chemical compound in the coating.



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Step 3. Determine if any of the chemical compounds listed in the MSDS are also listed in the following table. If any of the chemical compounds are listed in the table, then calculate the maximum annual emission of that compound by multiplying the maximum coating usage rate times the percent by weight of each chemical compound. Then multiply the result by 8760 hours per year. The result will be in pounds per year.

Check to see if the calculated emission rate is less than the allowable emission rate found in the below table. If all of the compounds emitted have a maximum annual emission of less than the allowed rate, then move on to step 4. If any of the compounds are emitted at a rate higher than the allowed emission rate, then contact your appropriate District Office or local air agency contact to determine if you can use the coating.

Chemical Compound	CAS	Molecular Weight (MW)	Allowed Emission Rate (lb/year)
arsenic compounds, as As	7440-38-2	74.92	1.70
benzene	71-43-2	78.11	1100
benzidine	92-87-5	184.23	5.60
benzo(a)pyrene	50-32-8	252.30	6.90
beryllium (and Be compounds)	7440-41-7	9.01	0.350
Cadmium	7440-43-9	112.4	5.20
Chromium	7440-47-3	varies	0.690
Hexachlorobenzene (HCB)	118-74-1	289.78	35.0
mercury (and Hg compounds)	7439-97-6	200.59	0.1
nickel (Ni subsulfide)	12035-72-2	240.19	17.0
Polychlorinated dibenzo-p-dioxins	1746-01-6	varies	0.030
Polychlorinated dibenzofurans	132-64-9	varies	0.030
polychlorinated biphenyls (PCBs, aroclors)	1336-36-3	varies	87.0
vinyl chloride	75-01-4	62.50	2000

Step 4. Find all of the chemical compounds in the coating that have a listed American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV). For each chemical compound with a listed TLV (other than those in the above table), calculate the maximum short-term emission rate by multiplying the maximum coating usage rate times the percent by weight of each chemical compound. The result should be in terms of pounds of the chemical compound per hour.

Step 5. Determine if the compound will be emitted at or below the acceptable rate. This is done by searching the following table for the chemical compound's TLV and then determining the maximum allowed emission rate listed in the below table. (Note. If the TLV is listed as ppm, then convert the TLV to $\mu\text{g}/\text{m}^3$ by using the following formula: $(\text{TLV in ppm}) \times (\text{MW}) \times (1000) / 24.45 = \text{TLV in } \mu\text{g}/\text{m}^3$; where MW is the molecular weight of the compound.) This table lists the allowable emission rates for compounds with a TLV between the high range and low range. Compare the maximum calculated short-term emission rate of each chemical compound to the allowed emission rate in the table. If



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the maximum emission rate is less than the allowed emission rate, then the chemical compound is emitted at an acceptable rate.

TLV Range ($\mu\text{g}/\text{m}^3$) (The TLV must be less than the high value listed and greater than or equal to the low value listed)		Allowed Emission Rate (lb/hr)
15	1	0.000067
30	15	0.0010
60	30	0.0020
120	60	0.0040
240	120	0.0080
480	240	0.0160
960	480	0.0320
1,920	960	0.0640
3,840	1,920	0.128
7,680	3,840	0.256
15,360	7,680	0.512
30,720	15,360	1.02
61,440	30,720	2.05
122,880	61,440	4.10
245,760	122,880	8.19
491,520	245,760	16.4
983,040	491,520	32.8
1,966,080	983,040	65.5
3,932,160	1,966,080	131

Step 6. Check each chemical compound that has a listed TLV. If all compounds are emitted at a rate less than the allowed emission rate, then the coating passes the toxic screening test and can be used under this permit. If one or more of the chemical compounds are emitted at a rate greater than the allowed emission rate, then you should contact your appropriate District Office or local air agency contact to determine if you can use the coating.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain daily records that document any time periods when the dry filtration system was not in service when the emissions unit was in operation.
- (2) The permittee shall collect and record the following information each day for this emissions unit:
 - a. the name and identification number of each coating employed in the coating line;
 - b. the mass of VOC per volume of each coating (excluding water and exempt solvents), as applied;
 - c. the volume, in gallons, of each coating employed in the coating line; and



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- d. the total volume, in gallons, of all of the coatings employed in the coating line.

These records shall be maintained for a period of not less than three years.

- (3) The permittee shall collect and record the following information for each month for this emissions unit:
 - a. the company identification of each VOC containing cleanup material employed;
 - b. the VOC content of each cleanup material employed, in pounds per gallon;
 - c. the number of gallons of each VOC containing cleanup material employed;
 - d. the total volume, in gallons, of all of the coatings employed in the coating line; and
 - e. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the coating usage rates. Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative production rate for each calendar month.
- (4) The permittee shall collect and record the results of any toxic screening evaluations done per c)(3).

e) Reporting Requirements

- (1) The permittee shall notify the Director (the City of Toledo, Division of Environmental Services) in writing of any daily record showing that the coating line employed more than the applicable maximum daily coating usage limit of 10 gallons per day. The notification shall include a copy of such record and shall be sent to the Director (the City of Toledo, Division of Environmental Services) within 45 days after the exceedance occurs.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the Potential to Emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. all exceedances of the 4.88 pounds of VOC per gallon of coating limitation;
 - ii. all exceedances of the no VOC containing clean up materials or solvents limitation;
 - iii. all exceedances of the rolling, 12-month coating usage rate limitation; and
 - iv. for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, all exceedances of the maximum allowable cumulative coating usage rate levels.



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- b. the probable cause of each deviation (excursion);
- c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the director (the Toledo Division of Environmental Services).

- (3) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

f) Testing Requirements

- (1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:

- a. Emissions Limitation:

10 gallons per day total coating usage

Applicable Compliance Method:

Compliance shall be based upon the record keeping specified in d)(2).

- b. Emissions Limitation:

4.88 pounds of VOC per gallon of coating

Applicable Compliance Method:

Compliance shall be based upon the record keeping specified in d)(3).

If required, the permittee shall demonstrate compliance through the methods and procedures of OAC rule 3745-21-10(B). USEPA Methods 24 shall be used to determine the VOC contents of the coatings. If, pursuant to Method 24 as outlined in 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 cannot be used for a particular coating, the permittee shall so notify the Administrator of the USEPA and shall use formulation data for that coating to demonstrate compliance until the USEPA provides alternative analytical procedures or alternative precision statements for Method 24.



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c. Emissions Limitation:

no VOC containing clean up materials or solvents

Applicable Compliance Method:

Compliance shall be based upon the record keeping specified in d)(3).

d. Emissions Limitation:

3.66 tons per year of VOC emissions from coatings

Applicable Compliance Method:

This limitation was established to reflect the full potential to emit for this emissions unit based on a maximum coating usage of 1,500 gallons per rolling, 12-month period utilizing a maximum 4.88 pounds of VOC per gallon coating material, as applied, and no VOC containing clean up materials. Compliance shall be based upon the record keeping specified in d)(3).

e. Emission Limitation:

0.551 lb of PE per hour

Applicable Compliance Method:

To determine the worst case PE rate, the following equation shall be used:

$E = \text{maximum coating solids usage rate, in pounds per hour,} \times (1-TE) \times (1-CE)$

Where E = PE rate (lbs/hr);

TE = fractional transfer efficiency, which is the ratio of the amount of coating solids deposited on the coated part to the amount of coating solids used (0.80) based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 4.2.2.4-2. ESTIMATED CONTROL EFFICIENCIES FOR METAL COATING LINES dated 1/95);

CE = fractional control efficiency of the control equipment (0.99).

When requested by the Ohio EPA, the permittee shall demonstrate compliance with the above emissions limitation pursuant to OAC rule 3745-17-03(B)(10).

f. Emission Limitation:

0.01 ton of PE per year

0.01 ton of PM₁₀ per year

Applicable Compliance Method:

These limitations were established to reflect the full potential to emit for this emissions unit based on a maximum application rate of 1,500 gallons per rolling,



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12-month period of material. Compliance with the fugitive PE and PM10 limitations shall be determined utilizing factors from AP-42 Table 4.2.2.1-2 TYPICAL DENSITIES AND SOLIDS CONTENTS OF COATINGS as follows: multiply the maximum coating usage rate (1500 gallons per year) by the characteristic enamel density (7.6 pounds per gallon), by the characteristic solids content (0.30 pound of solid per pound of coating), by 1 minus the characteristic transfer efficiency (1-80%), by 1 minus the control efficiency (1-99%) and divide by 2000 pounds per ton.

g) Miscellaneous Requirements

(1) None.

Exhibit 20

Home (../../home) / News, Webcasts, & Calendar (../news-events) / Community Investigations (../community-investigations) / Paramount Emissions Investigation

Share:



Paramount - Ongoing Air Monitoring Activities

Paramount Emissions Investigation

(<http://www.aqmd.gov/home/news-events/community-investigations/air-monitoring-activities/reports-data-assessments>) Reports, Data & Assessments (<http://www.aqmd.gov/home/news-events/community-investigations/air-monitoring-activities/reports-data-assessments>)

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(<http://www.aqmd.gov/home/news-events/community-investigations/air-monitoring-activities/ab2588-activity>) AB2588 Activity (<http://www.aqmd.gov/home/news-events/community-investigations/air-monitoring-activities/ab2588-activity>)

(<http://www.aqmd.gov/home/news-events/community-investigations/air-monitoring-activities/facilities---order-for-abatement>) Facilities - Order for Abatement (<http://www.aqmd.gov/home/news-events/community-investigations/air-monitoring-activities/facilities---order-for-abatement>)

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(<http://www.aqmd.gov/home/news-events/community-investigations/air-monitoring-activities/paramount-monitoring-past-events>) Past Meetings & Events (<http://www.aqmd.gov/home/news-events/community-investigations/air-monitoring-activities/paramount-monitoring-past-events>)

(<http://www.aqmd.gov/home/news-events/community-investigations/air-monitoring-activities/rule-activity>) Rule Activity (<http://www.aqmd.gov/home/news-events/community-investigations/air-monitoring-activities/rule-activity>)

Upcoming Activities

Please check back.

Announcements

Elevated Levels of Hexavalent Chromium

Recently, elevated levels of hexavalent chromium up to 2.2 ng/m³ have been detected at Monitor Number 8 near Aerocraft Heat Treating Co., Inc. (/home/news-events/community-investigations/air-monitoring-activities/facilities---order-for-abatement/aerocraft) in the City of Paramount. South Coast AQMD has been investigating operations at Aerocraft and the surrounding area, and is inspecting

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permanent air pollution control equipment recently installed at the facility that replaced temporary air pollution controls. This equipment was installed as part of Aerocraft's Risk Reduction Plan to permanently reduce hexavalent chromium emissions. Aerocraft is required to conduct additional testing of the permanent air pollution control equipment. South Coast AQMD will continue its ambient air monitoring for hexavalent chromium and investigate any additional elevated readings.

Updated Air Monitoring Plan for Paramount

In October 2016, South Coast AQMD initiated an extensive air monitoring campaign to assess levels of hexavalent chromium in the industrialized sections of the City of Paramount. Highly elevated levels were found initially and additional efforts were conducted to identify and address sources of hexavalent chromium that were be impacting nearby communities. South Coast AQMD's ongoing air monitoring results indicate a substantial progress in reducing ambient levels of hexavalent chromium. As a result, the South Coast AQMD is updating its air monitoring efforts in Paramount to focus on conducting studies to evaluate other potential sources of hexavalent chromium and also monitoring other areas of the Basin that may have higher potential for air toxics exposure. South Coast AQMD will continue to perform sampling at selected locations within the Paramount community and this document outlines the updated monitoring plan for the city of Paramount.

(/docs/default-source/compliance/Paramount/updated-monitoring-plan.pdf?sfvrsn=8)

- Updated Air Monitoring Plan for Paramount (/docs/default-source/compliance/Paramount/updated-monitoring-plan.pdf?sfvrsn=8) (PDF) - June, 2018

Background

In 2013, the South Coast Air Quality Management District (South Coast AQMD) received a series of metallic odor complaints from local community members in Paramount. In response to these complaints, the South Coast AQMD staff began conducting an investigation into local sources of emissions, including initiating a local air sampling study. The purpose of these activities was to determine the source of emissions and potential air pollution control strategies. Ambient monitoring of toxic metal emissions began in 2013 at two sites on Vermont Avenue and California Avenue. Based on the monitoring results, there were two metals of concern: nickel and hexavalent chromium. In 2014 and 2015, South Coast AQMD worked with Carlton Forge Works to reduce metal particulate emissions from its grinding operation. Carlton Forge Works implemented a number of voluntary measures that substantially reduced nickel levels. Since these measures did not reduce hexavalent chromium levels, the South Coast AQMD needed additional data to understand the source of these emissions. In October 2016, as part of its ongoing investigation to identify and address sources of hexavalent chromium that may be impacting the nearby communities, South Coast AQMD staff deployed several monitors in the mostly industrial areas of the City of Paramount. Initial results showed elevated levels of hexavalent chromium upwind of Carlton Forge Works. Results of monitoring efforts, South Coast AQMD Town Hall Meetings, air monitoring and public health reports, and other related information are posted on this website.

Summary of Efforts

R 005595

The South Coast AQMD has undertaken unprecedented, extensive efforts to identify and reduce sources of hexavalent chromium in the City of Paramount. This Summary of Efforts in Paramount (</docs/default-source/compliance/Paramount/summary-of-efforts-in-paramount.pdf?sfvrsn=8>) (PDF), summarizes the significant progress made and provides highlights of monitoring, enforcement, rule development, public outreach, and coordination efforts.

Potential Businesses with Metal-Related Operations in Paramount

- South Coast AQMD List of Potential Business with Metal-Related Operations (<http://www.aqmd.gov/docs/default-source/compliance/Paramount/paramount-metal-companies-scaqmd.pdf?sfvrsn=6>) - Aug. 29, 2017 (PDF)
 - Lists of Potential Businesses with Metal-Related Operations (</docs/default-source/compliance/Paramount/paramount-metal-companies-feb-2018-update.pdf?sfvrsn=8>), Provided by the City of Paramount - updated February, 2018 (PDF)
 - List of Potential Business with Metal-Related Operations (<http://www.aqmd.gov/docs/default-source/compliance/Paramount/paramount-metal-companies-provided-by-others.pdf?sfvrsn=7>), Provided by community members - July 14, 2017 (PDF)
-

Participating Agencies/Interagency Coordination

Los Angeles County Department of Public Health:

- Public Health Directive to Anaplex Corporation (http://publichealth.lacounty.gov/eh/docs/PH_RelHexChrom_Anaplex.pdf), Dec. 1, 2016
 - Public Health Directive to Aerocraft Heat Treating Company, Inc. (http://publichealth.lacounty.gov/eh/docs/PH_RelHexChrom_Aerocraft.pdf), Dec. 1, 2016
-

Related Information

- Community Air Toxics Initiative (</home/news-events/community-investigations/air-toxics-action-plan>)
 - South Coast AQMD's AB2588 "Toxic Hot Spots" Program (</home/rules-compliance/compliance/toxic-hot-spots-ab-2588>)
-

Complaints

Please contact us at 1-800-CUT-SMOG or file a complaint online (<http://www3.aqmd.gov/webappl/complaintsystemonline/NewComplaint.aspx>), if you have information that can assist us in the investigation of sources of hexavalent chromium in the area. If desired, the information can be provided anonymously.

- SCAQMD Sets Public Meetings to Review Risks from Anaplex Corp and Aircraft Heat Treating Co in Paramount - October 30, 2018 (</docs/default-source/news-archive/2018/public-meetings-anaplex-and-aerocraft.pdf?sfvrsn=8>) (PDF)
- Anaplex in Paramount Ordered to Temporarily Suspend Operations - August 9, 2018 (</docs/default-source/news-archive/2018/anaplex-to-suspend-operations-8-9-2018.pdf?sfvrsn=6>) (PDF)
- New Law Enables Air Pollution Control Officers to More Quickly Halt Activities Alleged to Endanger Public Health - August 9, 2017 (</docs/default-source/news-archive/2017/new-law-halt-endanger-public-health-aug-9-2017.pdf?sfvrsn=12>) (PDF)
- Carlton Forge Works Agrees to Order to Reduce Potential for Creating Nuisance Odors - July 28, 2017 (</docs/default-source/news-archive/2017/carlton-forge-works-agrees-to-order-to-reduce-potential-for-creating-nuisance-odors.pdf?sfvrsn=11>) (PDF)
- SCAQMD Seeks Administrative Order to Curtail Hexavalent Chromium Emissions from Lubeco Inc. in Long Beach - July 26, 2017 (</docs/default-source/news-archive/2017/OA-Petition-for-Lubeco-inc.pdf?sfvrsn=10>) (PDF)
- SCAQMD Seeks Administrative Order to Reduce Nuisance Odors from Carlton Forge Works in Paramount - July 11, 2017 (</docs/default-source/news-archive/2017/scaqmd-seeks-administrative-order-to-reduce-nuisance-odors---july-11-2017.pdf?sfvrsn=6>) - July 11, 2017 (PDF)
- Anaplex in Paramount Ordered to Temporarily Suspend Operations - June 27, 2017 (</docs/default-source/news-archive/2017/anaplex-in-paramount-ordered-to-temporarily-suspend-operations---june-27-2017.pdf?sfvrsn=11>) (PDF)
- SCAQMD Seeks Administrative Order to Curtail Nuisance Odors - June 13, 2017 (</docs/default-source/news-archive/2017/Carlton-Forge-OA-06132017.pdf?sfvrsn=7>) (PDF) (en español) (</docs/default-source/news-archive/2017/spanish/CarltonForgeworks-OA-Spanish.pdf?sfvrsn=8>)
- SCAQMD Orders Aircraft in Paramount to Temporarily Suspend Hexavalent Chromium-Related Operations - March 16, 2017 (</docs/default-source/news-archive/2017/aerocraft-march-16-2017.pdf?sfvrsn=7>)
- SCAQMD Orders Aircraft in Paramount to Temporarily Suspend Hexavalent Chromium-Related Operations - March 3, 2017 (</docs/default-source/news-archive/2017/aerocraft-march-3-2017.pdf?sfvrsn=7>)
- Board Adopts Rule to Reduce Metal Particulate Emissions - March 3, 2017 (</docs/default-source/news-archive/2017/metal-particulate-emissions-march-3-2017.pdf?sfvrsn=7>)
- Aircraft in Paramount Temporarily Suspends Hexavalent Chromium-Related Operations - February 14, 2017 (</docs/default-source/news-archive/2017/aerocraft-feb-14-2017.pdf?sfvrsn=7>) (PDF) (en español) (</docs/default-source/news-archive/2017/spanish/aerocraft-span-19-de-enero-del-2017.pdf?sfvrsn=11>)

- Anaplex in Paramount Temporarily Suspends Operations - February 3, 2017 (/docs/default-source/news-archive/2017/anaplex-feb-3-2017.pdf?sfvrsn=7) (PDF) (en español) (/docs/default-source/news-archive/2017/spanish/anaplex-span-3febrero2017.pdf?sfvrsn=13)
- Aerocraft in Paramount Temporarily Suspends Operations - January 19, 2017 (/docs/default-source/news-archive/2017/aerocraft-jan-19-2017.pdf?sfvrsn=7) (PDF) (en español) (/docs/default-source/news-archive/2017/spanish/aerocraft-span-19-de-enero-del-2017.pdf?sfvrsn=11)
- SCAQMD Continues to Seek Enforceable Emissions Reductions from Anaplex Corp. in Paramount (/home/news-events/current-news/2016-news-archives/anaplex-corp-tro)- December 23, 2016 (en español (/home/news-events/current-news/2016-news-archives/anaplex-tro-spanish))
- SCAQMD Takes Enforcement Actions to Reduce Toxic Emissions from Two Facilities in Paramount (/home/news-events/current-news/2016-news-archives/paramount-enforcement-actions)- November 29, 2016 (en español (/home/news-events/current-news/2016-news-archives/paramountenforcementspa))
- SCAQMD Intensifies Investigation of Potential Sources of Hexavalent Chromium Emissions in Paramount (/home/news-events/current-news/2016-news-archives/paramount-chrome-levels)- November 4, 2016 (en español (/home/news-events/current-news/2016-news-archives/paramount-chromium-sp))
- Information Regarding Emissions from Carlton Forge Works (/home/news-events/current-news/2014-news-archives/carlton-forge-works-information)- December 20, 2014
- SCAQMD to Host Public Meeting on Air Quality Issues Related to Carlton Forge Works (/home/news-events/current-news/2014-news-archives/carlton-forge-works-public-meeting)- January 21, 2104



South Coast Air Quality Management District

21865 Copley Dr, Diamond Bar, CA 91765

909-396-2000

Careers (/careers)

Accessibility (/accessibility)

Sitemap (/sitemap)

Privacy Policy (/privacy)

Exhibit 21

OAH Docket No. 60-2200-33647

STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS
FOR THE MINNESOTA POLLUTION CONTROL AGENCY

In The Matter Of the Revocation of Air
Emission Permit 05300480-003 issued to
Northern Metals, LLC

**MEMORANDUM IN SUPPORT OF
MPCA'S MOTION FOR SUMMARY
DISPOSITION**

INTRODUCTION

The Minnesota Pollution Control Agency ("MPCA") proposes to revoke Air Emission Permit No. 005300480-003 ("Permit") issued to Northern Metals, LLC ("Northern Metals") under Minn. R. 7007.1700, subp.1, item B, because Northern Metals failed to disclose fully the facts relevant to issuance of the Permit or submitted false or misleading information to the agency. In its application for the Permit, Northern Metals failed to fully disclose facts concerning the ability of its pollution control equipment to capture pollutants generated by its shredder operation, and Northern Metals submitted no information whatsoever concerning emissions generated by equipment that Northern Metals was using to recover additional metals from the shredder residue. Subsequently, Northern Metals provided false or misleading information to the MPCA when the MPCA sought information about that residue processing operation. In this memorandum, the MPCA will demonstrate that summary disposition should be granted to the MPCA on the basis of the facts set forth in the supporting declarations and record and the arguments of law in this memorandum.

ISSUES

The MPCA seeks revocation of Northern Metals' Permit under Minn. R. 7007.1700, subp. 1, Item B, which provides that the MPCA may revoke permits and not reissue them when

“the permittee fails to disclose fully the facts relevant to issuance of the permit or submits false or misleading information to the agency or the administrator.” In its Order directing the contested case hearing, the MPCA identified that the 2012 permit application was based on false or misleading information because it represented that emissions would be captured in a “total enclosure” and there was no such “total enclosure” and because Northern Metals entirely failed to disclose emissions related to its shredder residue metal recovery operation. Northern Metals then subsequently failed to provide accurate information about this operation.

DOCUMENTS WHICH COMPRISE THE RECORD

The following documents comprise the Record¹ in this matter and will be referred to as “R: [page]”.

1. Kondirator project Environmental Assessment Worksheet (“EAW”) dated 10/9/95 (“Kondirator EAW”).
2. Kondirator project permit dated December 8, 1998 (“Kondirator permit”).
3. Letter from Beth T. Havlik, P.E., Vice President, Barr Engineering, to Supervisor, Compliance Determination Unit, Air Quality Division, Minnesota Pollution Control Agency, dated July 16, 2001 (“Barr 2001 Representation”).
4. Northern Metals’ 2010 “Compliance Plan.”
5. Northern Metals’ 8/30/2010 and 10/06/2011 permit application submittals (“application for the 2012 permit” or “2012 permit application”).
6. Northern Metals’ 2012 Amended Permit.
7. Northern Metals EAW approval packet dated October 1, 2012 (“Northern Metals EAW”) includes:
 - a. Findings of Fact, Conclusions of Law, and Order (FOF);
 - b. FOF Appendix A—list of comment letters;
 - c. FOF Appendix B—comment letters;
 - d. FOF Appendix C—Responses to Comments;
 - e. MPCA Staff Air Dispersion Modeling Report;
 - f. MPCA AERA Impact Analysis Summary;
 - g. Technical Support Document-Northern Metals Air Permit;
 - h. Communication from Other Permitted Air Sources;
 - i. Glossary of Acronyms.
8. Northern Metals Air Permit approval packet dated October 23, 2012, includes:
 - a. Findings of Fact, Conclusions of Law, and Order (FOF);
 - b. Appendix A—List of Comment Letters;

¹ Copies of these Record documents are attached to the Declaration of Ann E. Cohen.

- c. Appendix B—Comment Letters;
 - d. Appendix C—Response to Comments;
 - e. Draft Air Emission Permit No. 5300480-003 and Technical Support Documents;
 - f. Correspondence from Nearby Stationary Sources of Particulate Matter Emissions;
 - g. Settlement Agreement;
 - h. Stipulation for Dismissal with Prejudice;
 - i. Glossary of Acronyms.
9. Fugitive Dust Control Plan December 2012;
 10. Letter to Northern Metals from MPCA dated December 15, 2016;
 11. Letter to MPCA from Northern Metals dated January 20, 2015 letter (includes exhibits);
 12. March 17, 2016 email from Cohen to Asmus (asking about MRP);
 13. March 29, 2016 email from Asmus to Cohen (response to questions about MRP);
 14. MPCA March 29, 2016 email to Asmus (seeking additional information re MRP);
 15. MPCA April 5, 2016 letter (seeking additional information about MRP);
 16. May 6, 2016 letter from Northern Metals providing information about MRP.

Northern Metals Affidavits (Ramsey County):

17. Affidavit of Mike Hansel dated September 25, 2015;
18. Affidavit of Mike Hansel dated October 15, 2015;
19. Affidavit of Mike Hansel dated May 26, 2016;
20. Affidavit of Mike Hansel dated June 2, 2016;
21. Affidavit of Mike Hansel dated June 6, 2016;
22. Affidavit of Walter Rockenstein II dated June 2, 2016;
23. Affidavit of Walter Rockenstein II dated June 6, 2016;
24. Affidavit of Stephen Ettinger dated June 2, 2016;
25. Affidavit of Ronald A. Jerich dated August 3, 2015.

MPCA Declarations (Ramsey County):

26. Declaration of Brent Rohne (Ramsey County case) dated 7/15/15;
27. Declaration of Rick Strassman (Ramsey County case) dated 7/23/15;
28. Declaration of Katie Koelfgen (Ramsey County case) dated 7/15/15;
29. Declaration of Dennis Fenlon (Ramsey County case) dated 7/15/15;
30. Declaration of Kelsey Suddard (Ramsey County case) dated 5/17/16;
31. Declaration of Sarah Kilgriff (Ramsey County case) dated 5/16/16;
32. Declaration of Marc Severin (Ramsey County case) dated 5/17/16;
33. Declaration of Cassandra McMahon (Ramsey County case) dated 7/15/15;
34. Second Declaration of Cassandra McMahon (Ramsey County case) dated 5/16/16;
35. Second Declaration of Dennis Fenlon (Ramsey County case) dated 5/17/16;
36. Third Declaration of Cassandra McMahon (Ramsey County case) dated 6/16/16.

MPCA Declarations (OAH):

37. Declaration of Brent Rohne (OAH case) dated 8/30/16;
38. Declaration of Kelsey Suddard (OAH case) dated 8/30/16.

MnOSHA

39. Northern Metals' MnOSHA Application dated June 16, 2016.

Ramsey County Court File No. 62-CV-15-3827

40. Honorable Judge John H. Guthmann Order dated August 29, 2016.

LEGAL BACKGROUND

A. PERMITTEES MAY CLAIM "CONTROL EFFICIENCIES" BY RULE AND MUST THEREAFTER COMPLY WITH THEM.

Under the MPCA's "Control Equipment Rule," a permit applicant may elect to use the control equipment efficiencies listed in Minn. R. 7011.0070 to determine the type of permit that is appropriate. Minn. R. 7011.0065, subp. 1, Item A. The "Control Equipment Rule" allows a permit applicant to claim that its pollution control equipment will control a certain level of pollutants depending on whether the "capture" of the pollutants is through a "certified hood," "non-certified hood," or "total enclosure." Emissions capture is important because the degree to which emissions are "controlled" depends on the level of emissions "captured" and sent to the pollution control equipment. *See* Minn. R. 7011.0070.

A "total enclosure" is defined as:

an enclosure that completely surrounds emissions from an emissions unit such that all emissions are captured and discharged through ductwork to control equipment.

Minn. R. 7011.0060, subp. 5. A "hood" is defined as:

a shaped inlet to a pollution control system that does not totally surround emissions from an emissions unit, that is designed, used, and maintained to capture and discharge the air emissions through ductwork to control equipment, and that conforms to the design and operating practices recommended in "Industrial Ventilation - A Manual of Recommended Practice, American Conference of Governmental Industrial Hygienists." This document is subject to frequent change. A spray booth can be a hood if it meets the definition in this subpart.

Minn. R. 7011.0060, subp. 3e. A permittee that relies on the Control Equipment Rule must achieve at least the specified efficiencies at all times while the facility is operating. Minn. R. 7011.0070, subp. 1, Item A. The MPCA relies on the claimed efficiencies when conducting modeling² to determine whether projected permits will exceed federal or state “ambient” air quality standards in Minn. R. ch. 7009. R. 38: 2217. Such modeling can be used to establish limits on emissions from the permittee’s source. *Id.* Where the capture efficiency is actually less than specified, there are uncaptured emissions that are not included in the modeling. *Id.* The modeling is then not an accurate assessment of a facility’s impact on ambient air standards. *Id.* As a result, the MPCA’s rules require an owner or operator to recalculate the “potential to emit” of the source if the owner or operator becomes aware that the listed control equipment is not as efficient as originally assumed. Minn. R. 7011.0075, subp. 7.

B. A PERMIT APPLICANT MUST DESCRIBE ALL EMISSIONS UNITS AND FUGITIVE EMISSIONS IN THE PERMIT APPLICATION.

Minn. R. 7007.0500 governs applications for air emission permits. Under Minn. R. 7007.0500, subp. 2(c)(1), applicants must “identify and describe each emission point. . . and the location of all emissions units and processes venting through each emission point.” Minn. R. 7007.0500, subp. 2(c)(1). “Emission units” means:

each activity that emits or has the potential to emit any air contaminant or pollutant. This includes each piece of equipment, machinery, device, apparatus, activity, or any other means whereby an emission is caused to occur or has the potential to occur.

Minn. R. 7005.0100, subp. 10b. The application must also include information about “fugitive emissions,” which Minn. R. 7005.0100, subp. 11c defines as emissions “that could not reasonably pass through a stack, chimney, or other functionally equivalent opening.” Minn. R.

² “Modeling” involves taking emissions and their sources and used a computer model to determine how the emissions disperse in the environment. *See* R. 38: 2217.

7007.0050, subp. 2(c)(1). The MPCA does not require emissions information for “insignificant activities” to be included in the permit application, but many of these “insignificant activities” must still be “listed” in the permit application and the applicant must provide calculations upon request. Minn. R. 7007.1300, subp. 3. The activities that are not required to be listed are in Minn. R. 7007.1300, subp. 2.

RECITAL OF MATERIAL FACTS THAT ARE NOT IN DISPUTE

1. In 1995, American Iron and Steel, Inc. (“AIS”) proposed to install and operate a “Kondirator” metal shredder at 2800 Pacific Street, Minneapolis, MN. The proposed shredder consisted of a chamber where a hammermill would fragment the feedstock and a “cascade cleaning” device would clean iron from residue by blowing air through it. R. 1: 6–8.

2. In reviewing the AIS permit application documents, the MPCA agreed that the “Kondirator” shredder system would have a dust collection efficiency of 99.8 percent based on calculations provided by vendor Osborn Engineering and MPCA’s evaluation of the design of the system. R. 1: 58. The Kondirator fragmenter was to be fully enclosed except for the intake and discharge openings. The cyclone separator was designed to create negative air pressure within the fragmenter to prevent the release of emissions at the intake or discharge openings. All conveyors were to be covered and all sorting and transporting operations within the machine were to be enclosed. The shredding process was to occur under a “shroud” to maximally entrain the dust generated in the process. *Id.* at 55.

3. On December 8, 1998, the MPCA issued a permit for the “Kondirator” shredder that included emissions limits based on high levels of capture efficiency calculated in the EAW. R. 2: 121.

4. After the MPCA completed its environmental review and issued a permit for the Kondirator, the City of Minneapolis and the Minneapolis Park Board commenced litigation challenging the MPCA’s decisions. See *In re Am. Iron & Supply Company's Proposed Metal Shredding Facility in Minneapolis, Minn.*, 604 N.W.2d 140, 143 (Minn. Ct. App. 2000). The Court of Appeals affirmed the MPCA’s decision. *Id.*

5. After the Court of Appeals action, AIS brought suit against the City of Minneapolis to obtain a local permit. In a settlement with the City of Minneapolis, AIS agreed to use a different type of shredder and to put it in a building. R. 3.

6. In 2001, Barr Engineering Vice President Beth T. Havlik, P.E., sent a letter (“Barr 2001 Representation”) to the MPCA regarding changes to the permitted Kondirator shredder proposal in response the Minneapolis settlement. In the Barr 2001 Representation, Barr Engineering stated that the building required by the Minneapolis settlement would “produce a direct environmental benefit by *providing an effective total enclosure* for the conveyors and all process equipment (except the infeed conveyor). The building will act as a settling chamber for

fugitive emissions resulting from material handling, and the building exhaust will be controlled.” *Id.* (emphasis added).

7. Despite having approvals from MPCA and the City of Minneapolis, AIS did not build the shredder. R. 7: 536.

8. Northern Metals bought the 2800 Pacific Avenue operation from AIS in 2006 and acquired its permit. *Id.* Northern Metals built the building required by the City of Minneapolis and installed a “Metso Texas” shredder and cascade cleaning system inside the building. R. 8: 850.

9. The “Metso Texas” shredder is of a different design than the “Kondirator” shredder. *Id.*; R. 38: 2214.

10. The Metso Texas shredder commenced operation in June 2009. R. 8: 850.

11. After the Metso Texas shredder became operational, Northern Metals made a number of modifications. These modifications included “reworking duct connections to the metal shredder to maximize capture efficiency.” R. 4: 143.

12. Northern Metals added spray bars to control particulate matter being generated by the shredder material inside the building. The addition of the spray bars generated steam that accumulated in the shredder building, obscuring the operator’s view. R. 21: 1573. Because it was not anticipated that steam and particulate matter would build up within the shredder building and obscure the shredder operator’s view, Northern Metals installed a shaped inlet (hood) in the ductwork over the shredder. Northern Metals currently refers to this inlet as a “snorkel.” *Id.*

13. An MPCA inspector observed particulate matter coming from the Metso Texas shredder during inspections in 2013 and 2015. R. 37: 1911, 1913.

14. Based on the inspector’s observations, the hood/snorkel referred to in the Hansel 6/6/16 Affidavit (R. 21) captures dust generated by the Metso Texas shredder. *Id.* at 1915.

15. After making the modifications to the Metso Texas shredder, Northern Metals conducted performance testing required by the permit to ensure its emissions met limits established in the permit. However, the shredder was unable to pass the performance testing. R. 8: 851.

16. After failing the performance testing, Northern Metals submitted an application for an amended permit in which it requested relaxation of the particulate matter and mercury limits in its permit. Northern Metals submitted permit application materials on 8/30/2010 and 10/06/2011. R. 5.

17. Northern Metals’ president, Steve Ettinger, certified the permit amendment applications as required under Minn. R. 7007.0500, subp. 3. *Id.* at 169 and 351.010.

18. Barr Engineering prepared the 2010 Northern Metals permit amendment application. R. 5 at 159. Northern Metals used the “total enclosure” control efficiency values for its pollution control equipment based on the Control Equipment Rule. *Id.* at 288.

19. In modeling conducted during the environmental review/permitting process, the MPCA assumed that all emissions generated by the shredder and cascade cleaning system emission units would be captured and controlled by the pollution control equipment. R. 38: 2218. (23)

20. In the Technical Support Document for the 2012 permit, the MPCA stated “[t]he shredder equipment is totally enclosed in a Leadership In Energy and Environment Design (LEED)-designed building. . .” R. 6: 415–16.

21. In responding to a public comment suggesting that “negative air pressure” be required, the MPCA stated:

A combination of requirements, including the application of proper limits, ensures that state and federal rules and regulations addressing fugitive and stack particulate matter emissions are met. These requirements include: the shredding operation and the Cascade Cleaning system *are totally enclosed in a building*; the in-feed conveyor is covered;³ pollution control equipment is required to be operated at all times when the shredder is operating; and the permittee is required to take reasonable measures to control fugitive dust on site (emphasis added).

Id. at 763 (emphasis added).

22. In a February 9, 2014 email to the MPCA, Northern Metals’ consultant, Mike Hansel of Barr Engineering, provided Northern Metals’ suggested responses to certain comments. One of the suggested responses was “the shredding operation is *totally enclosed in a building, and all emissions pass through the pollution control equipment.*” R. 38: 2238, Ex. 1 (emphasis added).

23. In addition to recovering metals inside the shredder building, Northern Metals processes the shredder residue to recover additional metals. R. 16.

24. Northern Metals did not identify the shredder residue operation as a source of emissions in any document, and emissions from the shredder residue operation were not listed in the permit application in any manner. *Id.* at 1377–80.

25. In its permit amendment application, Northern Metals listed “insignificant activities” but did not list any such activities related to shredder residue processing. The listed activities did not generate particulate matter. R. 5: 351.012–.013.

³ In fact, the infeed conveyor to the Metso Texas shredder is not covered. R. 37: 1914.

26. As a condition of its permit, Northern Metals created a “Fugitive Emissions Control Plan.” This plan did not list any “fugitive emissions” related to shredder residue processing. The plan listed emissions related to the “Shredder Infeed Conveyor” and the “Stacker Conveyor” for the finished product, but did not list any other “fugitive” emissions related to the operation of the shredder and cascade cleaning system. R. 9: 135.

27. As part of its permit application and environmental review, Northern Metals conducted modeling of its emissions. Although Northern Metals had provided modeling results, the MPCA conducted modeling of the projected particulate matter emissions from the Northern Metals facility to evaluate whether the particulate matter emissions would exceed ambient air standards. R. 7: 538.

28. The MPCA also conducted a risk assessment based on projected levels of emissions of particulate matter and various metals. R. 7: 784–98.

29. Although Barr Engineering had not done so in its proposed dispersion modeling of Northern Metals’ emissions, the MPCA’s dispersion model included particulate matter “fugitive emissions.” R. 38, Ex. 2.

30. Because the MPCA was not aware that the shredder residue processing created any emissions, the MPCA did not include any analysis of the shredder residue emissions in its modeling or risk assessment documents. *Id.*

31. Based on its evaluation of the modeling and risk assessment, the MPCA concluded it could grant that the permit amendment requested by Northern Metals. R. 8: 875.

32. In December 2012, the MPCA granted the permit amendment. R. 6.

33. In July 2013, an MPCA inspector inspected Northern Metals. During this inspection, the MPCA inspector observed particulate matter being generated by the shredder. A hood was used to remove the particulate matter. R. 37: 1911.

34. During the July 2013 inspection, the inspector looked at the Metals Recovery Plant (MRP building). The MPCA inspector did not see any processing occurring in the attached Rain and Snow Shed, and did not observe any open doors in the MRP building. *Id.* at 1912.

35. After the MPCA granted the permit amendment, the MPCA monitored for very small particulate matter (“PM 2.5”) near Northern Metals’ facility for 2 years. R. 27: 1726.

36. In the fall of 2014, the MPCA placed an ambient air monitor for “total suspended particulate matter” or “TSP” at the same location formerly used for the PM 2.5 monitor. The MPCA started this monitoring pursuant to a state appropriation providing money for the MPCA to monitor toxics in urban areas, including metals. Laws 2013, ch. 114, Art. 3, subd. 3. The legislation also directed the MPCA to conduct monitoring near industrial sources. *See* Laws 2013, ch. 114, Art. 3, subd. 3 (MPCA funding).

37. The monitor, identified as “909,” was located near of Northern Metals’ facility. R. 27: 1726.

38. Beginning in October 2014, the MPCA monitored exceedances of the PM ambient air standard. *Id.* at 1729.

39. In response to the monitored exceedances of the PM standard, on December 15, 2014, the MPCA sent letters to local businesses, including Northern Metals. Among other things, the letter requested that the businesses:

Identify indoor and outdoor activities or processes that result in emission of particulate matter to the environment. Please describe the activities in detail, including whether the activities are regulated under an MPCA air emission permit, the nature of the activity that results in the particulate emissions, the emission point(s), the frequency of emission, and any measurement data you have on the emission from the last six months.

R. 26: 1602.

40. Northern Metals responded to this letter on January 20, 2015 and generally denied that its operations were causing or contributing to the exceedances. In its response, Northern Metals described the “Metals Recovery Plant” (“MRP”) as an “Insignificant Activity.” (p. 4) Northern Metals further stated that “[n]on-ferrous materials are processed *inside an enclosed building*, where proprietary separation of ferrous and nonferrous metals (e.g., aluminum, copper, brass) occurs.” (p. 7) Later in the January 20, 2015 letter, Northern Metals again described the MRP as an “insignificant activity” and stated “[t]his activity has little to no potential for emissions as *the activity is fully enclosed.*” (p. 11-2) R. 11 (emphasis added).

41. To better determine whether emissions from Northern Metals caused or contributed to the exceedances, MPCA installed a second ambient air monitor, identified as “910,” directly south of Northern Metals’ facility. This monitor received emissions affected by Northern Metals when the wind blew from the south. R. 27: 1732.

42. Both monitor 909 and 910 record exceedances of the particulate matter standard on almost every weekday when samples are collected, which occurs once every 6 days. Both monitors recorded violations of the primary and secondary standards for particulate matter in 2014, 2015 and 2016. The annual standard for particulate matter was exceeded in 2015. R. 34: 1892–93.

43. The air that passes over the Northern Metals facility contains more particulate matter than the air *prior* to passing over the Northern Metals facility. *Id.* at 1893.

44. On March 6, 2015, two MPCA inspectors observed and photographed emissions coming out of doors and an explosion vent in the shredder building. The inspectors notified Northern Metals. R. 26: 1598; R. 28: 1738.

53. On April 16, 2015, an MPCA inspector inspected Northern Metals. As part of his inspection, the inspector asked whether any insignificant modifications had been made pursuant to Minn. R. 7007.1250 and Northern Metals' answer was no. R. 37: 1914.

54. On October 15, 2015, Northern Metals' denied that the shredder building is a component of the "total enclosure" system for the shredder and cascade cleaning system. While conceding that the amended permit limits were based on 100% capture of emission from the "emission units," Northern Metals' consultant Mike Hansel ("Hansel") asserted that that capture is accomplished by sealed hard ducting from (1) the Facility's two "emission units" to (2) its three-part "control equipment" and then to (3) the stack vent." R. 18: 1464.

55. In an affidavit dated May 26, 2016, Hansel asserted that "the "shredder building" is not and was never intended to be the "total enclosure" system for the proposed shredder and cascade cleaning system. . ." R. 19: 1479–80.

56. Northern Metals later asserted that the "emissions units" themselves constitute a total enclosure, meaning the "shredder" and "cascade cleaning system," but excluding "drop points" and "conveyors" associated with those emission units, which Northern Metals asserts are "fugitive emissions." R. 19: 1525–26.

57. On March 17, 2016, the MPCA sent a message to Northern Metals seeking additional information about whether there were particulate emissions associated with the MRP that stated:

The MPCA has no record of emissions units (or insignificant activities) associated with the MRP. However, your comment. . . suggests that the MRP is an area where material is separated and processed, which are activities that could be associated with emissions. Could you please clarify this issue: The MPCA would like Northern Metals to provide a complete list of the processing equipment that is located at the MRP, the form and volume of non-ferrous metal material that is processed at the MRP, how that material is brought to the MRP for processing, whether that equipment/process/transport generates particulate emissions, and how those emissions are controlled.

R. 12.

58. On March 24, 2016, the MPCA conducted an inspection of the shredder residue processing operation. R. 37: 1915.

59. The shredder residue processing operation generates particulate matter. R. 31: 1782; R. 37: 1915.

60. During the March 24, 2016 inspection, the MPCA inspectors observed that particulate matter coated the equipment in the building, as well as the floors and fixtures . R. 31: 1782.

61. Northern Metals cleans the MRP building every day, and sometimes conducts a more thorough cleaning when dust accumulates on light fixtures blocking the light. *Id.* at 1783.

62. During its March 24, 2016 inspection, an MPCA inspector collected a sample of the dust generated by the shredder residue processing equipment by scooping a pile of dust into a plastic container. *Id.* at 1783–84.

63. The material resembles the particulate matter captured on MPCA's monitor filters. R. 35: 1898.

64. On March 24, 2016, the MPCA observed that Northern Metals processes shredder residue both inside and outside the MRP. The shredder residue processing that is outside of the MRP building occurs in the open-sided "Rain and Snow Shed." R. 31: 1782.

65. On March 24, 2016, the MPCA observed that Northern Metals keeps garage doors open in the MRP building while it is operating to provide access for front end loaders to remove accumulated material and to provide ventilation into the building. *Id.* at 1783.

66. The MRP building also has permanent holes for conveyors to move material in and out. *Id.* at 1782–83.

67. In a June 16, 2016 submittal to MnOSHA, Northern Metals stated that:

In the event that the air cleaning system malfunctions, natural draft openings will provide sufficient ventilation, as it (sic) currently does. There are multiple conveyor openings in the south wall, and a garage door on the south and east side are (sic) generally open during operations (although they will be partially covered by strip curtains).

R. 39: 2289.010.

68. On March 29, 2016, Northern Metals responded to the MPCA's email of March 17, 2016. In its response, Northern Metals asserted that "the activities associated with what is now known as the MRP have been disclosed to and known by the MPCA since inception of the metal shredder operation." The email listed various documents with text making reference to the "Aluminum Recycling Building" and the "Metal Recovery Plant." R. 13.

69. However, none of the documents quoted in the March 29, 2016 email included any reference to *emissions* from the shredder residue processing activities, and the documents did not include the permit application. *Id.*

70. In its March 29, 2016 response, Northern Metals also argued that the shredder residue processing operation was an "insignificant activity not required to be listed" under Minn. R. 7007.1300, subp. 2, item D. *Id.* at 1371.003.

71. Minn. R. 7007.1300, subp. 2, item D applies to certain processing activities that are “vented 100 percent to a building.”

72. Northern Metals processes shredder residue inside and outside of the MRP building, and has since the issuance of the 2012 permit. R. 16.

73. Northern Metals also argued that the “Fugitive Dust Control Plan” controlled any emissions associated with the MRP operation. R. 13: 1371.005.

74. The “Fugitive Dust Control Plan” makes no reference to emissions generated by processing shredder residue. R. 9.

75. In its March 29, 2016 response, Northern Metals made no reference whatsoever to processing outside the MRP building or conveyors bringing material into the building for processing and out of the building for additional processing. Instead, Northern Metals stated:

Shredder residue is picked up from the piles in the yard or under the Rain and Snow Shed and brought into the building by front end loaders and placed on conveyors which carry the materials to the eddy magnets.

R. 13: 1371.006.

76. By email on March 29, 2016 and again by letter dated April 5, 2016, the MPCA requested that Northern Metals submit complete information concerning the equipment processing shredder residue. R. 13; R. 15.

77. By letter dated May 6, 2016, Northern Metals admitted that it was processing material outside of the MRP building, and that it had expanded the shredder residue processing operation by adding processing equipment both inside and outside of the MRP building in 2014. R. 16: 1381–87.

78. Some of the new equipment added in 2014 was located outside, in the Rain and Snow Shed. R. 16: 1390.

79. In its May 6, 2016 letter, Northern Metals declined to submit any calculations of emissions from its processing equipment *inside* the MRP building, arguing that it had no obligation to provide any information to the MPCA about an activity that Northern Metals claimed did not need to be listed in a permit application. R. 16: 1394

80. Northern Metals’ permit requires Northern Metals to submit, when requested by the commissioner, any information and reports that are relevant to pollution or the activities authorized under the permit. Minn. R. 7007.0800. R. 6: 358.

81. The MPCA has never accounted for the particulate matter generated by the shredder residue processing in its modeling for the Permit. R. 38: 2218.

ARGUMENT

Both parties filed cross-motions for summary disposition. The sole issue in this case is whether MPCA can revoke Northern Metals' permit on the basis that Northern Metals "fail[ed] to disclose fully the facts relevant to issuance of the permit or submit[ted] false or misleading information to the agency or the administrator" under Minn. R. 7007.1700, subp. 1, item B.

I. SUMMARY DISPOSITION SHOULD BE GRANTED IF THERE IS NO GENUINE DISPUTE REGARDING A MATERIAL FACT.

Summary disposition is the administrative equivalent of summary judgment. *Pietsch v. Mn. Bd. of Chiropractic Examiners*, 683 N.W. 2d 303, 306 (Minn. 2004). The Office of Administrative Hearings generally follows the summary judgment standards developed in the courts. *See* Minn. R. 1400.6600. The entry of summary disposition is appropriate where there is no genuine issue as to any material fact and one party is entitled to judgment as a matter of law. *Sauter v. Sauter*, 70 N.W.2d 351, 353 (Minn. 1955); *Louwgie v. Witco Chemical Corp.*, 378 N.W. 2d 63, 66 (Minn. App. 1985); Minn. R. 1400.5500 K; Minn. R. Civ. P. 56.03.

The MPCA has met the summary judgment standard. There is no dispute that Northern Metals submitted a permit application that asserted its emissions units were operating in a "total enclosure" when they were not, and there is no dispute that Northern Metals failed to list emissions generating activities related to shredder residue processing in its 2012 permit application.⁴ Further, there is no genuine dispute regarding Northern Metals' submittal of false and misleading information subsequent to that permit application, and that it refused to provide information when required to do so.

⁴ The Ramsey County Court has affirmed this conclusion. R. 40: 2357.

II. **NORTHERN METALS CLAIMED A “TOTAL ENCLOSURE” WHEN THERE WAS NO “TOTAL ENCLOSURE.”**

Under the MPCA’s “Control Equipment Rule,” a person seeking a permit may claim that pollution control equipment will control a certain level of pollutants depending on whether the “capture” of the pollutants is through a “certified hood,” “non-certified hood,” or “total enclosure.” Hoods capture fewer emissions and therefore control equipment associated with “hoods” is assigned lower control efficiency values. See Minn. R. 7011.0070 (“Table A”). The Control Equipment Rule cannot be used if the commissioner determines the listed efficiencies are not representative of a source. Minn. R. 7011.0070, subp. 1a, item A.

A. **Northern Metals’ Consultant, Barr Engineering, Makes Conflicting Statements.**

Barr Engineering prepared the 2012 permit application and worked for AIS.

1. **Until 2015, Northern Metals/Barr Engineering maintained that the building would be a “total enclosure” for emissions from the “conveyors and process equipment.”**

Based on its review of the design of the Kondirator project, the MPCA agreed that “total enclosure” capture efficiencies should be applied to the Kondirator based on calculations supplied by AIS’ vendors and its review of the design. R. 1: 58. However, in its settlement with the City of Minneapolis, AIS agreed to select another shredder other than a “Kondirator,” and to build a building to enclose the shredding operation. R. 3. In 2001, Barr Engineering Vice-President Beth T. Havlik, P.E. represented to the MPCA that the building proposed for the non-Kondirator metal shredder would be “an effective total enclosure” that would control emissions from “the conveyors and process equipment.” *Id.* Consistent with this statement, in its 2012 permit application, Northern Metals claimed that its pollution control equipment would capture pollutants at the “100%” “total enclosure” level. R. 5: 288. Northern Metals did not identify any “hood capture efficiency.” *Id.* In responding to comments on the proposed 2012 permit,

Northern Metals noted that “the shredding operation is totally enclosed in a building, and all emissions pass through the pollution control equipment.” R. 38, Ex. 1. Therefore, the MPCA issued the permit with emission limits based on its continuing belief that a “total enclosure” was in place and that “total enclosure” efficiencies would be met. R. 38: 2218.

2. In 2015, Northern Metals/Barr Engineering denies that its building constitutes a “total enclosure.”

In 2015, MPCA inspectors observed emissions from the shredder building that were not discharging from the designated “stack vent.” R. 26; R. 28. In responding to this issue, Barr Engineering Vice-President Mike Hansel (“Hansel”) contradicted the Barr 2001 Representation. R. 18. Hansel stated that “the shredder building is not a component of the ‘total enclosure’ system for either of the two ‘emissions units.’” R. 18: 1464. Hansel represented that “sealed hard ducting” provided the total enclosure, not the building. *Id.* Hansel later represented that the shredder and cascade cleaning system emission units themselves constituted “total enclosures.” R. 19: 1525–26. Further, Hansel stated “that the ‘shredder building’ is not and was never intended to be the ‘total enclosure’ system for the proposed shredder and cascade cleaning system.” R. 19: 1479–80. (emphasis in original).

Based on the contradictory statements set forth above, there is no genuine issue of material fact concerning MPCA’s allegation that Northern Metals’ 2012 permit application failed to disclose fully the relevant facts. Northern Metals claimed a “total enclosure” when neither the building (as it now admits) nor anything else (as discussed below) provides such a “total enclosure.”

B. A Shredder That Generates “Shredder Fog” And That Has Uncontrolled Drop Points And Conveyors Is Not Operating In A “Total Enclosure.”

The MPCA has twice observed the shredder generating emissions during operation. R. 37: 1911; 1913. Northern Metals has positioned a hood over the shredder to capture these

emissions. R 37, Ex. 8A and 8B. Northern Metals has admitted that this “hood” or “snorkel” was necessary to control particulate and steam generated by the processing in the building. R. 21: 1523.

After it is shredded, material drops from the shredder onto an open conveyor which conveys the material to the cascade cleaning system. R. 37: 1914. This drop point and the conveyor produce particulate matter. R. 21: 1573. Northern Metals has positioned spray bars over the conveyor to control the particulate matter. *Id.*

The visible emissions leaving the shredder housing prove that the shredder itself is not a “total enclosure” that “completely surrounds emissions from an emissions unit such that all emissions are captured and discharged through ductwork to control equipment.” Minn. R. 7011.0060, subp. 5. The particulate matter generated by the conveyors and drop points prove that the shredder is not in a “total enclosure.” The fact that Northern Metals installed a “hood” or “snorkel” and “spray bars” to control this particulate matter proves that the emissions are not generated inside a “total enclosure.”

Northern Metals cannot evade this point by “parsing off” the conveyors and drop points and claiming that they are not part of the “emissions unit.” The Technical Support Document for the 2012 air permit states that:

The shredder installation includes an in-feed conveyor system, the shredder itself, size separation equipment, cleaning equipment (referred to collectively as the cascade cleaning system), initial magnetic separation equipment, manual separation stations, finished product conveyor system, and the associated air pollution control system. For the purpose of the air permit, the Minneapolis Shredder installation is divided into two emissions points, or emission units, the hammermill shredder (EU 001) and the cascade cleaning system (EU 002). The two units vent to a common stack (SV 001) and are each controlled by a high efficiency cyclone, venture scrubber, and fabric filter. *The shredder equipment is totally enclosed in a Leadership In Energy and Environment Design (LEED)-designed building. . .*

R. 8: 1164–65 (emphasis added). If the conveyors and other emission-generating activities were not part of the “emissions units,” Northern Metals should have identified the equipment as separate “emission units” in the permit application. R. 38: 2216 (sources can list conveyors as emissions units if not included with processing equipment).⁵ However, Northern Metals did not do so. *Id.* An “emission unit” is “each *activity* that emits or has the potential to emit any air contaminant or pollutant. This includes each piece of equipment, machinery, device, apparatus, activity, or any other means whereby an emission is caused to occur or has the potential to occur.” Minn. R. 7005.0100, subp. 10b. The shredder and cascade cleaning system, with their appurtenant and inherent conveyors and drop points, are such an “activity.” *See Alabama Air Pollution Control Commission v. Republic Steel Corporation*, 646 F.2d 210, 214 (charging, blow, and tapping phases of steel-making constitute “one process” for purpose of calculating particulate matter).

In 2009, Barr Engineering stated to the MPCA that it was necessary to rework “duct connections to the metal shredder to maximize capture efficiency” during the Metso Texas shredder “shake down” period. R. 4: 143. This 2009 statement proves that Hansel knew or should have known that “capture efficiency” of the equipment was not 100 percent, if the shredder building “is **not** and was **never**” a total enclosure as he now emphatically asserts. But Hansel failed to reflect this fact in the Northern Metals’ permit application.

⁵ Similarly, Northern Metals cannot claim that the “cascade cleaning system” unit is “fully enclosed” by parsing off its drop points and conveyors and claiming that emissions from these portions of the shredding process are free to leave the building.

Because there is no genuine issue of material fact with regard to the inaccuracy of the permit documents, the Court should grant the MPCA's motion for summary judgment.⁶

III. NORTHERN METALS' PERMIT APPLICATION FAILED TO INCLUDE EMISSIONS RELATED TO SHREDDER RESIDUE PROCESSING AND NORTHERN METALS SUBSEQUENTLY PROVIDED FALSE INFORMATION ABOUT SHREDDER RESIDUE PROCESSING.

An applicant must provide information on all emission producing activities in a permit application, unless those activities are in the narrow category of "insignificant activities not required to be listed" under Minn. R. 7007.1300, subp. 2. Minn. R. 7007.0500, subp. 3. Northern Metals failed to list emissions related to shredder residue processing equipment in its application for its 2012 permit when those emissions were required to be listed.

A. Shredder Residue Processing Produces Particulate Matter.

In March 2016, the MPCA discovered that Northern Metals was processing shredder residue both inside and outside of the MRP and that this residue processing was a source of particulate matter emissions. R. 37: 1915. The MPCA inspectors obtained a sample of this particulate matter. R. 31; R. 35. The MPCA observed particulate matter being generated inside and outside the MRP. R. 37: 1916.

B. Northern Metals' Permit Application Failed To Disclose The Facts About Its Shredder Residue Processing Operation.

There is no dispute that Northern Metals processed shredder residue both inside and outside the MRP building when it applied for its 2012 permit amendment. Northern Metals admits this in its May 6, 2016, letter. R. 16. It is also undisputed that Northern Metals' application for its 2012 permit made no reference whatsoever to emissions generated by shredder residue processing activities. R. 5. At pages 1–4 of its May 6, 2016, submittal to the MPCA,

⁶ In its August 29, 2016 Order, the Ramsey County District Court found that the equipment was not a "total enclosure." *See* R. 40: 2356–57.

Northern Metals lists numerous references to the “Aluminum Recycling Building,” the “North Warehouse,” the “Metal Recycling Plant Building,” and the “Rain and Snow Shed” in various draft and final documents from 1995 through 2012. However, what Northern Metals cannot and does not demonstrate is that anything is said in those documents regarding *emissions* of any kind from the locations or the activities described. R. 16. Even if those documents did refer to emissions (which they do not), they would not excuse Northern Metals from listing the emissions in the *permit application* as required by Minn. R. 7007.0500. Thus, the Court should reject any argument that MPCA’s air quality staff should have guessed that the activities described in the various documents involved emissions based on the minimal information Northern Metals provided to the MPCA. The fact that there are vague references to recovery of metals from the shredder residue in documents submitted to MPCA does not shift the burden of including required information in a *permit application* from Northern Metals to the MPCA.⁷

In submittals to the MPCA responding to its requests for information, Northern Metals offered numerous arguments to excuse its failure to submit the required information. Below, the MPCA demonstrates that these arguments lack merit.

1. Northern Metals cannot evade the deficiency in its permit application by artificially dividing its activity into “indoor” and “outdoor” segments.

Generally, an applicant for an air emissions permit must list all emissions units and activities that generate emissions and calculate their “potential to emit.” Minn. R. 7007.1300, subp. 2. However, MPCA’s air permitting rules allow applicants to not list certain activities deemed “insignificant.” Other activities are required to be listed, but emissions do not need to be calculated unless requested. Minn. R. 7007.1300, subp. 3. In its May 6, 2016 response to

⁷ In his August 29, 2016 Order, Judge Guthmann concluded that Northern Metals had failed to report the MRP emissions during the permitting process. R. 40: 2366.

MPCA's requests⁸ for information about the shredder residue processing operation, Northern Metals argued that it was not required to list *any* emissions related to the MRP for several reasons. R. 16: 1387–94. First, Northern Metals argued that it was not required to list the *indoor* processing activity under Minn. R. 7007.1300, subp. 2(D)(3). R. 16: 1394. Second, Northern Metals argued that it was not required to list the *outdoor* processing activity under Minn. R. 7007.1300, subp. 3, item I (individual emission units at a stationary source with a potential to emit . . . less than . . . 2,000 pounds per year each of . . . particulate matter). R. 16: 1390–93. Finally, Northern Metals argued no permit amendment is necessary to change the *outdoor* processing activity under Minn. R. 7007.1250, subp. 1. R. 16: 1390–92.

All three of Northern Metals' arguments fail because they rest on an artificial division of the residue processing activities that is unsupported by Minn. R. 7007.1300. The inside functions and the outside functions are the same. *See* R. 16. The shredder residue moves on conveyors from equipment outside to equipment inside, and back out again for more processing. *Id.*; R. 31: 1783. The only reasonable conclusion is that this is one activity, not two. *See Alabama Air Pollution Control Commission v. Republic Steel Corporation*, 646 F.2d 210, 214 (charging, blow, and tapping phases of steel-making constitute "one process" for purpose of calculating particulate matter). Furthermore, Northern Metals' arguments concerning the application of Minn. R. 7007.1300 simply lack merit.

2. Northern Metals' failure to list emissions from the shredder residue processing is not supported by Minn. R. 7007.1300.

Under Minn. R. 7007.1300, for the *indoor* processing to qualify as an "insignificant activity not required to be listed," Northern Metals must establish that the indoor processing activity meets the criteria of Minn. R. 7007.1300, subp. 2(D)(3). Minn. R. 7007.1300, subp.

⁸ March 17, 2016 (R. 12), March 29, 2016 (R. 13), and April 5, 2016 (R. 15).

2(D)(3) allows permit applicants to not list “processing” activities if they are “vented into a building 100 percent of the time” and do not involve an air cleaning system. Northern Metals fails to show that its shredder residue processing is covered by this rule.

First, Northern Metals’ shredder residue processing is not covered by this rule at all. Minn. R. 7007.1300, subp. 2(D)(3) references “buffing, polishing, carving, cutting, drilling, machining, routing, sanding, sawing, surface grinding or turning equipment.” From the examples given, the rule is intended to cover equipment used to transform solid materials like wood, stone or metal. The equipment Northern Metals uses to recover additional metals from the shredder residue is not this type of equipment, and shredder residue is not a solid material. To the extent that this rule is ambiguous, deference should be given to MPCA’s interpretation. *See In re Cities of Annandale and Maple Lake NPDES/SDS Permit*, 731 N.W.2d 502, 512. Courts are particularly deferential when interpreting a rule that requires application of an agency’s “training and expertise.” *Id.* at 514.

Second, Northern Metals’ processing activities are not vented into a building “100 percent of the time.” Northern Metals has admitted that it maintains doors and holes in the building for ventilation. R: 39: 2289.010. As the MPCA interprets Minn. R. 7007.1300, subp. 2(D), a “building” that is operated with significant openings does not meet the intent of the rule.⁹ The emissions cannot be vented “100 percent of the time” into a building with openings because they will leave the building through the openings.

Finally, nothing supports Northern Metals’ argument that its *outdoor* processing did not need to be listed. Even if Northern Metals now argues that its outdoor processing equipment

⁹ In its August 29, 2016 Order, the Ramsey District Court rejected Northern Metals’ argument that a building with openings met the intent of this rule. R: 40: 2367.

meets the particulate matter cutoff of “2,000 pounds per year” so that it could qualify as “insignificant” under Minn. R. 7007.1300, subp. 3(I)(2), Northern Metals misses a major point: Minn. R. 7007.1300, subp. 3 identifies activities that are *required to be listed in the permit application*. Minn. R. 7007.1300, subp. 3. Northern Metals cannot “turn back the clock” to argue that, *had* such an activity been listed, it could *thereafter* modify that activity under Minn. R. 7007.1250, subp. 1 without a permit amendment by *today* producing calculations that (it asserts) demonstrate that its new outdoor emissions are less than “0.855 pounds per hour.” *See* R. 16: 1390–93. Further, there is no dispute that Northern Metals did not “keep a record of the modifications,” “calculations of the emissions increase,” and/or a “statement of the purpose for making modifications” as required by Minn. R. 7007.1250, subp. 3, because the modification was not acknowledged and the calculations were not produced when they were requested by the MPCA’s inspector on April 16, 2015, as described below. R. 37: 1914.

Because there is no genuine issue of material fact with regard to Northern Metals’ failure to list emissions of particulate matter generated by Northern Metals’ shredder residue processing operations in its permit application, the MPCA is entitled to summary disposition on its claim that Northern Metals’ 2012 permit application failed to disclose facts relevant to the issuance of the permit.

C. Northern Metals Consistently Provided False Or Misleading Information Or Omitted Material Information About Its Shredder Residue Processing.

On December 15, 2014, the MPCA sent a letter to Northern Metals seeking information about its activities in relation to the violations of the particulate matter ambient air standard that MPCA documented at its 909 ambient air monitor. R. 10. Northern Metals responded in a January 20, 2015 letter. R. 11. Northern Metals described the MRP as an “Insignificant Activity.” *Id.* at 1333. Northern Metals further stated that “[n]on-ferrous materials are processed

inside an enclosed building, where proprietary separation of ferrous and nonferrous metals (e.g., aluminum, copper, brass) occurs.” R. 4: 1336 (emphasis added). Later, Northern Metals again described the MRP as an “insignificant activity” and stated “[t]his activity has little to no potential for emissions as *the activity is fully enclosed.*” R. 11: 1340–41(emphasis added). There is no genuine issue of fact concerning the falseness of these statements. Northern Metals was processing shredder residue both inside and outside at the time these statements were made. R. 16; R. 37.

On April 16, 2015, the MPCA inspected Northern Metals. During this inspection, the MPCA asked Northern Metals whether any activities claimed as “insignificant activities” had been modified. Northern Metals claimed that nothing had changed since the last inspection. R. 37: 1914. This statement was false. In its letter of May 6, 2016, Northern Metals admits it significantly expanded the shredder residue operation in 2014. R. 16.

On March 17, 2016, the MPCA requested that Northern Metals respond to questions about its shredder residue processing. R. 12. In its March 29, 2016 response, Northern Metals asserted that the emissions from the shredder residue processing were “vented inside of a building 100 percent of the time” and therefore did not need to be disclosed in the permit application, or that the emissions were included in the permit application as “fugitive dust,” referencing a “front end loader” moving material into the building. R. 13. There is no dispute that this statement was false. Northern Metals knew that significant amounts of processing were taking place outside its building, and that the material was being moved back and forth with conveyors. R. 16. Northern Metals knew this activity had not been listed in the permit application as a source of “fugitive emissions.” R. 9.

On March 29, 2016, by email, MPCA requested detailed information on the equipment Northern Metals used to process shredder residue. R. 14. By letter dated April 5, 2016, the MPCA repeated its demand. R. 15. On May 6, 2016, Northern Metals provided *some* of the detailed information requested by MPCA on March 29 and April 5, 2016.¹⁰ R. 16. In its May 6, 2016, letter, Northern Metals finally admitted that it processed shredder residue inside *and outside* of the MRP building. *Id.* This information conclusively demonstrated that processing emissions were not “vented inside a building 100 percent of the time” and that the emissions outside the building were not merely generated by a front end loader moving material, as Northern Metals falsely suggested in its March 17, 2016 email.

Northern Metals has no basis for asserting that the false information it provided did not concern “facts. . . relevant to issuance of the permit,” as the MPCA has charged because these emissions were relevant to permitting. Northern Metals also cannot contest that it provided inaccurate and misleading information to the MPCA prior to the May 6, 2016 submittal when it told MPCA that the processing was “fully enclosed” and qualified as an “insignificant activity not required to be listed” under Minn. R. 7007.1300, subp. 2(D)(2).

CONCLUSION

Northern Metals failed to provide accurate information about its emissions in its permit application, and then submitted false or misleading information in response to MPCA’s later requests for that information. The Administrative Law Judge should therefore recommend that the MPCA proceed with the permit revocation action.

¹⁰ Northern Metals still refused to provide any information about emissions inside the MRP building. R. 16. In his August 29, 2016 Order, Judge Guthmann concluded that Northern Metals failed to respond to MPCA’s requests for information. R. 40: 2368

Dated: 8/31/16

Respectfully submitted,

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Exhibit 22

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June 14, 2018

TO: INTERESTED PARTIES

RE: Northern Metals, LLC - Becker

The Minnesota Pollution Control Agency (MPCA) has approved the Findings of Fact, Conclusions of Law, and Order for a Negative Declaration on the need for an Environmental Impact Statement on the Northern Metals, LLC – Becker project. The Findings of Fact, Conclusions of Law, and Order document concludes that this project does not have the potential for significant environmental effects. The decision for a Negative Declaration completes the state environmental review process under the revised Environmental Quality Board rules, Minn. R. ch. 4410. Final governmental decisions on the granting of permits or approvals for the project may now be made.

These documents can be reviewed at the following locations: the MPCA offices in St. Paul; the Minneapolis Public Library at 300 Nicollet Mall, Minneapolis. The document can be viewed on our MPCA website at www.pca.state.mn.us/eaw. Requests for copies of these documents may be made by contacting the St. Paul office at 651-757-2100.

We want to express our appreciation for comments submitted on the Environmental Assessment Worksheet. Comments and responses to them have been incorporated into the Findings of Fact, Conclusions of Law, and Order and have been considered by MPCA staff during the permit process for the proposed project.

Sincerely,



for

Dan R. Card, P.E.
Supervisor, Environmental Review Unit
St. Paul Office
Resource Management and Assistance Division

DRC:bt

**STATE OF MINNESOTA
MINNESOTA POLLUTION CONTROL AGENCY**

**IN THE MATTER OF THE DECISION
ON THE NEED FOR AN ENVIRONMENTAL
IMPACT STATEMENT FOR THE PROPOSED
NORTHERN METALS, LLC BECKER
SHERBURNE COUNTY
CITY OF BECKER, MINNESOTA**

**FINDINGS OF FACT
CONCLUSIONS OF LAW
AND ORDER**

Pursuant to Minn. ch. 4410, the Minnesota Pollution Control Agency (MPCA) staff prepared and distributed an Environmental Assessment Worksheet (EAW) for the proposed Northern Metals, LLC - Becker scrap metal recycling center (Project) in the general industrial area in the city of Becker. Based on the MPCA staff environmental review, the EAW, comments and information received during the comment period, and other information in the record of the MPCA, the MPCA hereby makes the following Findings of Fact, Conclusions of Law, and Order.

FINDINGS OF FACT

Project Description

1. Northern Metals, LLC (NM) plans to construct a scrap metal recycling complex in the general industrial zone within the city of Becker.
2. The proposed complex consists of an enclosed scrap Metal Shredder (Shredder), an enclosed ferrous process, an enclosed Metal Recovery Plant (MRP), an End of life Vehicle (ELV) process, and a Community Recycling Center (CRC) where area residents can receive payment in exchange for recyclable commodity metals.
3. Scrap metal material arrives at the Project site by truck and a minimal amount by rail. NM places restrictions on what type of scrap material is acceptable at the Project site according to its Feedstock Control Plan. NM visually inspects all incoming material as it arrives onsite, and then directs the material to either the "main stockpile" area or "commodities stockpile" area. Each of these stockpile areas will contain multiple storage piles.
4. The "main stockpile" area (located directly south of the Shredder building) contains piles of material NM intends to shred, and separate piles of material NM does not intend to shred. NM loads all non-shredded material into railcars and trucks for shipment and processing off-site.
5. The "commodities stockpile" area (located in the southeast corner of the facility) contains piles of material that does not require shredding. NM loads the material from the commodities stockpile area into railcars using cranes and front-end loaders for shipment and processing off-site.
6. Examples of commodities processed by the Shredder
 - Auto Hulks - shredder ready automobiles

- Appliances - shredder ready microwaves, refrigerators, stoves, hot water heaters, furnaces
 - Bales - shredder ready sheet iron, appliances, autos
 - Loose Sheet Iron - tin, siding, paneling, demolition steel, loose steel, cast iron
 - Miscellaneous Metals - steel, copper, stainless steel, brass
 - New Production Clip - new steel that gets shredded into foundry grade shredded clips
7. Commodities produced by the Shredder
- FRAG - shredded miscellaneous steel
 - ASR - auto shredder residue, aluminum, stainless steel, steel, copper, brass and waste
 - HMS - Heavy Melt Steel with dimensions of 3'long X 18"wide X 1/8" thick
 - Shredded Armatures - copper windings from electric motors that get picked out of the shredder
 - Shredded Clip - new production clip that gets shredded into foundry grade clips
8. The infeed conveyer carries the incoming material into the Shredder building. NM uses close circuit cameras to monitor the incoming material on the infeed conveyer as it enters the Shredder building, checking for non-shreddable materials that need to be removed. If NM identifies any non-shreddable materials on the infeed conveyor, it removes the material and returns it to the non-shred portion of the main stockpile area.
9. Shredded material is conveyed in a covered conveyor to the ferrous building where it is sorted into ferrous material and Automotive Shredder Residue (ASR). Once the ferrous material reaches this point in the process, it does not go through further processing. NM conveys the shredded ferrous material from the ferrous building into a temporary stockpile directly outside the ferrous building before placing into railcars or trucks for shipment and processing off-site.
10. NM also receives clips (flat sheet metal free of any foreign elements) which are stored, processed, and shredded separately from other ferrous material. Shredded clips are stored in a covered, three-sided building immediately north of the ferrous building. NM ships the shredded clips off-site via trucks.
11. Regarding air emission controls, NM collects air within the Shredder building and sends it through a centrifugal collector, two fabric filters, and a regenerative thermal oxidizer in order to control the air emissions created during the shredding process. NM also collects air within the ferrous process building and sends it through a centrifugal collector and two fabric filters to control the air emissions created from the ferrous process. The processed air vents out both buildings through a stack.

Metal Recovery Plant

12. NM transfers the ASR from the Shredder building in a covered conveyor to the MRP, which has an input capacity of 50 tons per hour (tph). The ASR process conducted in the MRP further separates the remaining ferrous material from the nonferrous material. The ASR travels through the MRP where nonferrous material such as aluminum, stainless steel, copper, brass, and steel is sorted using screens, vibratory feeders, and other separation equipment including eddy current machines. NM conveys the different non-ferrous material to separate bins within the MRP for storage until

shipped off-site. NM ships the non-ferrous material from the MRP out through a load out area in the northeast corner of the MRP to trucks when necessary.

13. The remaining material, called “waste fluff,” is transferred via conveyor to a covered, three-sided storage area specifically for waste fluff, located immediately outside the MRP building. NM ships waste fluff to an approved landfill for disposal. NM controls air emissions from the MRP process using the MRP baghouse, with emissions vented through a stack.

Community Recycling Center

14. NM has located the CRC area on the east side of the Project site, separated from the main operations. NM inspects and segregates materials provided by the public into commodity and scrap metals. NM weighs the commodity metals and reimburses the public for recycling these metals.

The End of Life Vehicle Process

15. NM accepts ELV vehicles that are driven onsite (e.g., in the CRC) and ELV vehicles delivered by towing companies, flatbed trucks, or semi-trailers. NM decommissions the vehicles by removing batteries, gas tanks, lead-containing materials, and mercury switches and draining all fluids on a commercially manufactured ELV rack.
16. NM intends to have the ELV system be a stationary arrangement within a building built with impermeable flooring. NM stores the removed fluids in double walled tanks, and stores mercury switches in labelled containers prior to shipment from the facility as part of the National Vehicle Mercury Switch Recovery Program.
17. NM will use less than 10 doubled wall 500 gallon above ground storage tanks for the collection and storage of liquids drained from vehicles in the ELV system, including antifreeze, washer fluid, oil, gasoline, and diesel. The tanks will be located immediately outside the ELV in a covered area (no walls, but a roof extending over the tanks) with secondary containment. All tanks will be double walled tanks, and will satisfy applicable Spill Prevention Control and Countermeasure requirements.
18. NM has applied for coverage under the Air Emissions Permit # 14100076-101 on 8/1/2017 and supplemented its application on 4/13/2018.

Procedural History

19. An EAW is a brief document designed to provide the basic facts necessary for the Responsible Governmental Unit (RGU) to determine whether an Environmental Impact Statement (EIS) is required for a proposed project or to initiate the scoping process for an EIS (Minn. R. 4410.0200, subp. 24). The MPCA is the RGU for this Project.
20. NM, in response to a consent decree signed on March 15, 2017 (Court File Number 62-CV-15-3827), must shut down the Shredder at their current Minneapolis facility.
21. In accordance with the consent decree, NM submitted permit applications and EAW for a Shredder at an alternate location. NM has selected Becker, Minnesota as the alternative location for the new Shredder.

22. Pursuant to Minn. R. 4410.1500, the EAW was distributed to the Environmental Quality Board (EQB) mailing list and other interested parties on April 12, 2018.
23. The MPCA provided public notice of the Project as follows:
 - a. The EQB published the notice of availability of the EAW for public comment in the *EQB Monitor* on April 16, 2018, as required by Minn. R. 4410.1500.
 - b. The EAW was available for review on the MPCA website at: www.pca.state.mn.us/eaw.
 - c. The MPCA provided a news release to media in southern Minnesota, and other interested parties, on April 16, 2018.
 - d. The MPCA held an open house and public meeting at the Becker Community Center on May 10, 2018
 - e. NM's application for permit coverage under the Air Permit was open for public comment from April 16, 2018, through May 18, 2018.
24. During the 30-day comment period, the MPCA received a comment letter from the Minnesota State Historic Preservation Office, and five letters from citizens. A list of the comment letters received and copies of the letters are included as Appendix A to these Findings.
25. The MPCA prepared written responses to the comment letters received during the 30-day public comment period. The responses to the comments are included as Appendix B to these findings.

**Criteria for Determining the Potential for
Significant Environmental Effects**

26. The MPCA shall base its decision on the need for an EIS on the information gathered during the EAW process and the comments received on the EAW (Minn. R. 4410.1700, subp. 3). The MPCA must order an EIS for projects that have the potential for significant environmental effects (Minn. R. 4410.1700, subp. 1). In deciding whether a project has the potential for significant environmental effects, the MPCA must compare the impacts that may be reasonably expected to occur from the Project with the criteria set forth in Minn. R. 4410.1700, subp. 7. These criteria are:
 - A. Type, extent, and reversibility of environmental effects.
 - B. Cumulative potential effects. The responsible governmental unit (RGU) shall consider the following factors: whether the cumulative potential effect is significant; whether the contribution from the project is significant when viewed in connection with other contributions to the cumulative potential effect; the degree to which the project complies with approved mitigation measures specifically designed to address the cumulative potential effect; and the efforts of the proposer to minimize the contributions from the project.
 - C. The extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority. The RGU may rely only on mitigation measures that are specific and that can be reasonably expected to effectively mitigate the identified environmental impacts of the project.

- D. The extent to which environmental effects can be anticipated and controlled as a result of other available environmental studies undertaken by public agencies or the project proposer, including other EISs.

**The MPCA Findings with Respect to Each of These Criteria
Are Set Forth Below**

Type, Extent, and Reversibility of Environmental Effects

27. The first criterion that the MPCA must consider when determining if a project has the potential for significant environmental effects is the “type, extent, and reversibility of environmental effects” Minn. R. 4410.1700, subp. 7. A. The MPCA findings with respect to this criterion are set forth below.
28. The types of impacts that may reasonably be expected to occur from the Project include the following:
- a. Impacts related to Air Quality
 - b. Impacts related to Surface Water Runoff (Stormwater)
 - c. Impacts related to Traffic

Impacts Related to Air Quality

29. Operations of the 400 tph Shredder, 300 tph ferrous sorting, 50 tph MRP, 50 tph Waste Fluff Handling, 300 tph Shredded Ferrous Product Handling, vehicle emissions, insignificant activities, such as aboveground storage tanks, boilers, and space heaters will generate air emissions.
30. NM has applied for an individual total facility state air permit (Air Permit). The facility’s potential to emit is below the major source thresholds for Federal New Source Review Program, the Part 70 Program and the National Emission Standards for Hazardous Air Pollutants Programs. The MPCA does not consider the Project a major source of Hazardous Air Pollutants.
31. To assess whether the facility operations will cause or contribute to ambient air concentrations that violate the National Ambient Air Quality Standards, NM completed a Significant Impact Level (SIL) analysis using the U.S. Environmental Protection Agency regulatory plume dispersion model AERMOD. Facility operations were set up to run 8,760 hours in the model. Pollutants modeled in the SIL analysis were SO₂, CO, particulate matter less than 10 (10) microns (PM₁₀), particulate matter less than 2.5 microns (PM_{2.5}), and NO₂. The modeled concentrations of each pollutant were compared to their respective SIL value using High First High (H1H) modeled impacts.
32. AERMOD predicted no exceedances of the SIL for any of the modeled pollutants; therefore, a cumulative dispersion modeling analysis was not required.
33. The MPCA required an Air Emission Risk Analysis (AERA) as a condition of the consent decree. The AERA includes both a quantitative analysis of potential impacts to human health using MPCA’s Risk Assessment Screening Spreadsheet (RASS), and a qualitative analysis using information from the site and the surrounding community.

34. The Proposer used the MPCA's RASS to evaluate the acute toxicity, chronic toxicity, cancer, and non-cancer risks associated with emissions from the Project. The RASS conservatively considers the relative health risk for each pollutant emitted by the Project with a health benchmark. The results of this assessment determine the need for additional evaluation. NM calculated the total inhalation acute hazard index using upper end proposed emission inputs and conservative exposure parameters; the assessment resulted in a value of under one. For assessing health risk from non carcinogenic chemicals, a hazard quotient is calculated as a non cancer risk value. Any value under one poses no significant health related adverse exposures. For cancer risks, any value under one in a million poses no significant health risk. The health risks from exposures to pollutants known to be carcinogens were also evaluated and cancer risk was found to be below RASS health risk guidance. The chronic multi-pathway hazard analysis yielded results less than one. The chronic lifetime excess cancer risk estimate was less than the threshold of $1E-5$, or one in 100,000. Both the acute and the chronic risk values are acceptable because they are at or less than the health risk guidance. Therefore, the MPCA does not expect acute emissions to adversely affect human health.
35. The qualitative risk analysis describes the area surrounding the Project site. The Project should not affect the Becker High School, Becker Middle School, Becker Primary School, Becker Intermediate Elementary School, Red Balloon Child Care Center, and soccer fields located within the 1.5 kilometer radius from the Project site. The results of the air emissions risk analysis show that the Project as proposed does not add any additional health risks to the sensitive receptors around the Project site. The MPCA does not expect the Project to have adverse effects to human health and the environment.
36. The Proposer also completed the Minnesota Mercury Risk Estimation Method (MMREM) spreadsheet. This spreadsheet calculates the local mercury hazard quotient due to fish contamination from mercury emissions of a project. The Project will emit less than 3 lb/yr of mercury. The closest fishable waterbody is the Mississippi river. The area of maximum deposition is an area of 3,567 acres of fishable waterbody between St. Cloud dam and Coon Rapids dam on the Mississippi River. MPCA has determined based on the MMREM analysis that there is no expected increase in the ratio of incremental fish mercury concentration from the Project relative to the existing water quality.
37. The MPCA finds that the Project will generate small amounts of gaseous emissions (VOCs, sulfur dioxide, carbon monoxide, nitrogen oxides, and greenhouse gas emissions) from the combustion of natural gas in small combustion units – space heaters, a boiler, evaporators and the thermal oxidizer. The worst-case gaseous emissions from these are so small that they do not trigger the need to be controlled or tested under the air quality regulations.
38. The MPCA finds that the information represented in the EAW and other information in the environmental review record is adequate to assess potential impacts to air quality that are reasonable expected to occur from the Project.
39. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address the concerns related to air emission. The impacts of air emissions that are reasonably expected to occur from the proposed Project have been considered

during the review process and methods to prevent significant adverse impacts have been developed.

40. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of impacts related to air emissions that are reasonably expected to occur from the Project.

Impacts Related to Surface Water Runoff (Stormwater)

41. Construction of the Project results in the disturbance of existing ground cover resulting in the potential for erosion. NM will obtain coverage under MPCA's general National Pollutant Discharge Elimination System (NPDES/SDS) Construction Stormwater (CSW) Permit and implement Project Site area-appropriate requirements. The CSW Permit also requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP).
42. All product and equipment traffic is located on impervious paved surfaces to provide imperious containment on the Project Site. Stormwater collected on these paved and curbed surfaces drains to stormwater ponds lined with impervious liners. The lined stormwater ponds are designed to contain the 100-year, 24-hour storm event (6.66 inches). NM will monitor the lined stormwater ponds both visually and via the level controls of the pump station.
43. NM intends to use water from the stormwater ponds located throughout the Project Site for much of the non-potable water needed for the Project. During periods of dry weather when recycled stormwater is insufficient to meet the operational needs, NM will use city water.
44. NM will comply with various permits and plans such as the SWPPP, Spill Prevention, Containment, and Countermeasure Plan, and Feedstock Control Plan in order to prevent spills and accidental releases as well as address containment and cleanup to minimize impacts to soil and groundwater.
45. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address the concerns related to stormwater. The impacts from stormwater that are reasonably expected to occur from the proposed Project have been considered during the review process and methods to prevent significant adverse impacts have been developed.
46. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of impacts related to stormwater that are reasonably expected to occur from the Project.

Impacts Related to Traffic

47. NM expects the maximum hourly traffic count to be 40 vehicles per hour, and the maximum daily traffic count to be 549 vehicles per day. The Project will result in an increase in traffic, which is expected to be spread out on local roads. Incoming and outgoing traffic will access the Project Site from access roads from different directions. State Highway 10 is the major road leading to and from the Project Site.

48. The annual average daily traffic (AADT) count on Highway 10 at Hancock Street is 17,700 per the Minnesota Department of Transportation (MnDOT) traffic data website. While specific information from MnDOT is not available for Hancock Street, as noted above, the AADT count for the traffic count location closest to the Highway 10 and Hancock Street intersection is 17,700 vehicles per day. Based on the proposed 549 vehicles entering or exiting the site per day and the AADT values, NM expects the Project to show a 1% increase in traffic.
49. NM current Project Site layout has enough room for 24 semi-trucks to park in the staging area, with another 40 parking spaces available for NM semi-trucks to park at the end of the day. The semi-truck parking area is also available for "over flow" parking if needed. Therefore, there is capacity for over 30 trucks to be on site at the same time, assuming NM has 24 spaces for staging and 6 to 8 trucks dumping or loading in the yard at any one time, without counting the extra 40 spaces available for semi-truck overflow parking.
50. NM dispatches its trucks to several different locations, and travel times vary from one hour round trip up to 9 hours round trip. NM strives to keep its trucks spread out so they do not all arrive at the plant at the same time.
51. NM currently follows practices to minimize diesel idling at the Minneapolis site and will implement these measures for the Project. NM works to efficiently get trucks in and out of the yard as quickly as possible. However, if unavoidable conditions create a lengthy wait at the Project Site, NM will instruct drivers to turn off their trucks during the late spring, summer, and early fall months. During the winter months, the trucks remain in idle mode in order to maintain comfortable and safe cabin conditions for drivers.
52. NM will assure that the trucks will be in proper operating condition, properly licensed, properly muffled and will meet road weight restrictions on area roads.
53. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address the concerns related to traffic. The impacts from traffic that are reasonably expected to occur from the proposed Project have been considered during the review process and methods to prevent significant adverse impacts have been developed.
54. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of impacts related to traffic that are reasonably expected to occur from the Project.

Public Comments on Impacts Related to the Project

55. Written comments received during the comment period raised additional issues, as follows:
 - a. Concerns about NM complying with its Air Permit
 - b. Impacts related to Dust
 - c. Impacts related to Noise
 - d. Impacts related to Odors
 - e. Impacts related to Groundwater Impacts
 - f. Impacts related to Cumulative Impacts

56. With respect to the extent and reversibility of impacts raised in public comments that are reasonably expected to occur from the Project, the MPCA makes the following findings.

Concerns about NM to Complying with its Air Permit

57. While air quality dispersion *modeling* is the standard means to predict whether a facility's emissions will cause or contribute to a violation of the ambient air quality standards, the MPCA generally requires facility-specific air *monitoring* in cases where a facility has not demonstrated compliance with previous air quality dispersion modeling.
58. As described in Section 3.2 of the Technical Support Document for the Air Emissions Permit and Question 16a of the EAW, Northern Metals was able to demonstrate through air quality dispersion modeling that the potential emissions from its proposed facility will not cause or contribute to a violation of the ambient air quality standards.
59. The MPCA was deliberate in requiring that the Project be built such that all processing operations occur inside buildings that: 1) are total enclosures (buildings that keep doors and windows shut during operation), and 2) that all processing emissions are routed to control equipment. This design ensures that emissions from these processes are minimized. Emissions from material handling operations that occur outside are minimized since material is directly conveyed in covered conveyors between buildings and directly conveyed into storage sheds. Nonferrous metal product is stored inside the metal recovery building. Material handling operations that do occur outside such as handling of ferrous product are required to be managed according to a fugitive dust control plan, which is an enforceable part of the Project air emissions permit.
60. The MPCA considers a fugitive dust control plan a standard and effective means of regulating fugitive emissions through air emissions permits. These design and operating requirements provide additional assurance that the facility will not cause or contribute to ambient air quality standards. Table 9 of the Technical Support Document for the Air Emissions Permit includes a summary of the monitoring required by the permit and why the monitoring is adequate to ensure compliance with the applicable air quality regulations and permit requirements.
61. At any given time, there are tens of thousands of facilities and projects that affect Minnesota's environment; therefore environmental regulations and state environmental programs are set up to ensure compliance based on a combination of monitoring and self-reporting by the Permittee and oversight by the MPCA. The Permittee is responsible for daily monitoring of the facility, and the MPCA will provide the following oversight.
62. The MPCA will periodically conduct unannounced inspections of the Project, including an inspection after the Project begins operating. The MPCA has a risk-based strategy for determining frequency of inspections that is dependent on many factors including the compliance history of the Project. The MPCA also conducts inspections as a result of complaints.
63. As part of the MPCA inspection, the inspector reviews records that NM is required to keep to ensure that it is meeting the requirements of its permit. These records include, but are not limited to, assessments of control equipment and operating conditions, calculation of emission rates, control equipment performance parameters, composition and monitoring of the feedstock, visible emissions checks, dust mitigation measures, employee training, etc.

64. The MPCA will review all reports and self-reporting required by the permit and per standard practice, follow-up on all citizen complaints.
65. NM is also required to have a third party conduct stack emissions testing after startup and periodically thereafter. The MPCA will review and approve both the stack test plan in advance of the testing and the results of subsequent testing.
66. The MPCA will initiate an enforcement action if it finds the Project is in violation of the air permit. The enforcement action will require that NM correct the violation, and it may include a penalty depending on the type of violation.
67. The MPCA finds that the record keeping and monitoring required in the Air Permit is adequate to ensure that NM will comply with the specified permit conditions.
68. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address the concerns related to NM being held accountable for complying with the air permit. The monitoring and reporting requirements contained within the air permit have been considered during the review process and methods to prevent significant adverse impacts have been developed.
69. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of impacts related to NM being able to comply with the air permit that are reasonably expected to occur from the Project.

Dust

70. NM will comply with a fugitive dust control plan, which the MPCA considers a standard and effective means of regulating fugitive emissions through air emissions permits. NMs' fugitive dust control plan also requires that Project Site is paved; the paved areas are swept daily (unless freezing conditions or rain); any spills in material handling operations are cleaned promptly; and that employees are trained in best management practices. The plan also requires monitoring of conditions and triggers corrective actions. The fugitive dust control plan is Appendix B to the Air Emissions Permit. The permit also requires that the majority of the dust-generating processes and activities occur indoors.
71. Waste Fluff and shredded clip will always to be stored in the three-sided, covered shed to minimize dust emissions. Ferrous product may be stored outside. Ferrous product is large (about 4-5 inches in diameter) and has been cleaned in the ferrous process to remove entrained dust.
72. The air quality dispersion modeling included a conservative estimate of the amount of dust generated from ferrous project pile. The air quality dispersion modeling uses 2012-2016 data from the St. Cloud regional airport meteorological surface station from that includes prevailing wind data. The air quality dispersion modeling and AERA results show that the emissions from the Project will not cause or contribute to a violation of the ambient air quality standards or exceed health benchmarks.

73. NM will minimize road dust at the Project Site by paving all roads. NM will sweep and water the paved roads at the Project Site as necessary and in accordance with its Fugitive Dust Control Plan to minimize dust. NM will comply with a Fugitive Dust Control Plan (Attachment 3) as part of its air permit.
74. Water trucks and cannons are one of the methods NM will use to minimize dust. Watering is not 100% effective at controlling dust, but it is a best management practice for minimizing fugitive dust and is a piece of the overall scheme to minimize dust from the Project.
75. EPA has created equations that estimate dust emissions based on both wind speed and moisture content of material. Calculations of emissions from fugitive dust for the Project use these equations. The MPCA did not assume that watering eliminates emissions and in many cases, to be conservative, the MPCA assumed no effect from the watering and the emissions were still within regulatory thresholds. These calculations are in Attachment 1 to the Technical Support Document for the Air Emissions Permit.
76. The MPCA finds that the Fugitive Dust Control Plan included as Attachment 3 of the air permit is an effective and accepted means to control dust at the Project site.
77. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address the concerns related to dust. The impacts of dust that are reasonably expected to occur from the proposed Project have been considered during the review process and methods to prevent significant adverse impacts have been developed.
78. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of impacts related to dust that are reasonably expected to occur from the Project.

Noise

79. The Project consists of an enclosed metal shredder, an enclosed metal recovery plant, an end of life vehicle process, and a Community Recycling Center (CRC).
80. NM in its analysis of noise from the Project predicted the fans serving the combined stack to be the predominant source of noise of the Project. NM analysis relied on actual sound level measurements taken at the Minneapolis facility during typical operation. These measurements were inclusive of all sounds emanating from the Minneapolis facility over the time of the testing and expected to include many of the noise sources described by the commenter. In this way, the prediction of noise from the Project considers both the predominant source of noise as well as other contributing noise sources such as unloading and loading of material at the Project Site. The noise analysis by NM demonstrates that the facility will operate in compliance with state noise standards.
81. Studies of the physics of noise have shown that in a setting with multiple sources of noise, the predominant source of noise drives the overall noise profile. Predictive models bear out this phenomenon.

82. The nearest sensitive receptors to the Project Site are residences located approximately 2,480 feet northeast of the site. The preliminary noise assessment predicted the noise levels at the nearest sensitive receptors from the proposed site to be approximately 59 dB. The predicted results are below the Minnesota's daytime noise standard of 65 dB.
83. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address the concerns related to noise. The impacts from noise that are reasonably expected to occur from the proposed Project have been considered during the review process and methods to prevent significant adverse impacts have been developed.
84. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of impacts related to noise that are reasonably expected to occur from the Project.
85. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of impacts related to noise that are reasonably expected to occur from the Project.

Odors

86. NM collects air within the Shredder building and sends it through a centrifugal collector, two fabric filters, and a Regenerative Thermal Oxidizer (RTO) in order to control the air emissions created during the shredding process. NM also collects air within the ferrous process building and sends it through a centrifugal collector and two fabric filters to control the air emissions created from the ferrous process. The processed air vents out both buildings through a stack.
87. NM expects odors from operations at the Project to be minimal based on the operations at the current Minneapolis site. NM will install a RTO to control air emissions including odors that may occur from the shredding process. MN expect odors from the Project to be minimal, and nuisance conditions are not expected.
88. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address the concerns related to odors. The impacts of odors that are reasonably expected to occur from the proposed Project have been considered during the review process and methods to prevent significant adverse impacts have been developed.
89. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of impacts related to odors that are reasonably expected to occur from the Project.

Groundwater Impacts

90. NM used the Natural Resources Conservation Service Web Soil Survey to assess existing soil resources within the Project area. Based on the Soil Survey for Sherburne County, the following soil is found within the Project area: The soil is Hubbard-Mosford complex (D62A) described as a loamy sand or a sandy loam. The soil onsite is somewhat excessively drained to excessively drained.

91. NM conducted geotechnical borings in the vicinity of the Project Site in September 2016; these borings generally indicate that the depth to groundwater at the Project Site is approximately 20 feet below the ground surface. This is also consistent with the water well logs for wells in the vicinity of the Project Site.
92. The Project Site is not within a Minnesota Department of Health (MDH) wellhead protection area, based on a search of the Minnesota Department of Natural Resources (DNR) database.
93. NM will obtain coverage under MPCA's general National Pollutant Discharge Elimination System (NPDES/SDS) Construction Stormwater (CSW) Permit and implement Project Site area-appropriate requirements. The CSW Permit also require the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP).
94. The SWPPP requires the utilization of temporary soil stabilization techniques and erosion prevention and sediment control requirements during construction. NM will permanently stabilize disturbed soils after project construction using vegetation or will return the land to agricultural production.
95. NM will have all product and equipment traffic located on impervious paved surfaces to provide impervious containment. All stormwater on these paved and curbed surfaces will drain to stormwater ponds lined with impermeable liners. These ponds retain stormwater, allowing potential pollutants to settle out before being discharged off site. In addition, NM will comply with various permits and plans such as the Stormwater Pollution Prevention Plan, Spill Prevention, Containment, and Countermeasure Plan, and Feedstock Control Plan in order to prevent spills and accidental releases as well as address containment and cleanup to minimize impacts to soil and groundwater.
96. NM intends to use water from the stormwater ponds located throughout the Project Site for much of the other water needed for the Project. During periods of dry weather when recycled stormwater is insufficient to meet the operational needs, NM will use city water.
97. NM will have onsite hazardous material aboveground storage tanks. The above ground storage tanks will have secondary containment (Permit requirement) to provide protection for tank leakage or failure to minimize the risk of any spills entering the groundwater or surface water.
98. Except for the electrical transformers and gas cylinders, all chemicals/products listed in the above table are stored indoors, and the risk of these materials entering the groundwater is minimal.
99. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address the concerns related to ground water. The impacts on ground water that are reasonably expected to occur from the proposed Project have been considered.
100. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of impacts related to ground water that are reasonably expected to occur from the Project.

Cumulative Impacts for Air Emissions

101. The EPA has recommended a process for evaluating potential impacts from a new facility in an area that has a background level of air pollution from other industrial facilities, mobile sources, etc., but meets ambient air quality standards, which is the case in Sherburne County. As described in Section 3.2 of the Technical Support Document for the Air Emissions Permit, this approach is consistent with how the MPCA evaluates whether a change at a facility or a new facility will cause or contribute to a violation of the ambient air quality standards.
102. The MPCA used this process to evaluate whether the worst-case air emissions from NM (operations/processes running 24 hours per day, 365 days a year at maximum capacity) would cause or contribute to a violation of the ambient air quality standards. This is a gross overestimate of operations because the Project will only operate about 9-10 hours per day on weekdays and only as needed on weekends, and usually not at maximum capacity. The modeling provides reasonable assurance that the Project will not cause or contribute to a violation of the ambient air quality standards.
103. The first step in this process is a source impact analysis which uses air quality dispersion modeling to compare the modeled impacts from worst case air emissions from the Project to “significant impact levels” (SILs). SILs are levels of ambient impact below which the EPA considers a source to have an insignificant effect on ambient air quality. The SILs are 5% or less of the ambient standards, depending on the standard. In this case, the modeled impacts from NM were well below the SILs.
104. The source impact analysis determines whether an additional air quality analysis, known as a cumulative impact analysis (which includes in the model background levels or air pollution and emissions from nearby facilities), is needed. Because the modeled impacts from NM were below the SILs, under this process the modeling is complete and a cumulative impact analysis is not required to evaluate whether the worst case air emissions from NM, in the context of existing air pollution sources, will cause or contribute to a violation of the ambient air quality requirements.
105. The air emissions risk analysis (AERA) is a standardized screening process used by the MPCA to assess risk to human health from air emissions from a facility. Contributions to potential risks from surrounding sources are not considered; however, the AERA assesses various exposure routes including inhalation and ingestion of home-grown vegetables, beef, chicken, and eggs. Additionally, the AERA evaluates the combined potential effect of all pollutants emitted by the Project with the same health effect.
106. The risk assessment screening process used for NM is meant to be extremely conservative and risks are estimated for worst-case scenarios and for processes running at maximum capacity 24 hours per day. In reality, this is a gross overestimation of the actual operation of the equipment, and hence the potential risks estimated from the analysis are also much lower.
107. As part of the permitting process the MPCA also evaluated existing data on the air quality and background conditions in Becker, including statewide modeling results from the MPCA’s publicly available “MNRisks” tool, to ensure that Becker and the surrounding areas are not uniquely impacted by cumulative air emissions from facilities or roadways in the area, including emissions from Xcel Energy Sherburne County and Highway 10. MNRisks indicated that Becker and the surrounding areas would not be uniquely impacted by cumulative air emissions.

108. The MPCA finds that information presented in the EAW and other information in the environmental review record is adequate to address the concerns related to cumulative impacts. The cumulative impacts that are reasonably expected to occur from the proposed Project from air emissions have been considered during the review process and methods to prevent significant adverse impacts have been developed.
109. The MPCA finds that the Project, as it is proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of impacts related to cumulative impacts from air emissions that are reasonably expected to occur from the Project.

Cumulative Potential Effects

110. The second criterion that the MPCA must consider when determining if a project has the potential for significant environmental effects is the “cumulative potential effects.” In making this determination, the MPCA must consider “whether the cumulative potential effect is significant; whether the contribution from the project is significant when viewed in connection with other contributions to the cumulative potential effect; the degree to which the project complies with approved mitigation measures specifically designed to address the cumulative potential effects; and the efforts of the proposer to minimize the contributions from the project.” Minn. R. 4410.1700 subp.7.b. The MPCA findings with respect to this criterion are set forth below.
111. The EAW, public comments, and MPCA follow-up evaluation did not disclose any related or anticipated future projects that may interact with this Project in such a way as to result in significant cumulative potential environmental effects.
112. The EAW addressed the following areas for cumulative potential effects for the proposed project.

Air Quality

113. The MPCA considered the cumulative potential effects for the Project on air quality. This analysis included consideration of background concentrations for the area and the impacts from the Project. The MPCA makes the following findings on the cumulative potential effects for the Project on air quality.
114. Operation of the Project will generate air emissions. NM conducted air dispersion modeling to evaluate cumulative effects specifically for this EAW. This evaluation considered background conditions and the Project impacts. See Findings 104 through 110 above. Based on the modeling, the MPCA expects that the anticipated increase in air emissions will not result in significant cumulative potential effects.
115. Based on information on the Project obtained from air modeling, permit application processes, information presented in the EAW, and in consideration of potential effects due to related or anticipated future projects, the MPCA finds no potential for significant cumulative effects from the Project.

The Extent to Which the Environmental Effects Are Subject to Mitigation by Ongoing Public Regulatory Authority

116. The third criterion that the MPCA must consider when determining if a project has the potential for significant environmental effects is "the extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority. The RGU may rely only on mitigation measures that are specific and that can be reasonably expected to effectively mitigate the identified environmental impacts of the project." Minn. R. 4410.1700, subp. 7.C. The MPCA findings with respect to this criterion are set forth below.
117. The following permits or approvals will be required for the Project:

Unit of government	Type of application
Minnesota Pollution Control Agency	Individual State Air Emissions Permit
	Minnesota National Pollution Discharge Elimination Systems/State Discharge System (NPDES/SDS) Construction Stormwater General Permit
	Construction Stormwater Pollution Prevention Plan
	Minnesota NPDES/SDS General Permit MNR050000 for Industrial Stormwater Multi-Sector (ISW) includes an Industrial Stormwater Pollution Prevention Plan
	Very Small Quality Generator License for Hazardous Waste
	Sanitary Sewer Extension Permit
	Permit by Rule Solid Waste Recycling Facility Notification Form
	Hazardous Waste Generators License
	Emergency Response, Inspection, and Closure Plan
State of Minnesota	Dealer License
Sherburne County	License for Construction and Operation of a Solid Waste Facility
	Land Use Permit
	Solid Waste Facility License Application for Construction and Operation
City of Becker	Building Permit
	Industrial Sewer Agreement
Becker Township	Building Permit

MPCA

118. MPCA Individual Total Facility State Air Permit. NM must receive an air permit from the MPCA before construction can begin. The air permit will contain operational and emission limits, including requirements for use of control equipment, that will help prevent or minimize the potential for significant environmental effects.
119. MPCA NPDES/SDS Construction Stormwater General Permit. The Proposer must obtain a National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Construction Stormwater (CSW) General Permit for the Project. A NPDES/SDS CSW General Permit is required when a project disturbs one or more acres. It provides for the use of best management practices (BMPs) such as silt fences, bale checks, and prompt revegetation to prevent eroded sediment from leaving the construction site. The Project must have a SWPPP detailing the BMPs to be implemented and that will also address phased construction, vehicle tracking of sediment,

inspection of erosion control measures implemented, and timeframes in which erosion control measures will be implemented. The general permit also requires NM to provide adequate stormwater treatment capacity to assure that water quality will not be impacted by runoff once the Project is constructed.

120. MPCA NPDES/SDS Industrial Stormwater General Permit. This MPCA permit requires NM to comply with specific conditions for construction and operation of the Facility, and assures overall compliance with water quality requirements. The Project needs to prepare a Spill Response Plan and/or revise its SWPPP that provides details of BMPs to be implemented.
121. Above Ground Storage Tank Registration Over 110 Gallons. The Above Ground Storage Tank Registration Permit requirements include notification, labeling, and secondary containment to prevent or minimize the potential for environmental impacts.
122. Hazardous Waste Generator License. Any business that generates more than 10 gallons of hazardous waste in a calendar year must be licensed. The hazardous waste generator license program requires evaluation of wastes, emergency planning, and personnel training. Additional requirements include the proper storage, transport, manifesting, shipping and disposal of wastes, and related record keeping.
123. MPCA SDS Permits for Sewer Installation and Operation. After the completion of administrative and technical reviews by MPCA staff, SDS permits will be required for the interceptor and for each lateral sewer that will connect to it. Review of sewer extension permits will verify that hydraulic capacity exists in the receiving wastewater interceptor systems and treatment facility.
124. Dealer License. This license allows the removal, disconnecting, altering, bypassing, or rendering ineffective any pollution control equipment installed in a motor vehicle.
125. Permit by Rule Solid Waste Recycling Facility Notification Form. The Permit by Rule is a signed agreement from the Proposer to recycle materials in accordance with state rules and regulations.

County

126. License for Construction and Operation of a Solid Waste Facility. The license assures the project will be constructed and operated in accordance with the county's ordinances and codes.
127. Land Use Permit. The permit assures that the project will comply with the County's land use ordinances and codes.

City

128. Building Permit. Building permits and inspections assure the project will be constructed and installed in accordance with the city ordinances and codes.
129. Wastewater – Industrial Sewer Agreement. The project is subject to the wastewater requirements of the city.

Township

130. Building Permit. Building permits and inspections assure the project will be constructed and installed in accordance with the Townships codes and ordinances.
131. The above-listed permits include general and specific requirements for mitigation of environmental effects of the Project. The MPCA finds that the environmental effects of the Project are subject to mitigation by ongoing public regulatory authority.

The Extent to Which Environmental Effects can be Anticipated and Controlled as a Result of Other Available Environmental Studies Undertaken by Public Agencies or the Project Proposer, Including Other EISs

132. The fourth criterion that the MPCA must consider is “the extent to which environmental effects can be anticipated and controlled as a result of other available environmental studies undertaken by public agencies or the project proposer, including other EISs,” Minn. R. 4410.1700, subp. 7. D. The MPCA findings with respect to this criterion are set forth below.
133. MPCA staff reviewed the following documents as part of the environmental impact analysis for the Project:
- Data presented in the EAW
 - Air permit application
 - Air dispersion modeling report
 - Air risk assessment screening spreadsheet
134. The list above is not intended to be exhaustive. The MPCA also relies on information provided by the Proposer, persons commenting on the EAW, staff experience, and other available information obtained by staff.
135. The MPCA finds that the environmental effects of the Project have been addressed by the design and permit development processes and by ensuring conformance with regional and local plans. There are no elements of the Project that pose the potential for significant environmental effects.
136. Based on the environmental review, previous environmental studies by public agencies or the Project proposer, and staff expertise and experience on similar projects, the MPCA finds that the environmental effects of the Project that are reasonably expected to occur can be anticipated and controlled.
137. The MPCA adopts the rationale stated in the attached Response to Comments (Appendix B) as the basis for response to any issues not specifically addressed in these Findings.

CONCLUSIONS OF LAW

138. The MPCA has jurisdiction in determining the need for an EIS for this Project. The EAW, the permit development process, and the evidence in the record are adequate to support a reasoned decision regarding the potential significant environmental effects that are reasonably expected to occur from this Project.

139. Areas where the potential for significant environmental effects may have existed have been identified and appropriate mitigation measures have been incorporated into the Project design and permits. The Project is expected to comply with all MPCA standards.
140. Based on a comparison of the impacts that are reasonably expected to occur from the Project with the criteria established in Minn. R. 4410.1700 subp. 7, the Project does not have the potential for significant environmental effects.
141. An EIS is not required for this Project.
142. Any findings that might properly be termed conclusions and any conclusions that might properly be termed findings are hereby adopted as such.

ORDER

143. The Minnesota Pollution Control Agency determines that there are no potential significant environmental effects reasonably expected to occur from the Northern Metals, LLC - Becker project, and that there is no need for an Environmental Impact Statement.

IT IS SO ORDERED



John Linc Stine, Commissioner

Minnesota Pollution Control Agency

6.13.18

Date

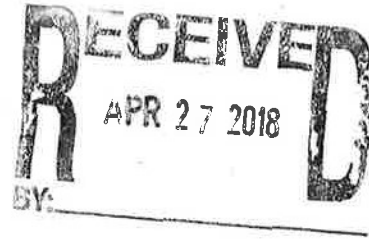
Minnesota Pollution Control Agency

Northern Metals, LLC – Becker

LIST OF COMMENT LETTERS RECEIVED

1. Lonny Seeley. Letter received April 27, 2018.
2. Carolyn Fowler. Letter received May 10, 2018.
3. Lee Frisvold. Letter received May 15, 2018.
4. Sarah Petroske. Letter received May 16, 2018.
5. Scott Gifford. Letter received May 12, 2018.
6. Sarah Beimers, Minnesota State Historic Preservation Office. Letter received May 14, 2018.

April 24, 2018



Dear Mr. Kain,

I am writing about my concerns with Northern Metals relocating in the Becker Industrial Park. My interest in this matter is that my residence is about 1 mile from the proposed site and I also live on County Road 8, a road that will be greatly impacted by the additional traffic.

My concerns would primarily be air pollution. I have read many newspaper articles and court reports documenting how often Northern Metals has violated air quality permits. Also many times they have exceeded pollution limits at their Minneapolis site.

I will list some of the newspaper articles I have read about the present Northern Metals location.

- From an article in the Star Tribune dated 3/18/17; the firm's attorney said it wants a new site where pollution limits won't be as strict. The shredder began operating in 2009 and was fined the following year for air quality permit violations. The state set up one air quality monitor and when it recorded more particles than allowed they added another on the other side which recorded added violations. An MPCA staff attorney stated that we can't let people breathe that air.
- In the MPCA bulletin dated 3/18/17 it is stated that Northern Metals settles for 2.5 million in fines and penalties for contributing to poor air quality. MPCA alleged the company submitted false or misleading information for its air quality permit.
- The MPCA bulletin from above also states that in 2016 they found elevated levels of lead, chromium, cobalt, and nickel.
- Another article stated MPCA believes Northern Metals to be a primary source of particulate emissions near the site since 2014.
- One of the court documents stated that Northern Metals gave false or misleading information to the MPCA in January 2015, March 2016, and May 2016. I also read that the type of pollution that comes from this plant caused cancer and asthma.

The action I would like to see the MPCA take is to make sure that if the new site location is to be Becker, make sure that a sufficient number of air quality monitors are placed on site at different locations. I would hope that they would be installed before the plant starts operation so you can get base level readings prior to their operations beginning. That way if and when the pollution gets too high for the MPCA standards, they can't say the source is from some other location. If a sufficient number of these monitors is expensive, I would suggest the cost should be paid by Northern Metals as part of their permit.

Thank you for listening to my concerns,

Lonny Seeley
12373 River RD. S.E.
Becker, MN. 55308
(763) 261-4144

Signature:
Carolyn Fowler

Submitted by: Carolyn Fowler,

Revised SIGNED Version: 05/13/18

Questions / Concerns regarding EAW for Northern Metals, LLC - Becker

May 10, 2018

EAW

Air Emissions Risk Analysis - Page 29

"Health risks from exposures to pollutants known to be carcinogens were also evaluated and cancer risk was found to be below RSS health risk guidance. Therefore the MPCA does not expect acute emissions to adversely affect human health." "Both the acute and the chronic risk values are acceptable because they are at or less than the health risk guidance."

.... "The Project should not affect day cares and schools located within the 1.5 kilometer radius from the Project Site." "The Proposer and MPCA do not expect the Project to have adverse effects to human health and the environment."

.... "There is no expected increase in the ratio of incremental fish mercury concentration from the Project relative to the existing water quality."

Concern 1: EPA Changes to Tolerance Levels

Just recently the EPA has drastically lowered its original limits for human safety for a product they have long known of. So, will this be the case in Becker after it is too late as it was for Lake Elmo and several other metro lakes this year - that what is currently acceptable levels of emissions today will be found to be unsafe years later after the damage has been done? Is it possible there are tolerance changes on the horizon?

Concern 2: Combined Pollution from Multiple Contributors - Multiplying Pollution Pressure

Were the combination of pollutants accounted for in these measurements? IE: coal plant emissions, landfill, diesel truck exhaust, pesticide use on fields and NMR dust (HAP) emissions?

Concern 3: Prevailing and Varying Winds

There is very often a prevailing wind that can go on for days such that topsoil is greatly moved and up in the air for hours / days. The DNR has the approximate poundage of topsoil that is dropped into our lake from the area fields every year. I am sure this "surface dust" is well documented - that all that top soil ends up far from where it began - including our lakes and rivers, beyond a mile from where the dust began. I do not see how water trucks and cannons can possibly work to hold dust down under said conditions.

Concern 4: High to Very High Hydro-geologic Sensitivity

80% of Sherburne County's area ranks at a high or very high hydro-geologic sensitivity (see Sherburne County Local Water Management Plan" - 2018-2022). Which means pollutants have a serious potential of reaching the groundwater and the deep aquifer(s). Several wells are within the project's zone and those wells are at 20' - not so deep for pollution to seep down into. 68% of Sherburne County's Aquifers are considered vulnerable because of the makeup of our soil around here.

Concern 5: Low Deep Water Aquifer

NMR plans to use stormwater for their systems and when necessary, city water. Where does the City of Becker get their water from? I ask because I was told and haven't been able to verify as yet, that the deep water aquifer for that area is about 10' below where it needs to be. If that is where Becker's water comes from and NMR uses the City's water, would this become a problem?

Concern 6: 500' From the Wellhead Protection Area

The "wellhead protection area" is supposedly just 500 feet outside of the 1 mile limit that was set for this project. It feels like this is too close for comfort and ought to be reconsidered given the make up of the soils.

Concern 7: Incomplete Wellhead Protection Planning

Per the Sherburne County Local Water Management Plan" not all of Sherburne County has its 10 areas totaling 19,348 acres that require wellhead protection planning completed. What if those areas, once completed, are within the radius of this project?

Concern 8: Very High Pollution Sensitivity

The concerns about the areas pollution sensitivity is again documented in the "Sherburne County Comprehensive Land Use Plan" - 2010-2030. It again states that Sherburne County is dominated by very high pollution sensitivity due to the presence of sand and gravel over much of the surface of the county.

Concern 9: Rivers Already Impaired

"Sherburne County Comprehensive Land Use Plan" - 2010-2030 states that both the Mississippi and the Elk Rivers are impaired already as determined by the MPCA. Should they be pushed further with the serious possibility of emissions from this project? I know that the first few paragraphs that I posted above from the EAW said this was not a concern but given what I have seen personally, I believe another look should be given to the serious winds we often have. (If that is the case, include the schools, agriculture, businesses, nursing homes to also be at risk.)

Concern 10: Flood Plain

"Sherburne County Comprehensive Land Use Plan" - 2010-2030, I'm not certain but it appears to point at the project area as being in a flood plane.

Concern 11: Watering of paved roads. Where will the runoff go? The ditches where it can be absorbed by the soil?

Concern 12: Vonco Landfill

NMR is intending to send much of their waste to the Vonco landfill. Has anyone checked how quickly, given the numbers provided by NMR and the numbers provided in the "Sherburne County Comprehensive Land Use Plan" - 2010-2030, that Vonco will no longer be able to handle any more of their fill? Then what happens if another location is not found and stockpiles grow and storage of these stockpiles goes on and on? It happens - currently, we have nuclear waste being stored on-site at the nuclear plant in Monticello because no one will accept it.

Concern 13: Impact Levels for the VOC's, Lead, PM, and CO₂e

With approximately 6,656,000 tons of recycled metal per year, that means a great deal of HAPs (see EAW - page 26 and 27). "The AERMOD predicted no exceedances of the SIL for any of the modeled pollutants: therefore a dispersion modeling analyses was not required."

I do not see included in Table 8 on page 27, the impact levels for the VOC's, Lead, PM, and CO₂e which are seen on Table 7. Where is the AERMOD's comment on these serious HAPs? Did I miss them or very likely I don't understand what I am seeing and if so, please explain this to me.

From the EAW, it seems clear that NMR knows they cannot possibly contain all the HAPs or ground pollutants but are making an effort to do what can be done with new technologies. That said, I have read that one small sweetener packet filled with lead instead of sugar, spread out onto a football field would still be toxic to a child or fetus who might come into contact with a bit of that lead. In other words "zero" tolerance period.

Concern 14: Fumes Releasing HAPs into the Atmosphere

Will NMR be using torches to cut steel? Use a blast furnace? Fumes would then also be a concern for airborne pollution.

Concern 15: Noise Pollution Measurements

Noise pollution has been documented with metal recycling plants but again, in the EAW, it was determined not to be a problem outside the 1 mile project zone. There are neighboring businesses within that zone and I have to believe they will have a problem with the noise. What was measured was the "fan" for the scrapper. What of the noise of dumping, moving and adjusting steel? What of the diesel truck noise? Equipment/machinery noise? The explosions that are inevitable? Put them together, all running at the same time, then what is the noise level?

Concern 16: Sound Barrier Wall

I do not see a sound protection wall in the proposal and am wondering if that would be a good idea - not just for the noise but also for the wind concern.

Concern 17: Odor

It was mentioned somewhere in the EAW that NMR feels odor will not be a concern and will be handled same as they do at their Minneapolis location. In watching a Fox 9 report - May 15, 2017 - the report mentioned the odor of the air. So how they handle it in Minneapolis may not be a good way?

Concern 18: Stack - Where Will The Pollutants End Up

NMR will have a 165' stack - is this the stack's height? If so, using the coal burning plant as an example, then most certainly the pollutants will reach far beyond the 1 mile project zone and may not even settle back down within the "city" of Becker. Becker coal dust has reached Canada and beyond. Perhaps this is where the HAPS go unnoticed by the people doing the calculating because the stack takes the pollutants up higher where they fall beyond the Becker community and into / onto other neighborhoods.

I always use the real life example of when the coal plant went online, my mother had to quit hanging her laundry outside because of the coal dust that settled down onto her nice white sheets. Our home was about 10 miles southeast of that plant.

Concern 19: NWR's General Attitude

In the May 15, 2017 Fox 9 report, Sara Kilgriff of the MPCA, said "MPCA has had difficulties with Northern Metal from the get go." This is of concern because it might imply that they are not willing to do what is necessary or do what is right or at the very least, resistant to what is needed. It implies they do not respect the rules and regulations nor their neighbors and their health.

Concern 20: Prior MPUC Violations

How many MPUC violations has NMR had over the years in Minneapolis? The state? What were they? How serious were they? Cost to NMR?

Concern 21: Current Monitoring

What monitors are in use around Becker, Big Lake, Clear Lake currently - if any?

Concern 22: Assurances

How can Becker and it's neighboring communities be given assurances of extensive oversight of the NMR plant? Penalties for infractions? Superfund created and enforced? What can we expect for protection from the air pollution that, new technology or not, is still very real?

Concern 23: Community Oversight

If this project goes forward, I truly believe the community needs to be far more engaged (see publication "California Environmental Health Tracking Program"). Personally, I would feel more confident having the community and neighboring communities helping to monitor air/water/soil as the monitoring would be real time, transparent to the communities, equitable - building trust.

Summary:

In all the information I have read in the short time I have been looking into this concern, I have found "nothing" that says that the use of water sprinkling, water cannons, centrifugal collectors, fabric filters and a regenerative thermal oxidizer will provide a 100% pollutant free environment. Absolutely it is a far far cry from doing nothing and I am thankful for the efforts to decrease HAPs all that they can. However, given the high to very high infiltration sandy soil environment, with wellheads information still yet to be completed and aquifers near and possibly beneath this project area, rivers that are already under stress near by, lakes not far up or down the road, shallow wells in the project area, and often very high winds in the area plus the combination of currently existing pollution from other sources - I honestly can't understand how this can be an acceptable risk.

P.S. - here is a summary of questions / comments I heard from last nights meeting - from my memory, not exact:

What about cracks that always show up in cement? How will they keep contaminants from seeping into the groundwater through those cracks? No answer

EAW's Noise measurements don't make sense. Only measured the noise from the fan on the shredder. What about all the slamming and banging of trucks dumping metal, metal on metal movement, etc.? No answer

Who are these contractors who performed the calculations? No answer

What "say" does our community have in this decision? Is this already a done deal? Confusing answer that deserves clarification

Who owns the land now? The coal plant but Northern has the option to purchase.

What happens if we do not allow their business here? Northern will go back to the Mpls Plant.

Who calculated the stormwater runoff? Where does it go? How? If the liners are punctured, then what? How is the pond monitored? No answer

Frequency of the external monitoring? That isn't often enough. - No answer

"Fluff" have iron in it? Yes. "Will the stack have iron particles in it?" Yes This fluff is stored outside in a 3-sided building, with our winds in this area, no watering down will hold the dust from not drying quicker and blowing around and out. - No response

Lead is Lead, no amount is acceptable anywhere no matter the exposure. (from a nurse living in Becker, working in the metro area). - No response

What about trucks waiting to dump and storage of their material? There will be about 200 trucks a day, they will come on-site, dump the metal (belly dump) and be out. Very little time on site.

Vehicle paint? It will burn off in the process for the most part.

Vehicle gas, oils, mercury? It will be removed by inspectors prior to scrapping before reaching the site. We have our own inspectors.

Kain, Kevin (MPCA)

From: Frisvold, Lee <lfrisvold@dunwoody.edu>
Sent: Tuesday, May 15, 2018 1:13 PM
To: Kain, Kevin (MPCA)
Cc: 'tbertram@ci.becker.mn.us'
Subject: Becker EAW Meeting

Hi Kevin

It was nice talking to you after the meeting

Here's some questions I have regarding the Northern Metal Recycler viability

1. At the meeting the gentlemen in blue who was trying to answer questions about run off containment, he couldn't answer questions regarding much of what was asked of him.
What is being used to secure the holding area for run off to ensure none get into the ground water and how is it being transferred to the company handling the waste if there's a plan in place? Also what is being done to keep from spilling when on public roads?
2. How is the conveyer belts controlling the waste hazards that become fugitive as they run from building to building on the outside environment, won't the cannons and sprayers on the belt cause the dust to travel before it's saturated? With the winds that can blow in Becker daily (over 30mph and higher at times) what's being contemplated about the high winds due to the big fields from the farmers in the area of the proposed site. Particulates are still moving without visual dust being seen-by the naked eye. If the companies is being responsible are there going to be any monitors to verify compliance that measure the air quality for toxins that are known to cause cancer like hexavalent chromium, lead or others like arsenic and beryllium to the residents of Becker and the employees that work at the facility?
3. With the water cannons what's being done with the water drain off from them?
4. Both the fluff and shredded metal are to be housed in separate 3 sided sheds, how's everything going to controlled from being spread from the winds when the facility is closed. I went to visit my daughter in St. Cloud last weekend and drove by the Northern Metal facility up there and there was a fluff pile that was pretty big right out in the open and a pile of metal shredding's that was at least 40ft high also right out in the open. How's this going to be prevented at the Becker sight? Also when the companies closed how's this going to be monitored and managed?
Is there a plan for leaching of the run off from the piles?
5. The Assessment report stated 200 truck a day and at the meeting only stated that it was for a 24hr period. The report stated the majority be between 6am and 3pm (this makes sense as that's mostly during companies business hours it would be. If you do the math say at 75% during those hours it would be 150 trucks during the busiest time of the day for commuters. How's this going to work even with more infrastructure?
6. Is there a plan for trucks being covered bringing items to the sight and leaving with monitoring taking place to observe and verify?
7. The term State of the Art stated numerous times at the meeting and in all the talk about this facility what the action plan for when new technology that emerges and the time frame that it needs to be implemented by?

8. What type of observation/monitoring is going to take place to verify everything Northern Metal is going to comply to what they say they are going to do? Other than the records they keep as they have a pretty bad track record.
9. All the current Metal Shredding/end of life recycling companies are in older less affluent areas. What is it going to do the housing values of Becker and the public image of the area for potential residents?
10. It's not always about Tax Base or is it?

State of the Art is only as good as the current technology.

Lee Frisvold
RESIDENT OF BECKER

From: Petroske, Sarah J <Sarah.Petroske@allina.com>
Sent: Wednesday, May 16, 2018 1:27 PM
To: MN_MPCA_General-Info <Info.PCA@state.mn.us>
Subject: Northern Metals Recycling in Becker, MN

To whom it may concern,

Below are my questions and concerns regarding Northern Metals Recycling and their intentions of locating a site in Becker, MN. Any response to myself and my fellow local citizens regarding these specific questions would be greatly appreciated. Thank you for your time!

- 1) What if EPA lowers their human tolerance levels as they did for other products (Lake Elmo's recent findings) but it is after the fact? Then what?
- 2) Combined Pollution from Multiple Contributors - was this measured?
- 3) Prevailing Winds - was this considered?
- 4) HIGH to VERY HIGH Hydro-geologic Sensitivity for this area - meaning our sandy soil is very easily infiltrated by pollutants per "Sherburne County Local Water Management Plan."
- 5) Low Water in Deep Water Aquifer - where does the City of Becker get its water? I haven't heard from the DNR on this yet.
- 6) Project limit ends 500' from Wellhead Protection Area - too close?
- 7) Incomplete Wellhead Plan - Per the Sherburne County Local Water Management Plan for 2018-2022, not all of the wellhead areas have been completed for the plan. What if they find concerns that were not accounted for in this area?
- 8) VERY HIGH POLLUTION SENSITIVITY - this was identified in another study - the "Sherburne County Comprehensive Land Use Plan" - again, the area all around us is sandy soil, so sandy that it is VERY VULNERABLE to contaminates/pollutants getting into our ground water, our aquifers, etc.
- 9) The Elk River and the Mississippi Rivers are already impaired. Anything done to this water upstream affects those downstream as many communities use the Mississippi River as a source for their drinking water. This plant is approximately 1 mile from the Elk River and 1.3 miles from the Mississippi River.
- 10) Flood Plain - is the area of this project in a flood plain? What kind of risk would this be?
- 11) Watering of paved roads to prevent dust (polluted dust) from going airborne - does this wet dust run off to the unpaved areas where it is then absorbed?
- 12) Northern will be using Vonco Landfill - how long before Vonco is filled? Once filled, where will the by-products go? How long will their by-products be stockpiled when they have no place to put them? What risk is added then?
- 13) Where is it stated in the EAW for what the impact levels for the VOC's, Lead, PM, and CO2e? Pretty important that this is understood. I didn't see them listed on Page 27, Table 8.
- 14) Fumes Released from torches, that contain Hazardous Air Pollutants (HAP) - was this measured?
- 15) Noise Pollution - How can just measuring the fan for the shredder be a complete measurement of the noise that will be produced overall?
- 16) Has a sound barrier wall been considered?
- 17) Odor - the Fox 9 reporting mentioned the odors at their Minneapolis site - Northern said they will do as they have done at Minneapolis - doesn't that mean there will be odors.
- 18) Stack release of pollutants in the steam - I can't understand how the contractor hired to do the

safe limit measurements came up with approximately 1 mile as a radius around the project when we all know the stack will get the pollutants up into the atmosphere, the wind will carry it much further than 1 mile from their site. Less, the density of the pollutants will be spread out but LEAD IS LEAD. (See what the MN Department of Health says about lead.)

19) Northern Metals Attitude - were they difficult to deal with? Will they be difficult for a small community like Becker with less resources to deal with?

20) Prior Northern Metal Violations and the health aspects of these violations and their attitude towards their neighbors who were affected.

21) Current Monitoring - per last night's meeting, mostly Northern will be monitoring themselves.

22) What assurances do our communities have of extensive oversight of the NMR Plant?

23) Community Oversight is very needed if this goes through (see California Environmental Health Tracking Program").

Thank you,

Sarah Petroske

10686 185th Ave. Becker, MN 55308

From: Scott Gifford <scottgifford1701@gmail.com>
Sent: Saturday, May 12, 2018 10:56 AM
To: MN_MPCA_General-Info <Info.PCA@state.mn.us>
Subject: Northern Metal Recycling in Becker

MPCA,

I am a homeowner in Becker, and I'm writing to express my concerns associated with the Northern Metal Recycling development plan our town.

I understand that this represents an economic opportunity for my community, but Northern Metal's track record in Minneapolis does not inspire a lot of confidence. I would like to better understand what the state's plan is to ensure that Northern Metals will a) be a "good neighbor", environmentally speaking, b) not revert to their previously irresponsible behavior, and c) be held accountable for degrading performance.

My specific concerns include the following:

Was the geologic and water table sensitivity of the Becker area considered? Our Sandy soil is very susceptible to contamination.

Were wind effects and pollution from multiple contributors considered?

What is the proximity of the site to area water source is considered, particularly the Mississippi and Elk Rivers? This is a concern associated with those rivers as water sources, flooding sources, and recipients of run off.

How are gaseous emissions from the site being measured and controlled?

How is noise from the site being measured and controlled?

What reporting tools are in place? As in, if Northern Metals violates some sort of regulation, how is the state informed, and how can I and my family be kept abreast?

As a worker in the nuclear industry, I appreciate the value of industry self-regulation, but industries that demonstrate a lack of respect or compliance for that process cannot be allowed to manage themselves, at least for a while.

My most significant concern is Northern's track record in Minneapolis. They have a history of poor environmental stewardship and self-monitoring. I appreciate their claims that Becker represents a new day for them, but I am not confident that they will thoroughly self-regulate, and I want to feel assured that the state will provide the proper level of oversight and enforcement.

Thank you.

Scott Gifford
(757) 309-2901



May 14, 2018

Mr. Kevin Kain
Resource Mgmt & Assistance Div.
Minnesota Pollution Control Agency
520 Lafayette Rd N
St. Paul, MN 55155

RE: EAW - Northern Metals, LLC, Scrap Metal Recycling Center
T34 R29 S36 SE
Becker, Sherburne County
SHPO Number: 2018-1708

Dear Mr. Kain:

Thank you for providing this office with a copy of the Environmental Assessment Worksheet (EAW) for the above-referenced project.

Based on our review of the project information, we conclude that there are no properties listed in the National or State Registers of Historic Places, and no known or suspected archaeological properties in the area that will be affected by this project.

Please note that this comment letter does not address the requirements of Section 106 of the National Historic Preservation Act of 1966 and 36 CFR § 800. If this project is considered for federal financial assistance, or requires a federal permit or license, then review and consultation with our office will need to be initiated by the lead federal agency. Be advised that comments and recommendations provided by our office for this state-level review may differ from findings and determinations made by the federal agency as part of review and consultation under Section 106.

Please contact our Environmental Review Program at (651) 201-3285 if you have any questions regarding our review of this project.

Sincerely,

Sarah J. Beimers
Environmental Review Program Manager

Minnesota Pollution Control Agency (MPCA)

**Northern Metals, LLC – Becker
Environmental Assessment Worksheet (EAW)**

RESPONSES TO COMMENTS ON THE EAW

Terms

NM – Northern Metals, LLC

Project – An enclosed scrap Metal Shredder (Shredder), an enclosed ferrous process, an enclosed Metal Recovery Plant (MRP), an End of life Vehicle (ELV) process, and a Community Recycling Center (CRC).

Project site – The proposed complex comprising approximately 55 acre for buildings, lawn/landscaping and stormwater ponds located at 13196 Hancock Street SE, Becker, Minnesota.

1. Comments by, Lonny Seeley. Letter received April 27, 2018.

Comment 1-1: The commenter stated concerns about the impact to County Road 8 from the expected increase in traffic once the Facility is operating.

Response: The Project will result in an increase in traffic on local roads including County Road 8. When the Project is operating at full capacity, NM expects 549 vehicles per day will visit the Project site. Incoming and outgoing traffic will access the Project site from access roads from different directions. Traffic is spread out on local roads, including County Road 8.

Highway 10 is the primary route to the Project site. The annual average daily traffic (AADT) count on Highway 10 at Hancock Street is 17,700 per the Minnesota Department of Transportation (MnDOT) traffic data website. While specific information from MnDOT is not available for Hancock Street, as noted above, the AADT count for the traffic count location closest to the Highway 10 and Hancock Street intersection is 17,700 vehicles per day. Based on the proposed 549 vehicles per day entering or exiting the site per day and the AADT values, NM expects the Project to show a 1% increase in traffic.

Trucks will be in proper operating condition, properly licensed, properly muffled, and will meet road weight restriction on area roads.

Comment 1-2: The commenter stated concerns about the ability of the new Facility to control air emissions given the trouble at the existing facility in Minneapolis.

Response: Please see response to Comment 1-3, 2-22, 2-29, 3-8, 5-6.

Comment 1-3: Commenter asks that the MPCA ensure that there are a sufficient number of air quality monitors placed on site at different locations. The commenter requests that they be installed before the plant starts operation to get base-level readings prior to operations beginning so that if the pollution increases above standards after operation begins, NM can't say that the pollution is from another

location. The commenter suggests that if the cost of the monitors is too high, then NM should be required to pay for the monitors as part of their permit.

Response: While air quality dispersion *modeling* is the standard means to predict whether a facility's emissions will cause or contribute to a violation of the ambient air quality standards, the MPCA generally requires facility-specific air *monitoring* in cases where a facility has not demonstrated compliance with previous air quality dispersion modeling. However, as described in Section 3.2 of the Technical Support Document for the Air Emissions Permit and Question 16a of the EAW, NM was able to demonstrate through air quality dispersion modeling that the potential emissions from its proposed facility will not cause or contribute to a violation of the ambient air quality standards.

Air quality dispersion modeling is a computer simulation that predicts the worst-case concentration of pollution around a facility. In this case, the model was used to predict the worst-case concentration of particulate matter less than ten microns (PM₁₀), particulate matter less than 2.5 microns (PM_{2.5}), carbon monoxide (CO), sulfur dioxide (SO₂) and Nitrogen dioxide (NO₂) from the Project in a 100 by 100 kilometer grid around the Project. The model takes into account the local meteorology including temperature, wind direction and wind speeds as well as the topography and the effect of nearby buildings. The model is conservative in that it assumes that the Project is operating all its equipment at maximum capacity, 24 hours per day, 365 days per year. This is a gross overestimate of operations because the Project will only operate about 9-10 hours per day on weekdays and only as needed on weekends, and usually not at maximum capacity. The modeling provides reasonable assurance that the Project will not cause or contribute to a violation of the ambient air quality standards.

Additionally, the MPCA was deliberate in requiring that NM build the Project such that: 1) all processing operations occur inside buildings that are total enclosures (buildings that keep doors and windows shut during operation), and 2) all processing emissions are routed to control equipment. This design ensures that emissions from these processes are minimized. Emissions from material handling operations that occur outside are minimized since material is directly conveyed in covered conveyor between buildings and directly conveyed into storage sheds. Nonferrous metal product is stored inside the metal recovery building. Material handling operations that do occur outside such as handling of ferrous product must be managed according to a fugitive dust control plan. The MPCA considers a fugitive dust control plan a standard and effective means of regulating fugitive emissions through air emissions permits.

In conclusion, these design, operating, and process monitoring requirements provide assurance that the Facility will not cause or contribute to exceeding applicable ambient air quality standards. Table 9 of the Technical Support Document for the Air Emissions Permit includes a summary of the process monitoring required by the permit which demonstrates why previous air quality dispersion modeling coupled with ongoing process monitoring is adequate (and hence ambient air monitoring is not required) to ensure compliance with the applicable air quality regulations and permit requirements.

2. Comments by: Carolyn Fowler. Letter received May 10, 2018.

Comment 2-1: The commenter stated concerns that just recently the U.S. Environmental Protection Agency (EPA) has drastically lowered its original limits for human safety for a product they have long known of as it was for Lake Elmo and several other metro lakes this year. The commenter asked if this will be the case with NM that what is currently acceptable levels of emissions today will be found to be unsafe years later after the damage has been done. Is it possible there are tolerance changes on the horizon?

Response: Concerns for changing water quality and air emission standards or human health risk based guidelines are addressed through the ISW permit and air permit.

General Industrial Stormwater Permit

The Project operates under the MPCA general Industrial Stormwater (ISW) Permit. NM will have to comply with more stringent health risk benchmark values if the next ISW Permit requires that, but the benchmarks could also remain the same as they are now. They will reapply for ISW Permit coverage 180 days prior to expiration and operate under the old ISW Permit until the ISW Permit is reissued. They would then need to meet all standards set forth in Sector N, if it is changed. The current ISW Permit expires April 5, 2020. Sector N is for scrap recycling and waste recycling facilities and has standards for sector specific benchmark monitoring values for: Total Suspended Solids, Chemical Oxygen Demand, Aluminum, Total (as Al), Copper, Total (as Cu), Iron Total, (as Fe), Lead, Total (as Pb), Zinc, Total (as Zn) and pH. NM monitors for these parameters during a discharge event.

Air Permit

The MPCA is required to evaluate projects based on current standards. The MPCA is interpreting the term "tolerance level" to mean the National Ambient Air Quality Standards (NAAQS), Minnesota Ambient Air Quality Standards (MAAQs), and inhalation health benchmarks developed by the Minnesota Department of Health (MDH) or - if MDH has not developed an inhalation health benchmark - those developed by the EPA or California EPA.

The federal NAAQS are enforceable concentration standards set in rule for six "criteria pollutants" in outdoor air (CO, lead, NO₂, ozone, SO₂ and particle pollution). The state MAAQs cover these criteria pollutants and also add a standard for hydrogen sulfide. These standards are designed to protect human health and welfare. The Clean Air Act requires that the EPA periodically review the NAAQS to determine if they are sufficiently protective. It is possible that the ambient air quality standards could change in the future. If the standards change, Permittees are required to comply with the new standards; not the standards that were in effect when the permit was issued. If standards tighten, the MPCA must do an assessment of the entire state to ensure that it meets the new standards. However, because the modeled impacts from the Project are below the "significant impact levels" (SILs), which are levels of ambient impact below which the EPA considers a source to have an insignificant effect on ambient air quality, it is unlikely that the Project would cause or contribute to a violation of the ambient air quality standards, even if the standards were revised.

Inhalation health benchmarks are not rules; they are guideline values for air toxics, which are all other air pollutants that are not "criteria pollutants." These benchmarks are developed from scientific studies. They are used to estimate potential cancer and non-cancer human health risk, based on short term and long term exposures. The risk assessment screening process is meant to be conservative regarding the types and amounts of pollutants generated, the matter of pollutant dispersion in the surrounding environment, and their potential impact on human health. Risks are estimated for worst-case scenarios and then compared to the health benchmarks. For the Project, the risk assessment assumes processes/operations are running at maximum capacity 24 hours per day. In reality, this is a gross overestimation of the actual operation of the equipment, and hence the potential risks estimated from the analysis are conservative.

When health benchmarks change, since they are not in rule, a Permittee is not required to comply with the new values when they change; however, if NM is required to recalculate its risk based on a change in emissions as required in Section 6 of the permit, the risk recalculation will use the updated health benchmarks in effect at the time the recalculation is done.

Comment 2-2: The commenter stated concerns regarding Combined Pollution from Multiple Contributors. Was the combination of pollutants accounted for in the modeling that was done for the Project? i.e., coal plant emissions, landfill, diesel truck exhaust, pesticide use on fields, and NM dust (HAP) emissions.

Response: The EPA has recommended a process for evaluating potential impacts from a new facility in an area that has a background level of air pollution from other industrial facilities, mobile sources, etc., but meets ambient air quality standards, which is the case in Sherburne County. As described in Section 3.2 of the Technical Support Document for the Air Emissions Permit, this approach is consistent with how the MPCA evaluates whether a change at a facility, or a new facility, will cause or contribute to a violation of the ambient air quality standards.

The MPCA used this process for the NM air quality dispersion modeling to evaluate whether the worst-case air emissions from NM (operations/processes running 24 hours per day, 365 days a year at maximum capacity) would cause or contribute to a violation of the ambient air quality standards. The first step in this process is a source impact analysis, which uses air quality dispersion modeling to compare the modeled impacts from worst-case air emissions from the Project to SILs. SILs are levels of ambient impact below which the EPA considers a source to have an insignificant effect on ambient air quality. The SILs are 5% or less of the ambient standards, depending on the standard. In this case, the modeled impacts from NM were well below the SILs. The source impact analysis determines whether additional air quality analysis, a cumulative impact analysis (which includes in the model background levels or air pollution and emissions from nearby facilities), is needed. Because the modeled impacts from NM were below the SILs, under this process, the modeling is complete and a cumulative impact analysis is not required to evaluate whether the worst-case air emissions from NM, in the context of existing air pollution sources, will cause or contribute to a violation of the ambient air quality requirements.

Further, the air emissions risk analysis (AERA) is a standardized screening process used by the MPCA to assess risk to human health from air emissions from a facility. Contributions to potential risks from surrounding background sources are not considered; however, the AERA assesses various exposure routes including inhalation and ingestion of homegrown vegetables, beef, chicken, and eggs. Additionally, the AERA also evaluates the combined potential effect of all pollutants emitted by the Project with the same health effect. The risk assessment screening process used for NM is meant to be extremely conservative and risks are estimated for worst-case scenarios and for processes running at maximum capacity 24 hours per day. In reality, this is a gross overestimation of the actual operation of the equipment, and hence the potential risks estimated from the analysis are also much lower.

Last, as part of the permitting process, the MPCA also evaluated existing data on the air quality and background conditions in the city of Becker, including statewide modeling results from the MPCA's publicly available "MNRisks" tool, to ensure that the City and the surrounding areas are not uniquely impacted by cumulative air emissions from facilities or roadways in the area, including emissions from Xcel Energy Sherburne County and Highway 10.

Comment 2-3: The commenter stated that there is very often a prevailing wind that can go on for days such that topsoil is greatly moved and up in the air for hours/days. The Minnesota Department of Natural Resources has the approximate poundage of topsoil that is dropped into our lake from the area fields every year. The commenter stated that the "surface dust" is well documented and that all the top soil ends up far from where it began, including our lakes and rivers, beyond a mile from where the dust began. The commenter stated concerns whether water trucks and water cannons be effective at holding dust down during this type of windy conditions.

Response: Water trucks and cannons are one of the methods NM uses to minimize dust. Watering is not 100% effective at controlling dust, but it is a best management practice for minimizing fugitive dust and is a piece of the overall scheme to minimize dust from the Project. The EPA has created equations that estimate dust emissions based on both wind speed and moisture content of material. Calculations of emissions from fugitive dust for the Project use these equations. The MPCA did not assume that watering eliminates emissions and in many cases, to be conservative, the MPCA assumed no effect from the watering, and the emissions were still within regulatory thresholds. These calculations are in Attachment 1 to the Technical Support Document for the Air Emissions Permit.

NM will comply with a fugitive dust control plan, which the MPCA considers a standard and effective means of regulating fugitive emissions through air emissions permits. NMs' fugitive dust control plan also requires that the Project site is paved, the paved areas are swept daily (unless freezing conditions or rain), any spills in material handling operations are cleaned promptly, and that employees are trained in best management practices. The plan also requires monitoring of conditions and triggers corrective actions. The fugitive dust control plan is Appendix B to the Air Emissions Permit. The permit also requires that the majority of the dust-generating processes and activities occur indoors.

Comment 2-4: The commenter stated that 80% of Sherburne County's area ranks at a high or very high hydro-geologic sensitivity (see Sherburne County Local Water Management Plan" - 2018-2022). Which means pollutants have a serious potential of reaching the groundwater and the deep aquifer(s). Several wells are within the project's zone and those wells are at 20 feet - not so deep for pollution to seep down into. Sixty eight percent of Sherburne County's aquifers are considered vulnerable because of the makeup of our soil around here.

Response: NM will locate all product and equipment traffic on impervious paved surfaces to provide impervious containment. All stormwater collected on these paved and curbed surfaces will drain to stormwater ponds lined with impermeable liners. These ponds retain stormwater allowing potential pollutants to settle out before discharged off site.

In addition, NM will comply with various permits and plans such as the Stormwater Pollution Prevention Plan, Spill Prevention, Containment, and Countermeasure Plan, and Feedstock Control Plan in order to prevent spills and accidental releases as well as address containment and cleanup to minimize impacts to soil and groundwater.

Stormwater control system includes the following:

- Pavement
- Concrete curb and gutter
- Underground storm sewer piping
- Shallow ditches/swales

- Lined stormwater ponds
- Developed areas with runoff directed away from the Project site (outside of production area).
- Potentially a truck fill station (pump and fill pipe) to fill site water truck

NM Project site grading plan places the majority of buildings in the middle of the Project site, which is the high point, so runoff flows away from the buildings. On the north side of the Project site, runoff flows directly into the stormwater pond. On the south side of the Project site, runoff flows to a perimeter curb and gutter and is then directed to the lined stormwater pond on the south. At the Project site perimeter, the pavement is raised to prevent runoff from leaving the Project site or curb and gutter is utilized to direct to the stormwater ponds.

The stormwater ponds are designed to contain the 100-year, 24-hour storm event without overtopping. The ponds empty offsite by opening a slide gate or pumping.

NM intends to use water from the stormwater ponds located throughout the Project site for much of the other water needed for the Project. During periods of dry weather when recycled stormwater is insufficient to meet the operational needs, NM will use city water.

The Becker city engineer has indicated the City's water supply is sufficient to meet all water demand needs for Project operations. The City will extend new water mains to serve the Project site. NM will pay the Water Access Charge (WAC) fees to the City based on the anticipated volume of water consumed.

Comment 2-5: The commenter states that NM plans to use stormwater for a water source and when necessary, city water. The commenter asked where the city of Becker gets their water. The commenter asked because she was told and hasn't been able to verify as yet, that the deep-water aquifer for that area is about 10 feet below where it needs to be. If that is where Becker's water comes from and NM uses the City's water, would this become a problem?

Response: The Becker City's Drinking Water Report states that the city utilizes "5 wells ranging from 50 to 61 feet deep that draw water from the Quaternary Water Table and Quaternary Buried Artesian Aquifers." The City pumps approximately 192 million gallons of water annually. NM is proposing to use 3.7% of that. The City has adequate additional capacity to supply the water to the Project.

Comment 2-6: The commenter stated concerns that the "wellhead protection area" is supposedly just 500 feet outside of the 1-mile limit that was set for this project. It feels like this is too close for comfort and ought to be reconsidered given the makeup of the soils.

Response: Wellhead protection areas are areas where there is potential susceptibility to impacts to municipal water supplies. The Project site is located over a mile from the wellhead protection area as noted and designed to minimize the potential for groundwater impacts as noted in the response to Comment 2-4. Further, the Project site is located hydrogeologically downgradient to the city of Becker water supply wells, which further reduces potential impacts to municipal wells.

Comment 2-7: The commenter stated concerns that per the "Sherburne County Local Water Management Plan" not all of Sherburne County has its 10 areas totaling 19,348 acres that require wellhead protection planning completed. What if those areas, once completed, are within the radius of this project?

Response: The agency which is responsible for the development of the Sherburne County Local Water Management Plan (2014) is the Sherburne Soil and Water Conservation District (Sherburne SWCD). Dan Cibulka, Water Resource Specialist for the Sherburne SWCD, indicated that the referenced Plan is a strategic planning document. He indicated that the Plan identifies the various wellhead protection areas, but the Sherburne SWCD does not manage these areas. The local jurisdictions responsible for municipal water supplies will identify any new areas for wellhead protection in the future. The city of Becker has identified the wellhead protection area of the city wells, and NM is outside that protection area.

Comment 2-8: The commenter points out that Sherburne County is dominated by very high pollution sensitivity due to the presence of sand and gravel over much of the surface of the county.

Response: NM used the Natural Resources Conservation Service Web Soil Survey to assess existing soil resources within the Project area. Based on the Soil Survey for Sherburne County, the following soil is within the Project area: The soil is Hubbard-Mosford complex (D62A) described as a loamy sand or a sandy loam. The soil onsite is somewhat excessively drained to excessively drained.

The Project area is located within soils that have not been previously disturbed except by historical farming activities. The soil characteristics for the Project area provide a high to very high-saturated hydraulic conductivity, and are susceptible to wind and rill or sheet erosion. The topography of the Project area is generally flat.

Construction of the Project will result in the disturbance of existing ground cover resulting in the potential for erosion. NM will obtain coverage under MPCA's general National Pollutant Discharge Elimination System (NPDES/SDS) Construction Stormwater (CSW) Permit and implement Project site best management practices for erosion prevention and sediment control. The CSW Permit also requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP requires the utilization of temporary soil stabilization techniques and erosion prevention and sediment control requirements during construction. NM will permanently stabilize disturbed soils after project construction using vegetation or will return the land to agricultural production. Please see response to Comment 2-4.

Comment 2-9: The commenter states that the "Sherburne County Comprehensive Land Use Plan" - 2010-2030 states that both the Mississippi and the Elk Rivers are impaired already as determined by the MPCA. Should they be pushed further with the serious possibility of emissions from this project? The commenter stated that another serious look should be given to possible impacts to the Mississippi River and Elk River because of the serious winds in the area. If a problem is discovered, then our schools, agriculture, businesses, and nursing homes would also be at risk.

Response: The Proposer completed the Minnesota Mercury Risk Estimation Method (MMREM) spreadsheet. This spreadsheet calculates the local mercury hazard quotient due to fish contamination from mercury emissions of a project. The Project will emit less than 3 lb/yr of mercury. The closest fishable waterbody is the Mississippi river. The area of maximum deposition is an area of 3,567 acres of fishable waterbody between St. Cloud dam and Coon Rapids dam on the Mississippi River. The MMREM analysis indicates that there is no expected increase in the ratio of incremental fish mercury concentration from the Project relative to the existing water quality.

Comment 2-10: The commenter stated concerns that the Facility might be in a flood plain.

Response: The Federal Emergency Management Administration (FEMA) is responsible for the preparation of flood insurance rate maps that designate the flood risk for properties. The MPCA verified the Project Site is not located in a flood plain.

Comment 2-11: The commenter stated concerns regarding watering of paved roads and asks where does the runoff flow?

Response: Water from the watering of paved roads on the Project site collects in the lined stormwater ponds. Please see response to Comment 2-4.

Comment 2-12: The commenter states that the EAW indicated that NM is intending to send much of their waste to the Vonco Landfill. Has anyone checked how quickly, given the numbers provided by NM and the numbers provided in the "Sherburne County Comprehensive Land Use Plan" 2010-2030, that Vonco will no longer be able to handle any more of their fill? Then what happens if another location is not found and stockpiles grow and storage of these stockpiles goes on and on? It happens - currently, we have nuclear waste being stored on-site at the nuclear plant in Monticello because no one will accept it.

Response: NM identified the Vonco II Landfill as the disposal facility it will use for shredder fluff and industrial solid waste, filter media, and sweeping waste. According to Vonco II's 2017 Landfill Annual Report, the landfill has approximately 11 million cubic yards of industrial waste disposal capacity and approximately 4 million cubic yards of demolition waste capacity. NM is not required by the MPCA to use the Vonco Landfill for disposal of waste generated at the Project. However, if the Vonco landfill closes, NM may choose another means to properly dispose of their waste, be it a properly permitted waste facility or other waste management method.

Comment 2-13a: The commenter stated concerns NM will process approximately 6,656,000 tons of recycled metal per year and that means a great deal of HAPs (see EAW - page 26 and 27). "The AERMOD predicted no exceedances of the SIL for any of the modeled pollutants: therefore a dispersion modeling analyses was not required."

The commenter does not see included in Table 8 on page 27, the impact levels for the VOC's, Lead, PM, and CO₂e which are seen on Table 7. Where is the AERMOD's comment on these serious HAPs? Did this get missed, and if so, please explain.

Response: 2-13a: Air quality dispersion modeling was conducted for PM₁₀, PM_{2.5}, SO₂, CO, and NO₂. To clarify, the statement quoted from the EAW should have read "The AERMOD predicted no exceedances of the SIL for any of the modeled pollutants, therefore a cumulative dispersion modeling analysis was not required." The MPCA followed the process outlined by the EPA and described in Response 2 above for conducting a source impact analysis through air dispersion modeling. The results of the source impact analyses for PM₁₀, PM_{2.5}, SO₂, CO, and NO₂ were evaluated against the SIL. Because the modeled concentrations were below the SIL, no further analysis is required.

There are no ambient air quality standards for VOCs or HAPs, with the exception of Lead. These pollutants were evaluated through the AERA process, which evaluates estimated concentrations against health benchmark values and the Lead ambient air quality standard. Worst-case potential emissions from HAPs were evaluated in the AERA. Based on the results of the AERA, the MPCA does not expect the

Project to affect human health and the environment. The EAW did not contain a table that compares the predicted concentration of these pollutants to their respective health benchmarks. This is because the AERA uses all the pollutant concentrations and respective health benchmarks to evaluate the overall risk from all pollutants combined and risks are calculated based on different health end points. The AERA section of the EAW summarizes those results, which are evaluated for acute toxicity, chronic toxicity, cancer, and non-cancer risks and based on many different ways that a person can be exposed, including inhalation and ingestion of homegrown vegetables, beef, chicken, and eggs. Risk estimates were below both pollutant-specific health benchmarks and combined facility risk guidelines. Table 9 of the EAW lists all the pollutants that went into that risk calculation. CO_{2e} emissions were not evaluated through air quality dispersion modeling or the AERA because there is not an ambient air quality standard or health benchmark for CO_{2e} emissions.

Comment 2-13b: The commenter stated concerns that according to the EAW, it seems clear that NM knows they cannot possibly contain all the HAPs or ground pollutants, but are making an effort to do what can be done with new technologies. That said, I have read that one small sweetener packet filled with lead instead of sugar, spread out onto a football field would still be toxic to a child or fetus who might come into contact with a bit of that lead. In other words "zero" tolerance period.

Response 2-13b: Both the permitting rules and risk assessment guidelines upon which we evaluate a project have standards or benchmarks for lead. The health benchmarks for lead used in the AERA comes from EPA and California EPA. The EPA standards for lead are designed to provide health protection for at-risk groups, including children, and protect the aquatic and terrestrial ecosystems. The Project evaluated against these standards and benchmarks, and the results of the analyses were below the standards and health benchmarks.

Comment 2-14: The commenter asked if NM will use torches to cut steel or use a blast furnace, if so, fumes would be a concern for airborne pollutions.

Response: NM will not use a blast furnace. NM will use minimal torching at the Becker site on occasional pieces of scrap (e.g., if scrap is caught in the infeed conveyor or wrapped around the feed rollers, will be torched to remove it) or for maintenance activities. NM will do no production torching and will not have a full or part time torch crew at the Project site. Brazing, soldering, and welding equipment is listed in Appendix A of the permit because these activities are considered insignificant activities under Minn. R. 7007.1300, subpart 3(H)(3). Activities designated under this subpart generally have minimal emissions and regulatory requirements. AERA guidance indicates that emissions from insignificant activities need not be included in the risk screening if the activity emits air toxics that are also emitted by sources already included in the emission inventory, and the contribution from the individual insignificant activity is less than 1% of the total emission inventory for all air toxic emissions. Emissions from maintenance activities described above were not included because they met this criterion.

Comment 2-15: The commenter stated concerns that noise pollution has been documented with metal recycling plants but again, in the EAW, it was determined not to be a problem outside the 1-mile project zone. There are neighboring businesses within that zone and I have to believe they will have a problem with the noise. What was measured was the "fan" for the scrapper. What of the noise of dumping, moving and adjusting steel? What of the diesel truck noise? Equipment machinery noise? The explosions that are inevitable? Put them together, all running at the same time, then what is the noise level?

Response: Studies of the physics of noise have shown that in a setting with multiple sources of noise, the predominant source of noise drives the overall noise profile. Predictive models bear out this phenomenon. In its analysis of noise from the Project, NM predicted the fans serving the combined stack to be the predominant source of noise of the Project. Furthermore, NM analysis relied on actual sound level measurements taken at the Minneapolis facility during typical operation. These measurements were inclusive of all sounds emanating from the Facility over the time of the testing, and expected to include many of the noise sources described by the commenter. In this way, the prediction of noise from the Project considers both the predominant source of noise as well as other contributing noise sources. Overall, the noise analysis conducted by NM showed that the Project was in compliance with state standards.

Comment 2-16: The commenter points out that a sound protection wall was not proposed and wondered if it would be a good idea not just for the noise but also for the wind.

Response: A noise barrier has not been proposed for the Project. The noise study conducted for the Project, and the dust control measures required in the MPCA Permit, show there is no need for a noise barrier.

Comment 2-17: The commenter stated concerns about odors from the Facility. It was mentioned somewhere in the EAW that NM feels odor will not be a concern and will be handled same as they do at their Minneapolis location. In watching a Fox 9 report - May 15, 2017 - the reporter mentioned the odor of the air. So how they handle it in Minneapolis may not be a good way.

Response: NM expects odors from operations at the Project to be minimal based on the operations at the current Minneapolis site. NM will install a state-of-the-art Regenerative Thermal Oxidizer (RTO) to control air emissions including odors that may occur from the shredding process. An RTO is not present at the Minneapolis facility. Odors from the Project to be minimal, and nuisance conditions are not expected.

Comment 2-18: The commenters stated NM will have a 165 foot stack - is this the stack's height? If so, using the coal burning plant as an example, then most certainly the pollutants will reach far beyond the 1-mile project zone and may not even settle back down within the "city" of Becker. Becker coal dust has reached Canada and beyond. Perhaps this is where the HAPS go unnoticed by the people doing the calculating because the stack takes the pollutants up higher where they fall beyond the Becker community and into/onto other neighborhoods.

I always use the real life example of when the coal plant went online; my mother had to quit hanging her laundry outside because of the coal dust that settled down onto her nice white sheets. Our home was about 10 miles southeast of that plant.

Response: The height of the stack is 160 feet, and pollution will disperse beyond a 1-mile radius. The air dispersion modeling evaluated impacts for a 100 kilometer by 100 kilometer (approximately 62 mile by 62 mile) grid around the Project at 17,502 discrete receptors within that grid. Generally speaking as distance from the Project increases, the concentration of air pollutants at the ground level from the Project decreases. The MPCA looks at the highest concentration predicted over all 17,502 receptors and compares that value to its respective ambient air quality standard or health benchmark. The concentrations at all receptors are below the applicable federal and state standards.

For reference, the table below summarizes the highest significant impact level concentrations and the distance from the Project site fence line where the concentrations estimated in the model; all other modeled concentrations in the 100 kilometer by 100 kilometer grid surrounding the Project are below these levels.

Pollutant	Averaging Period	Modeled Impact -High First High ($\mu\text{g}/\text{m}^3$)	Significant Impact Level ($\mu\text{g}/\text{m}^3$)	Percent of SIL (%)	Percent of NAAQS/MAAQS (%)	Distance and direction from facility fence line (meters/cardinal direction)
PM ₁₀	24-hour	2.50512	5	50.1	1.67	0 (on facility fence line) / West
PM _{2.5}	24-hour	0.82080	1.2	68.4	2.34	207 / West
	Annual	0.06239	0.3	20.8	0.52	157 / Southeast
NO ₂	1-hour	1.51646	7.52	20.2	0.81	108 / West
	Annual	0.03076	1	3.1	0.03	203 / Southeast
SO ₂	1-hour	0.00912	7.86	0.12	0.005	108 / West
	3-hour	0.00851	25	0.03	0.0007	109 / West
	24-hour	0.00334	5	0.07	0.0009	202 / Southeast
	Annual	0.00018	1	0.02	0.0002	270 / Southeast
CO	1-hour	1.53381	2000	0.08	0.004	357 / Southeast
	8-hour	0.85049	500	0.17	0.008	108 / West

Comment 2-19: Commenter points out that in the May 15, 2017, Fox 9 report, Sara Kilgriff of the MPCA, said "MPCA has had difficulties with Northern Metal from the get go." This is of concern because it might imply that they are not willing to do what is necessary or do what is right or at the very least, resistant to what is needed. It implies they do not respect the rules and regulations nor their neighbors and their health.

Response: Please see response to Comments 1-2, 2-29, 3-8, and 5-6.

Comment 2-20: The commenter asked how many MPUC violations has NM had over the years in Minneapolis? The state? What were they? How serious were they? Cost to NM?

Response: Based on MPCA records, the Minneapolis facility had the following past violations.

Enforcement Action	Date	Violations	Penalty
Consent Decree	2/28/2017	Causing/contributing to Total Suspended Particulate exceedances; Failure to evaluate and properly permit new processes/equipment prior to making a modification; Not meeting total enclosure control efficiencies; Certifying in permit application that Control; Equipment was a total enclosure; Responding to MPCA with False/Misleading information	\$1,026,667 Penalty + interest
			\$160,000 Past monitoring Costs
			\$10,000 MPCA Court Costs
			\$500,000 MPCA Attorney Fees
			\$300,000 Ongoing Monitoring Costs
			\$600,000 City of Minneapolis for mitigation projects in N/NE Minneapolis
			Total \$2,596,667

Letter of Warning	3/16/2010	Not submitting 2007 Annual Compliance Certification and Semiannual deviation Reports	No penalty associated with a warning letter
Stipulation Agreement	8/13/2010	Failed Total Particulate Matter Performance test (2x); Failed Particulate Matter less than 10 microns Performance Test (2x); Failed Mercury performance test (1x)	
			Total \$15,000

Comment 2-21: The commenter asked what monitors are in use around Becker, Big Lake, Clear Lake currently - if any?

Response: The closest ambient air monitors are in St. Cloud at 1321 Michigan Ave SE, St. Michael at 101 Central Ave W, and East Bethel at 2660 Fawn Lake Drive NE.

Comment 2-22: The commenter asked, how can Becker and neighboring communities be given assurances of extensive oversight of the NM plant? Penalties for infractions? Superfund created and enforced? What can we expect for protection from the air pollution that, new technology or not, is still very real?

Response: The MPCA gives extra scrutiny to facilities with a history of non-compliance or for which there is public concern.

Various types of inspections, stack emission testing and monitoring are required to ensure compliance with state and federal rules and the MPCA air emission permit.

The MPCA will periodically conduct unannounced inspections of the Project, including an inspection after the Project begins operating. As part of the inspection, the inspector reviews records that the Permittee is required to keep to ensure that it is meeting the requirements of its permit. These records include, but are not limited to, assessments of control equipment and operating conditions, calculation of emission rates, control equipment performance parameters, composition and monitoring of the feedstock, visible emissions checks, dust mitigation measures, employee training, etc.

The MPCA will also review all annual process monitoring reports submitted by NM to ensure compliance with state and federal standards and permitting limits.

NM is also required to self-report discovery of non-compliance with operating requirements and permit limits.

The MPCA will respond to all citizen complaints.

NM is also required to have a third party conduct stack emissions testing after startup and periodically thereafter. The MPCA will review and approve both the stack test plan in advance of the testing and the results of subsequent testing.

The MPCA will initiate an enforcement action if it finds the Project to be in violation of the permit. The enforcement action will require that NM correct the violation and it may include a penalty depending on the type of violation.

Comment 2-23: The commenter stated, if this project goes forward, I truly believe the community needs to be far more engaged (see publication "California Environmental Health Tracking Program"). Personally, I would feel more confident having the community and neighboring communities helping to monitor air/water/soil as the monitoring would be real time, transparent to the communities, equitable - building trust.

Response: Thank you for your observation and the MPCA encourages involvement in your community and neighborhoods.

Comment 2-24: The commenter stated concerns regarding cracks that always show up in cement, how will they keep contaminants from seeping into the groundwater through those cracks?

Response: The concrete floors are expected to be 8-inches to 9-inches thick, seal coated to add durability. If cracks should appear, NM will seal them. The floors will have a 1% slope so water will flow to floor drains and not pool on the floor or seep into cracks. Please see response to Comment 2-4.

Comment 2-25: The commenter asked who performed the noise calculations for the Facility.

Response: The noise analysis included in the EAW includes calculations from Industrial Environmental Consultants and Trinity Consultants.

Comment 2-26: The commenter asked who calculated the stormwater runoff rates, and where does it flow. If the liners are punctured, what happens to the water in the ponds and how are the ponds monitored?

Response: SEH calculated the stormwater runoff for the site. All stormwater from the plant area goes to the stormwater ponds. These ponds hold the volume of the 1 in 100-year 24-hour storm event (6.66 inches). Water flows to the ponds via surface flow on impervious paved surfaces. The stormwater is retained in the ponds and reused for site watering or discharged off site. If a pond liner is punctured, the pond level is lowered and the liner repaired. The pond is monitored both visually by plant employees and via the level controls of the pump station.

Comment 2-27: The commenter stated concerns that with the winds in this area no watering down will hold the fluff from not drying and blowing out of the three-sided containment area. Does the fluff have iron or other metals in it?

Response: The fluff could have a small portion of metallic content, including iron. A conservative calculation of the metallic portion of the fluff, specifically any metals that are HAPs, was estimated from test data from the NM facility in North Minneapolis. Emissions from fluff handling were included in the air quality dispersion modeling and the AERA. Regarding wind concerns, also see response to Comments 2-13a, 2-13b, 3-2, 4-18.

Comment 2-28: The commenter stated concerns that airborne lead will be an issue for area residents, especially the children.

Response: Both the permitting rules and risk assessment guidelines upon which we evaluate a project have standards or benchmarks for lead. The health benchmark for lead used in the AERA comes from EPA and California EPA. The EPA standards for lead designed to provide health protection for at-risk groups, including children, and protect the aquatic and terrestrial ecosystems. The Project was evaluated against these standards and benchmarks. The results of the analyses are below the standards and benchmarks.

Comment 2-29: The commenter asked how frequently external monitoring is done for the Project.

Response: At any given time, there are tens of thousands of facilities and projects that affect Minnesota's environment; therefore environmental regulations and state environmental programs are set up to ensure compliance based on a combination of monitoring and self-reporting by the Permittee and oversight by the MPCA. The Permittee is responsible for daily monitoring of the facility and the MPCA will provide the following oversight:

The MPCA will periodically conduct unannounced inspections of the Project, including an inspection after the Project begins operating. The MPCA has a risk-based strategy for determining frequency of inspections that is dependent on many factors including the compliance history of the Project. The MPCA also conducts inspections as a result of complaints. As part of the inspection, the inspector reviews records that NM is required to keep to ensure that it is meeting the requirements of its permit. These records include, but are not limited to, assessments of control equipment and operating conditions, calculation of emission rates, control equipment performance parameters, composition and monitoring of the feedstock, visible emissions checks, dust mitigation measures, employee training, etc. The MPCA will also review all reports and self-reporting required by the permit. These reports and their frequency are:

- Semiannual deviations reports (submitted in July and January of every year) identify any deviations from requirements of the air permit.
- Annual compliance certifications (January of every year) identify any deviations from permit requirements and certifies compliance with all other requirements of a permit.
- Annual emission inventory reports (April every year) identify what was emitted at the facility on an annual basis.
- Annual report (January of every year) - identify any changes made at the facility that did not require a permit amendment.
- Performance test report (due 45 days after each performance test) contain stack emissions test results.
- A report of any violation or issue that could pose a threat to human health or the environment as soon as it is discovered.

Per standard practice, the MPCA will follow up on all citizen complaints.

NM is required to have a third party conduct stack emissions testing after startup and periodically thereafter (every 1, 3, or 5 years depending on how close the initial test is to the emission limit). This is a reasonable frequency because periodic stack tests provide supplemental assurance that the equipment continues to operate properly and that the emissions limits are met. The permit requires monitoring of other surrogate parameters on a daily basis to ensure that emission limits are met.

The MPCA will initiate an enforcement action if it finds the Project to be in violation of the permit or an emission limit. The enforcement action will require that NM correct the violation, and it may include a penalty depending on the type of violation. Please see response to Comment 2-22.

3. Comments by: Lee Frisvold. Letter received May 15, 2018.

Comment 3-1: The commenter stated concerns about the ability of NM to control runoff from the holding area at the Facility. The commenter asks what safeguards are in place to protect spills at the Facility and long public roadways when collected runoff and other collected liquids are transferred to tanker trucks and shipped out for treatment or disposal.

Response: Please see response to Comment 2-4.

Comment 3-2: The commenter asks if the conveyer belts controlling the waste hazards that become fugitive as they run from building to building on the outside environment, will the cannons and sprayers on the belt cause the dust to travel before it's saturated? With the winds that can blow in Becker daily (over 30 mph and higher at times) what's being contemplated about the high winds due to the big fields from the farmers in the area of the proposed site. Particulates are still moving without visual dust being seen-by the naked eye. If the company is being responsible are there going to be any monitors to verify compliance that measure the air quality for toxins that are known to cause cancer like hexavalent chromium, lead, or others like arsenic and beryllium to the residents of Becker and the employees that work at the facility?

Response: The conveyors that convey material between buildings are covered. Water cannons and sprayers suppress dust and are used on the conveyor that conveys the final ferrous product out of the building. The ferrous product that comes out of the shredder is fairly large (about 4-5 inches in diameter) and has gone through a cleaning process inside of the ferrous building. The air quality dispersion modeling includes a conservative estimate of the amount of dust generated from this pile. The air quality dispersion modeling uses 2012-2016 data from the St. Cloud Regional Airport meteorological surface station that includes prevailing wind data. The air quality dispersion modeling and AERA results show that the emissions from the Project will not cause or contribute to a violation of the ambient air quality standards or exceed health benchmarks.

NM is not required to directly monitor emissions rate out of the stack on a continuous basis or monitor ambient concentration at the property boundary on a continuous basis. Instead, NM monitors "surrogate" parameters on a daily basis and conducts periodic stack testing. It is standard practice for the MPCA to require this type of monitoring as a surrogate for direct measurement of emission rates, and it is a sufficient and well-established way of ensuring that control equipment is functioning properly and thus that a facility is meeting its emissions limits.

For process emissions and material handling emission that occur inside, the permit requires the use of well-understood control technologies, and the permit establishes key operating parameters that are good indications of control equipment performance. In this case, the surrogate parameters are pressure drop across the fabric filters and cyclones and temperature of the thermal oxidizer. These key operating parameters are monitored during the stack test to set an acceptable range for the parameters. These parameters are then maintained within the range established in the stack test and monitored on a daily basis. Monitoring of these parameters combined with requirements for proper operation and

maintenance of the control equipment, periodic inspections of the control equipment, monitoring to ensure the building is enclosed during operations, as well as the inspections and monitoring required by the feedstock control plan provide reasonable assurance that the emissions limits are being met at all times. Periodic stack tests, and direct measurement of pollutants by a third party from the stack tested under worst case conditions for emissions generation, provide supplemental assurance that the equipment continues to operate properly and that the emissions limits are met.

For material handling operations occurring outside, there are emissions associated with material handling operations or "fugitive dust." The permit estimates potential emissions from these sources, and these emissions are within what is allowed by air quality regulations for this source. Checking for visible emissions is one way to ensure that fugitive dust is minimized; it does not ensure that there are no dust emissions. The permit requires NM to take other measures to minimize dust based on best practices for minimizing fugitive emissions such as sweeping and watering roads, watering piles, minimizing exposure to wind by storing material in a three-sided shed, and picking up any spilled materials immediately.

Comment 3-3: The commenter asked what is done with runoff from the water cannons.

Response: Please response to Comment 2-4.

Comment 3-4: The commenter stated concerns about the ability of NM to control the fluff and shredded materials housed in the three-sided sheds in high wind conditions. The commenter asked how NM will monitor the site during non-work hours.

Response: The fluff and shredded clip will always be stored in the three-sided, covered shed to minimize dust emissions. Ferrous product may be stored outside. Ferrous product is large (about 4-5 inches in diameter), and will be cleaned in the ferrous process to remove entrained dust. The Project site is monitored electronically during non-work hours.

Comment 3-5: The commenter stated concerns that the proposed infrastructure is not adequate to deal with expected truck traffic during peak delivery times.

Response: NM expects the maximum hourly traffic count to be 40 vehicles per hour, and the maximum daily traffic count to be 549 vehicles per day. NM current layout has enough room for 24 semi-trucks to park in the staging area and has another 40 parking spaces where NM semi-trucks are parked at the end of the day. The semi-truck parking area is also available for "over flow" parking if needed. Therefore, assuming NM has 24 spaces for staging and at any one time 6 to 8 trucks are in the yard dumping or loading, there is capacity for over 30 trucks to be on site at the same time without counting the extra 40 spaces for the semi-trucks that could be used as overflow. NM dispatches its trucks to several different locations, and travel times vary from one hour to nine hours round trip. NM strives to keep its trucks spread out so they don't all arrive at the plant at the same time.

Also, see response to Comment 1-1.

Comment 3-6: The commenter asked if incoming and outgoing trucks are covered.

Response: According to NM the majority of its incoming trucks are covered when taking deliveries with few exceptions such as receiving crushed automobiles. Outgoing trucks are covered unless empty.

Comment 3-7: The commenter stated the term “State of the Art” was stated numerous times at the meeting and in all the talk about this facility what is the action plan for when new technology emerges and the time frame it needs to be implemented by?

Response: For this Project, the facility must install equipment that meets air quality regulations. If new technology becomes available, NM is not required to install new equipment unless there is a change in regulations that would require NM to update its equipment.

Comment 3-8: Commenter asked what type of observation/monitoring is going to take place to verify everything NM is going to comply with what they say they are going to do, other than the records they keep as they have a pretty bad track record.

Response: In addition to the records NM is required to keep, the MPCA will periodically conduct unannounced inspections of the Project, including an inspection after the Project begins operating. The MPCA has a risk-based strategy for determining frequency of inspections that is dependent on many factors including the compliance history of the Project. The MPCA also conducts inspections as a result of complaints. As part of the inspection, the inspector reviews records that NM is required to keep to ensure that it is meeting the requirements of its permit. These records include, but are not limited to, assessments of control equipment and operating conditions, calculation of emission rates, control equipment performance parameters, composition and monitoring of the feedstock, visible emissions checks, dust mitigation measures, employee training, etc.

The MPCA will also review all reports and self-reporting required by the permit. These reports and their frequency are:

- Semiannual deviations reports (submitted in July and January of every year) identify any deviations from requirements of the air permit.
- Annual compliance certifications (January of every year) identify any deviations from permit requirements and certifies compliance with all other requirements of a permit.
- Annual emission inventory reports (April every year) identify what was emitted at the facility on an annual basis.
- Annual report (January of every year) identifies any changes made at the facility that did not require a permit amendment.
- Performance test report (due 45 days after each performance test) contains stack emissions test results.
- A Report of any violation or issue that could pose a threat to human health or the environment as soon as it is discovered.

The MPCA will follow-up on all citizen complaints.

NM is required to have a third party conduct stack emissions testing after startup and periodically thereafter (every 1, 3, or 5 years depending on how close NM initial test is to the emission limit). The test is conducted under conditions that generate the maximum amount of emissions. This is a reasonable frequency because periodic stack tests provide supplemental assurance that the equipment continues to operate properly and that the emissions limits are met. The permit requires monitoring of other surrogate parameters on a daily basis to ensure that emission limits are met.

NM will receive an enforcement action if it is found to be in violation of the permit or an emissions limit. The enforcement action will require that NM correct the violation and it may include a penalty depending on the type of violation.

Comment 3-9: Commenter stated concerns regarding what will happen to the housing values in Becker and the impact to the public image of the area for potential residents as a result of the Project.

Response: Although this is an important local issue, it is not an environmental impact and is beyond the scope of the EAW.

Comment 3-10: The commenter stated concerns about the impact the Project will have on the tax base.

Response: Although this is an important local issue, it is not an environmental impact and is beyond the scope of the EAW.

4. Comments by: Sarah Petrodke. Letter dated May 16, 2018.

Comment 4-1: The commenter stated concerns about how the MPCA will deal with future changes to EPA emissions limits associated with this project.

Response: Please response to Comment 2-1.

Comment 4-2: The commenter asked what was considered when looking at potential cumulative impacts associated with the Facility.

Response: Please response to Comment 2-2.

Comment 4-3: The commenters stated concerns that the strong prevailing winds were not considered.

Response: Please response to Comments 2-3 and 3-2.

Comment 4-4: The commenter stated concerns that given the high hydro-geologic sensitivity of the soils in the area of the Facility, local aquifers and shallow wells in the area could be impacted.

Response: Please see response to Comments 2-4 and 2.8

Comment 4-5: The commenter stated concerns that given the high hydro-geologic sensitivity of the soils in the area of the Facility, local aquifers and shallow wells in the area could be impacted.

Response: Please see response to Comments, 2-5 and 2-8.

Comment 4-6: The commenter stated concerns that the Facility is too close to the Wellhead Protection Area.

Response: Please see response to Comment 2-6.

Comment 4-7: The commenter stated concerns that the Wellhead Protection Plan should be completed before the project moves forward.

Response: Please see response to Comment 2-7.

Comment 4-8: The commenter points out that Sherburne County is dominated by very high pollution sensitivity due to the presence of sand and gravel over much of the surface of the county.

Response: Please see response to Comment 2-8.

Comment 4-9: The commenter stated concerns that the Mississippi River and Elk River near the Facility are already impaired and additional pollutants blown from the Facility will add to an already existing problem. This would hold true for the schools, businesses, nursing homes and agriculture in the area around the Facility.

Response: Please see response to Comment 2-9.

Comment 4-10: The commenter stated concerns that the Facility might be in a flood plain.

Response: Please see response to Comment 2-10.

Comment 4-11: The commenter stated concerns regarding the watering of paved roads on site. How does NM contain and treat the wet dust runoff from the paved roads?

Response: Please see response to Comments 2-11 and 3-1.

Comment 4-12: The commenter asked if the Vonco Landfill has enough capacity to handle the waste from the NM Facility. If the Vonco Landfill is not available, what will NM do with the waste?

Response: Please see response to Comment 2-12.

Comment 4-13: The commenter stated concerns that the EAW did not list impact levels for VOCs, PM, or CO₂ in Table 8.

Response: Please see response to Comment 2-13a and 2-13b.

Comment 4-14: The commenter asked if the HAP from cutting torches were measured.

Response: Please see response to Comment 2-14.

Comment 4-15: The commenter stated concerns that measuring the noise of the exhaust fan is an accurate measurement of the overall noise expected from the Facility.

Response: Please see response to Comment 2-15.

Comment 4-16: The commenter asked if a noise barrier has been considered for the Facility.

Response: Please see response to Comment 2-16.

Comment 4-17: The commenter stated concerns about odors from the Facility.

Response: NM expects odors from the operations to be minimal based on the operations at the current Minneapolis site. NM will install a Regenerative Thermal Oxidizer at the Project to control air emissions, including odors that may occur from the shredding process. NM expects odors from the Project to be minimal, and nuisance conditions are not expected.

Comment 4-18: The commenter stated concerns regarding stack release of pollutants in the steam and cannot understand how the contractor hired to do the safe limit measurements came up with approximately 1 mile as a radius around the project when we all know the stack will get the pollutants up into the atmosphere and the wind will carry it much further than 1 mile from their site. The less dense pollutants will be spread out but LEAD IS LEAD. (See what the MDH says about lead.)

Response: The impacts from the Project were evaluated on 100 kilometer by 100 kilometer (approximately 62 mile by 62 mile) grid around the proposed Facility. The air dispersion modeling and the air emissions risk analysis use the worst-case concentration predicted over the entire 100 kilometer by 100 kilometer grid.

Both the permitting rules and risk assessment guidelines upon which we evaluate a project have standards or benchmarks for lead. The health benchmark for lead used in the AERA comes from the EPA and California EPA. The MDH is responsible under Minnesota rules for developing health benchmarks intended for the use by public agencies or private entities as part of an evaluation of risks to human health from chemicals in ambient air. For pollutants for which MDH has not developed a value, the MPCA and MDH have agreed upon a hierarchy of health benchmark information sources. The MDH has not developed a health benchmark for lead, so the AERA uses the hierarchy agreed upon with MDH. Additionally, the EPA ambient standards for lead are designed to provide health protection for at-risk groups, including children, and protect the aquatic and terrestrial ecosystems. The Project was evaluated against these standards and benchmarks. The results of the analyses were below the standards and benchmarks.

Comment 4-19: The commenter stated concerns regarding NM's past operating history and the ability of the city of Becker to deal with NM.

Response: Please see response to Comments 2-22, 1-2, 5-6, 2-19, and 3-8.

Comment 4-20: The commenter stated concerns regarding NM's past violations and the health aspects of those violations and the attitude towards their new neighbors.

Response: Please see response to Comment 4-10.

Comment 4-21: The commenter pointed out that NM will mostly be monitoring themselves.

Response: Please see response to Comments 2-19 and 5-6.

Comment 4-22: The commenter asked what assurances the community has regarding the oversight of the Facility.

Response: Please see response to Comments 2-29, 3-8, and 5-6.

Comment 4-23: The commenter stated concerns that the Facility needs community oversight.

Response: Thank you for your observation and the MPCA encourages your involvement in your community and neighborhoods. Please see response to Comment 2-22.

5. Comments by: Scott Gifford. Letter received May 15, 2018.

Comment 5-1: The commenter asked if the geologic and water table sensitivity of the Becker area was considered.

Response: Please see response to Comment 2-4.

Comment 5-2: The commenter asked if wind effects and pollution from multiple contributors were considered.

Response: Please see response to Comments 2-3 and 3-2.

Comment 5-3: The commenter stated concerns if area water sources such as the Mississippi River and Elk River were taken into consideration as drinking water sources, impacts to flooding and recipients of surface water runoff from the Facility.

Response: Please see response to Comment 2-9.

Comment 5-4: The commenter asked how gaseous emissions from the site are being measured and controlled.

Response: The main types and sources of gaseous emission from the Project include: volatile organic compounds (VOCs) from the volatilization of any residual paint or organic compounds on the scrap metal due to the heat generated by the shredding process. These emissions are controlled by a thermal oxidizer, a highly effective control device that breaks down the VOCs into carbon dioxide and water. Emissions of VOCs from this process will be tested within 180 days after startup by a third party using an EPA-approved test method for VOCs. NM is not required to directly monitor emissions rate out of the stack on a continuous basis from the Project. Instead, it monitors "surrogate" parameters, such as the temperature of the thermal oxidizer, on a daily basis. It is standard practice for the MPCA to require this type of monitoring as a surrogate for direct measurement of emission rates. This is a well-established way of ensuring that control equipment is functioning properly and the Project is meeting its emissions limits.

The Project generates small amounts of gaseous emissions (VOCs, sulfur dioxide, carbon monoxide, nitrogen oxides, and greenhouse gas emissions) from the combustion of natural gas in small combustion units – space heaters, a boiler, evaporators and the thermal oxidizer. The MPCA has a good understanding of the potential emissions from the combustion of natural gas in these types of units and

therefore can estimate worst-case gaseous emissions from these units. The worst-case gaseous emissions from these are so small that they do not trigger the need to be controlled or tested under the air quality regulations.

Comment 5-5: The commenter asked how noise is measured and controlled at the Facility.

Response: The Project consists of an enclosed metal shredder, an enclosed metal recovery plant, an end of life vehicle process, and a Community Recycling Center (CRC). Studies of the physics of noise have shown that in a setting with multiple sources of noise, the predominant source of noise drives the overall noise profile. Predictive models bear out this phenomenon. NM in its analysis of noise from the Project predicted the fans serving the combined stack to be the predominant source of noise of the Project. NM analysis relied on actual sound level measurements taken at the Minneapolis facility during typical operation. These measurements were inclusive of all sounds emanating from the Minneapolis facility over the time of the testing and expected to include many of the noise sources described by the commenter. In this way, the prediction of noise from the Project considers both the predominant source of noise as well as other contributing noise sources such as unloading and loading of material at the Project Site.

The nearest sensitive receptors to the Project Site are residences located approximately 2,480 feet northeast of the site. The preliminary noise assessment predicted the noise levels at the nearest sensitive receptors from the proposed site to be approximately 59 dB. The predicted results are below the Minnesota's daytime noise standard of 65 dB.

Comment 5-6: The commenter asked what reporting tools are in place? As in, if NM violates some sort of regulation, how is the state informed, and how can I and my family be kept abreast.

Response: The MPCA will review all reports and self-reporting required by the permit. These reports and their frequency are:

- Semiannual deviations reports (submitted in July and January of every year) identify any deviations from requirements of the air permit.
- Annual compliance certifications (January of every year) identify any deviations from permit requirements and certifies compliance with all other requirements of a permit.
- Annual emission inventory reports (April every year) identify what was emitted at the facility on an annual basis.
- Annual report (January of every year) identifies any changes made at the facility that did not require a permit amendment.
- Performance test report (due 45 days after each performance test) contains stack emissions test results.
- A report of any violation or issue that could pose a threat to human health or the environment as soon as it is discovered.

The MPCA also conducts its own routine inspections, or inspections as a result of complaints. If violations are identified in the reports submitted or during an inspection, an enforcement action may be issued.

By law, information regarding any MPCA investigation is confidential until the matter is resolved. Any closed enforcement action and the corrective action that NM took to come back into compliance,

completed investigation data, facility data, reports, or inspection data is all public information and is available upon request through the MPCA records management. Information is available through our “What’s in My Neighborhood” tool (<https://www.pca.state.mn.us/data/whats-my-neighborhood>). This online application allows users to access a wide variety of environmental information about the user’s community. For sites with air permits users can view:

- 1) A list of all on-site inspections conducted by the MPCA and the dates of those inspections
- 2) Quality assured/quality checked actual emissions by year from the facility
- 3) A list of any enforcement activities, including the case type, net penalty, violation discovery date, and case closure date.

Comment 5-7: The commenter stated concerns about NM being trusted to manage and monitor itself.

Response: Please see response to Comments 5-6, 1-2, 1-3, 2-20, 3-8 and 2-22.

Comment 5-8: Commenter stated concerns regarding NM’s track record for compliance at its northeast Minneapolis location and the need for additional oversight and monitoring.

Response: Please response to Comment 5-7.

Exhibit 23

TREATMENT
OF
AUTO SHREDDER RESIDUE

Prepared for:

CALIFORNIA CHAPTER
INSTITUTE OF SCRAP RECYCLING INDUSTRIES (ISRI)

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May 18, 2012

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I. BACKGROUND/HISTORY OF ISSUE

Auto shredder residue (ASR) is generated by scrap metal shredding facilities as a result of the process of separating specification grade metal from a huge array of recyclable scrap metals including car bodies, household appliances, manufactured metal products and myriad other types of miscellaneous scrap metal. Since the mid- to late-1980s, shredder facilities in California have treated ASR using an in-line chemical fixation process to stabilize residual soluble metals prior to beneficial use or, less often, disposal of the treated material. The purpose of this Technical Memorandum is to explain how the treatment process is conducted, the types of materials and equipment that are used, the nature of the chemical reactions that occur in the process, and how these reactions bind residual heavy metals in the ASR so as to minimize their leaching potential over time. The vast majority of treated ASR is beneficially used as Alternative Daily Cover in nonhazardous waste landfills across the state, and is not subject to the more acidic environments that can be present in hazardous waste landfills. A survey of landfill leachate data conducted by the auto recycling industry in 2009, and submitted to the Department of Toxic Substances Control (DTSC), did not identify any instance where groundwater has been adversely affected by heavy metals in treated or untreated ASR deposited in those landfills.

The treatment process was developed in the mid-1980s in response to the classification of auto shredder residue as a California-only (non-RCRA) hazardous waste under the state hazardous waste regulations that were adopted by the Department of Health Services (DHS) (the predecessor agency to DTSC) in 1984. Prior to the adoption of those regulations, ASR was regulated as a nonhazardous solid waste and was disposed of in municipal landfills without treatment. DHS regulations established a variety of ways that wastes could be classified as hazardous wastes under California law, including the presence of heavy metals in concentrations that exceeded specified Total Threshold Limit Concentrations (TTLCs) or Soluble Threshold Limit Concentrations (STLCs), the latter as determined by the California Waste Extraction Test (WET). TTLCs and STLCs were adopted for a number of heavy metals commonly found in ASR, including lead, copper, cadmium and zinc.

Collectively, California metal shredder operations produce very large quantities of ASR (ranging from 500,000 to 700,000 tons per year). There are multiple obstacles (both regulatory and economic) to reducing this volume through waste minimization and recycling programs, e.g., regulatory impediments to recycling plastics. Shredder operators implement inbound material acceptance policies that require the rejection or removal of a wide variety of hazardous materials, hazardous wastes, and other “materials requiring special handling,” as required by law or as necessary to ensure safe operations. This serves to minimize hazardous constituents in the ASR, but does little to reduce the overall volume. It was recognized by DHS that the costs associated with managing this very large volume of residual material as a hazardous waste were not

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warranted based on the insignificant hazard posed by the material. At the same time, DHS recognized that the cost of managing ASR as hazardous waste would impose severe economic hardship on the shredder/recycling industry and alter the economics of the industry in a way that could destroy its viability. Aside from loss of jobs, loss of the industry in California would lead to the improper handling of discarded vehicles, old appliances and other scrap metal, to the detriment of public health and safety and the environment. Thus, development of an effective in-line treatment process was seen as a means to allow ASR to continue to be managed as a nonhazardous waste and to maintain the viability of metal recycling for the benefit of the public.

Following implementation of the treatment process, the shredder operators applied for reclassification of the treated ASR as non-hazardous waste under then § 66305(e) of the Title 22 regulations (since recodified as § 66260.200(f)), on the grounds that the waste possessed mitigating physical and chemical characteristics that rendered it insignificant as a hazard to human health and the environment. Each application was supported by analytical data that compared the solubility of key heavy metals (primarily lead and cadmium) in the waste before and after treatment. Each of the applications for reclassification was granted based on the demonstrated effectiveness of the treatment process. These reclassification letters have set the standard for ASR treatment and beneficial reuse for over 25 years.

DTSC has requested preparation of a Technical Memorandum on the ASR treatment process in connection with its review of the regulatory status of treated ASR and consideration of possible alternative management standards for treated ASR. DTSC's evaluation of the long-term effectiveness of the treatment process, and the use of treated ASR as alternative daily cover in nonhazardous waste landfills, is a critical component of this regulatory strategy.

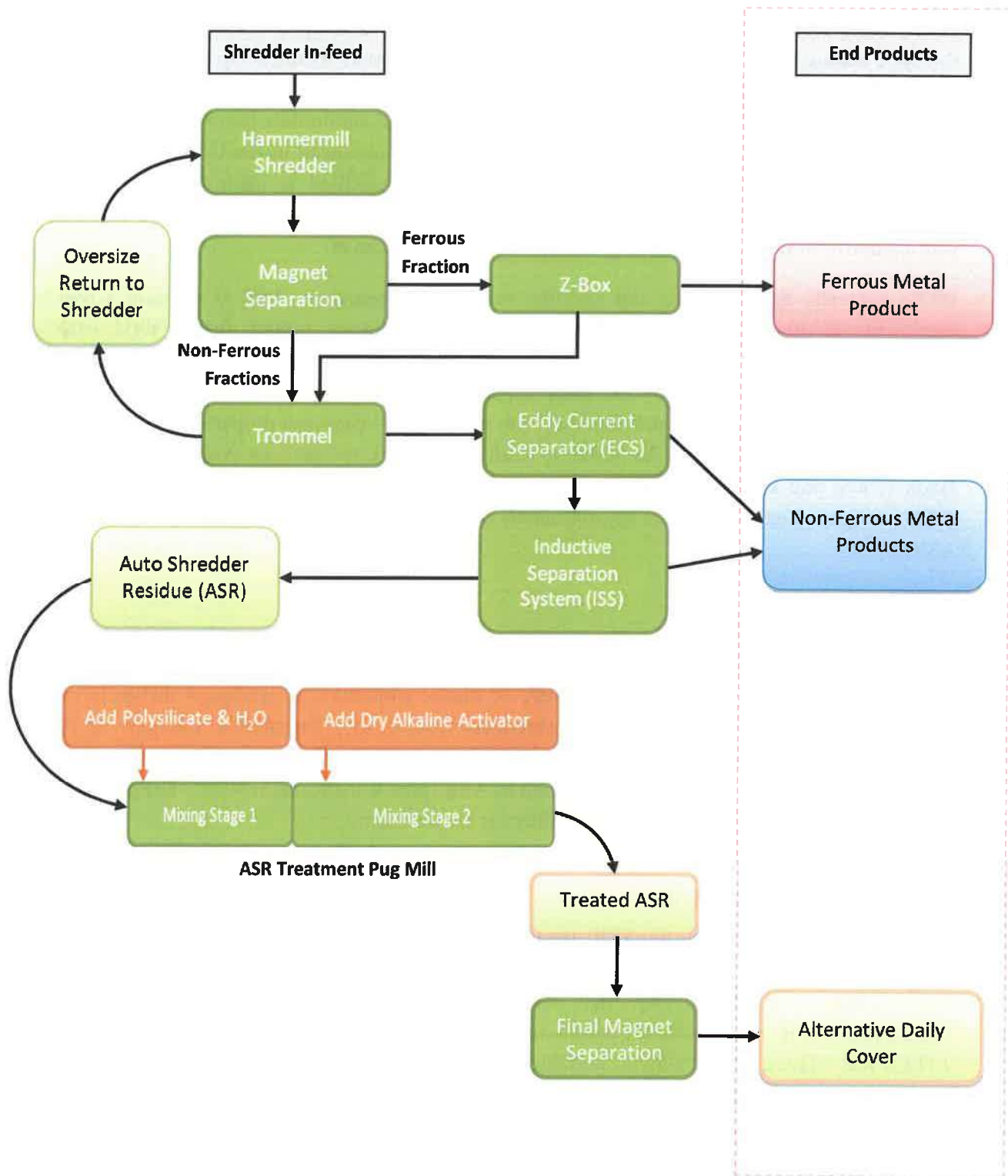
II. DESCRIPTION OF THE PROCESS THAT RESULTS IN THE GENERATION OF ASR

ASR is generated during the recycling of end-of-life manufactured “light iron” products such as automobiles and household appliances, as well as a huge variety of other types of recyclable scrap metal (ISRI, 2011). The term “auto shredder” comes from the initial step in the recycling process in which the recyclable material feedstock (frequently containing flattened car bodies) is placed by material handler or conveyed into a large hammermill shredder to reduce the size of the scrap metal into smaller pieces that can be more easily handled and separated by material type into specification-grade scrap metal commodities. Although the term ASR implies a dedicated in-feed of scrap automobiles, ISRI has estimated that as much as 40% of ASR derives from end-of-life appliances (Hook, 2008). In the second step of the recycling process, large electromagnets are used to separate most of the ferrous metal (e.g., steel) from the nonferrous metals (e.g., copper, aluminum and stainless steel) and other non-metallic materials contained in the shredder output (“aggregate”).

Once the ferrous metal (or “shred”) has been separated from the shredder aggregate, trommels and other kinds of “downstream” separation equipment are used to separate and size the remaining materials into different fractions so that they can be further processed to optimize removal of valuable metals. These fractions can be based on weight, density or other readily distinguishable physical properties. Specification-grade nonferrous metal is typically separated from the non-metallic material by eddy current separators (which create a means for magnetic separation of the nonferrous metals) and, more recently, by more advanced mechanical separation methods (e.g., optical sortation). Other types of specialized equipment may be used to sort the nonferrous metals and other materials into a variety of recyclable commodities. Depending on the sophistication of the material separation stages that are employed, the recyclable materials can be size-sorted and density-sorted onto separate conveyor belts to improve the recovery rate of different types of nonferrous metals and other recyclable commodities. In addition, manual labor may be used along certain conveyor belts to hand-separate larger pieces of nonferrous metals, and additional magnets may also be positioned to separate out remaining ferrous metals.

The largely non-metallic material remaining after the various magnetic, mechanical and manual separation steps is referred to as ASR. The ASR is treated by the process described in this paper, which includes final screening by a magnet installed downstream of the treatment process to collect any remaining ferrous metal after the in-line treatment process.

A flow chart depicting a typical auto shredding and “downstream” material separation processes is presented in Figure 1.

Figure 1: Process Flow Diagram of Auto Shredding and Separation Processes

III. DESCRIPTION OF UNTREATED ASR

The Vehicle Recycling Partnership, LLC (VRP) estimates that up to 84% (by weight) of a shredded automobile is separated into specification-grade metals by the scrap recycling industry (Metal Bulletin Daily, 2008). USEPA estimates are slightly more conservative at 75% to 80% (USEPA, 2011a). The remaining 16% to 25% of the recycled automobile becomes ASR. Current estimates suggest that more than 5 million tons of ASR is produced in the U.S. each year, and nearly all of this is used as Alternative Daily Cover or landfilled as waste (USEPA, 2011a). California is one of the few states that require treatment of ASR prior to placement in a solid waste landfill for either disposal or use as Alternative Daily Cover.

While generally homogeneous and soil-like in overall appearance, ASR is actually a highly heterogeneous mix of material which typically includes plastics, rubber, foam, fabric, carpet, glass, wood, road dirt, and debris, along with a small amount of residual (primarily nonferrous) metal that was not removed by the prior separation processes. These materials make up a complex mix of sizes, shapes, and densities with physical and chemical properties as described in Subsections A and B below. As noted by USEPA (2011a), research on ASR composition by Hook (2008) and DeGaspari (1999) determined that plastics represent approximately 30% of ASR's weight. Foam represents approximately 5% by weight, but up to 30% of the volume of ASR.

A. PHYSICAL CHARACTERISTICS

The physical characteristics of ASR range from granular particles (e.g., sand and soil) to identifiable pieces of carpeting, wood, foam, or plastic sometimes exceeding 5 inches in cross section. While, historically, California shredders treated only the smaller fractions of ASR (which were referred to as "fines"), the treatment process has evolved over time so that now all but the largest fraction of materials contained in ASR (plus 4-inches) is treated. The plus 4-inch materials are typically returned to the shredder for re-processing.

B. CHEMICAL CHARACTERISTICS

The chemical characteristics of ASR are typified by the presence of a very small amount of residual metals, such as lead, cadmium, copper and zinc, as well as various petroleum hydrocarbons (e.g., lubricating oils and other residual automotive fluids) and PCBs. Concentrations of certain residual metals in untreated ASR can approach or exceed California TTLCs and STLCs. For example, untreated ASR often contains total lead in excess of 1,000 mg/kg and WET extractable lead in excess of 5 mg/l. These constituents are also detected in samples of treated ASR collected by the shredders to comply with the requirements of the receiving landfills, although the extractable concentrations of metals are significantly reduced as

a result of the treatment process. Concentrations of petroleum hydrocarbons, PCBs, VOCs and SVOCs are typically far below levels that would cause ASR to be classified as hazardous based on these constituents.

The residual metals found in ASR are constituents of the raw (unprocessed) scrap originally fed into the shredder. The limited chemical characteristics of untreated ASR reflect the significant efforts of the shredder facilities and their upstream suppliers to keep hazardous materials out of shredder feedstock in the first instance. Each auto shredder facility implements an inbound material acceptance policy that prohibits the inclusion of a range of hazardous materials in the shredder in-feed material. Each facility engages in stringent practices to enforce these prohibitions, including gate inspections of incoming loads of scrap by trained inspectors to identify prohibited materials in the incoming loads and yard inspections at various points en route to and at the entrance to the shredding process. Facilities also participate in the state-mandated programs to require suppliers to remove “materials requiring special handling” from automobiles and appliances prior to crushing and delivery to the facility, and to remove mercury switches, batteries and other hazardous materials from scrap auto bodies. Automotive fluids (fuels, lubricating oils, transmission fluid, antifreeze, etc.) are also drained from the vehicles prior to crushing and delivery to the shredder facility. In some cases, vehicles and appliances are received directly at the shredder facilities without having been prepared for recycling by an auto dismantler or a certified appliance recycler. Procedures are in place at the shredder facilities to remove all prohibited materials from these vehicles and appliances before they are shredded. Each of the shredder facilities reviewed for this report is a certified auto dismantler and appliance recycler.

C. PRE-TREATMENT LEVELS OF HEAVY METALS

Examples of recent WET extractable metal data from untreated ASR are provided in Table 1.

Treatment of ASR
May 2012

Table 1
WET Metal Values in Untreated ASR (mg/L)

Sample Date	Cd	Pb	Zn	Cu
6/18/2009	0.086	58.7	925	1.25
7/28/2009	1.29	41.8	1320	2.66
8/21/2009	0.657	88.3	1423	0.426
11/12/2009	1.25	49.6	1456	5.98
5/19/2010	2.57	155	864	6.83
10/26/2010	2.09	109	2603	9.1
1/5/2011	1.62	86.7	1685	3.97
1/25/2011	0.64	74.4	1025	3.35
4/28/2011	1.26	68.9	1110	4.51
10/31/2011	1.86	29.4	1970	4.60
11/7/2011	1.79	51.0	1525	2.03
Regulatory Values (CCR, Title 22 Ch. 11, § 66261.24)	1	50*	250	25

Bold numbers indicate values at or above the STLC value.

* Each of the reclassification letters issued to the shredders allows a soluble lead concentration of 50 mg/L. The requirements of the reclassification letters vary with respect to other Title 22 metals.

IV. DESCRIPTION OF TREATMENT PROCESS

The treatment process at the three auto shredder facilities reviewed for this Technical Memorandum involves a chemical reaction between the ASR and inorganic binders that results in the binding and fixation of heavy metals in the ASR, thus reducing their leaching potential.

Treatment processes that chemically bind heavy metals in a solid or semi-solid matrix are referred to by USEPA as *Stabilization* treatment. Stabilization has been shown to be effective for a wide range of constituents including lead, arsenic, and chromium (USEPA, 2009). Stabilization and a similar process called *Solidification* are common remediation technologies employed at state and federal Superfund sites. USEPA estimates that 23% of the source control remedies performed at these sites between 1982 and 2005 involved the use of solidification or stabilization, and 94% of the solidification/stabilization remediations performed included inorganic binders such as cement, fly ash, lime, phosphate, soluble silicates, or sulfur (USEPA, 2009). The treatment technologies and terms Stabilization and Solidification were originally described in USEPA's "Guide to the Disposal of Chemically Stabilized and Solidified Waste" (USEPA, 1980). Unlike Solidification, which requires a substantial amount of cement or other inorganic binder to form a solid mass of material, Stabilization relies on reducing the contaminants' mobility through physical or chemical reactions involving precipitation, complexation, and adsorption (USEPA, 2006). The usefulness of this approach for stabilizing lead-impacted soil is described in the peer-reviewed *Emerging Technologies for the Remediation of Metals in Soils* by Interstate Technology and Regulatory Cooperation Working Group (ITRC, 1997).

The specific technology used to chemically bind the metals in the ASR matrix consists of the application of a blend of liquid polysilicates and additives (usually wetting agents), followed by the addition of an inorganic binder and alkaline activator (AA) such as cement, lime, or other pozzolanic materials. Depending upon the supplier, various types of silicate blends, using either potassium or sodium silicate with proprietary additives, are available and used by the auto shredding industry. Despite the variations in proprietary blends, the same basic principles of chemical reaction apply in each case.

A. CHEMICALS, POZZOLANIC MATERIALS AND EQUIPMENT USED IN THE PROCESS

The ASR treatment process, as currently conducted, uses one of two proprietary, soluble polysilicate solutions (with potassium silicate or sodium silicate as the active ingredient), and a form of pozzolanic (cementitious) material which functions as an alkaline activator (AA) in the process. The following sections discuss these liquid and dry additives, along with the process equipment necessary to deliver the treatment technology. Different treatment chemicals are

evaluated from time to time, and may be used in lieu of the chemicals described in this report if determined to be more cost-effective.

B. SOLUBLE SILICATE SOLUTION

Two of the three auto shredder facilities in California that treat their ASR use a commercially-available product known as Metbond MCX-90, manufactured by Envirokem Engineering Services, LLC of Stockton, California. The active ingredient in Metbond MCX-90 is sodium silicate complex, with pH in the 10+ range (i.e., non-concentrate) (Envirokem, 2008). The Metbond MCX-90 system employs mixing tanks and a chemical-to-water mix ratio of 3% to 20% by weight, depending on the moisture content of the ASR.

The third auto shredder facility uses a product known as HP Treatment, which is manufactured by C.C.I. Chemical Corporation (formerly Cherokee Chemical), with corporate offices in Vernon, California (C.C.I., 2011). The active ingredient in HP Treatment is potassium silicate, with a pH of approximately 11.2. This product was developed by C.C.I. and the auto shredder client and includes a single-user proprietary blend. The HP Treatment system employs an in-line mixing process, and water-to-chemical mix ratio of approximately 13 to 1.

In addition to the water that is added to the polysilicate solution prior to application to ASR, the ASR itself is wetted during the shredding and separation stages, and it enters the treatment system with an average moisture content between 15% and 30% by weight.

C. ALKALINE ACTIVATOR

The California auto shredder facilities that treat ASR use Portland cement, fly ash, lime or similar dry pozzolanic material as the alkaline activator (AA). Based on the MSDS sheet for Portland Cement manufactured by CEMEX, of Victorville, California, Portland Cement has a pH in water of 12 +, and a specific gravity of 3.15 (CEMEX, 2001). Calcium salts in the blend may include: $2\text{CaO} \cdot \text{SiO}_2$, $3\text{CaO} \cdot \text{Al}_2\text{O}_3$, $4\text{CaO} \cdot \text{Al}_2\text{O}_3 \cdot \text{Fe}_2\text{O}_3$, and $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$. Small quantities of other salts such as MgO , K_2SO_4 , and Na_2SO_4 may also be included (CEMEX, 2001).

D. EQUIPMENT AND PROCESS FOR TREATMENT

Although the actual equipment may vary at different shredding facilities, the basic approach for delivering the silicate treatment is very similar. A brief description of the equipment and process follows.

The first step in the process is to thoroughly wet the material requiring treatment with the silicate blend. This is accomplished by creating a silicate/water mixture and applying it to the untreated ASR. Typically, this mixture is delivered through sprays which impinge on the material as it

leaves the downstream nonferrous separation system conveyor belt. In some cases a two-compartment tank is used to create the silicate/water mixture. Here, the concentrated silicate blend from one compartment is metered along with water into a second compartment and is then pumped to a series of spray nozzles. In this case, the water acts as the carrier for the silicate blend so that the ASR can be wetted, thereby ensuring the even distribution of silicates throughout the material.

The amount of silicate necessary to effectively treat the ASR has been established through treatability studies conducted in the past, and is added in proportion to the amount of material requiring treatment. For example, if 40 tons/hour of ASR requires treatment and the appropriate silicate addition is 0.5 gallons/ton, then 20 gallons/hour of silicate concentrate would be added to the mixing tank. The amount of water/silicate mixture sprayed from the mixing tank has been determined through experience to be sufficient to ensure thorough treatment of the material. Since the water content of the in-feed to the treatment system varies (mainly due to the amount of water added in the shredder), the spray rate is adjustable to avoid free-liquid or oversaturation of the ASR. However, the amount of silicate that is added does not change.

Another method of silicate addition involves the use of a foam in-line jet pump mixer. In this application, the concentrated silicate blend is drawn from a silicate concentrate container by a combination of pressurized water and compressor airflow and sprayed onto the ASR as it falls off the end of a discharge conveyor. Adjustments can be made to the flow rates of water and silicate blend in this system, but typically the flow rate is set for the maximum feed rate of ASR on the belt.

The addition of the alkaline activator (AA) is the final step in the treatment process. After the ASR has been wetted with silicate/water solution, it enters a pug mill mixer. After an appropriate residence time in the mixer, the dry AA is introduced into the pug mill from an intermediate storage hopper, pneumatically connected to a large storage silo, via a set of variable speed metering screws. At some facilities the AA is metered directly from the silo, and multiple silos are used. The amount of AA required is a function of the known (predictable) range of concentrations of metals typically present in ASR and type of AA in use. Each system reviewed for this report included a computer-controlled metering of the AA, based on the conveyor belt weight of the ASR to be treated.

E. TREATMENT SYSTEM CONTROL AND CALIBRATION

Sampling and analysis over time has shown that shredder facilities process a relatively consistent mix of scrap, auto bodies and “tin” such that the levels of metals in shredder residue tend to remain within a relatively narrow range or band of concentrations. The treatment levels are conservatively adjusted to the higher end of the range.

The treatment process has also evolved over time, with an eye towards optimizing the process and allowing use of different, more effective or more economical treatment chemicals. Periodic sampling of the treated ASR is also used to adjust the ratios of silicates and AA to achieve the reductions in extractable metals in the treated ASR, as necessary to comply with applicable Waste Discharge Requirements of the receiving landfills or the conditions, if any, of the facilities' reclassification letters. The treatment systems are designed so that adjustments can be made to the amount of wet or dry chemicals required.

V. CHEMISTRY OF TREATMENT PROCESS

The following section describes the chemistry involved in the ASR treatment process.

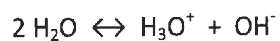
A. METAL OXIDES TO METAL-SILICATES

The metals in ASR are typically present in the oxide form. Due to the strong affinity of silicates for metallic/metal oxide compounds, these metals react with the silicates, resulting in the production of compounds referred to as metal-silicates. The chemistry of the process requires two components for the development of metal-silicates. The first is a soluble reactive silicate complex and the second is the AA which creates a high alkalinity environment to enhance the dissolution reaction of the metallic particles in the ASR. The reactive silicate is formulated to react with the available metals to create the insoluble metal-silicates. The metal speciation determines the metal-silicate solubility and required dose for treatment. Furthermore, the reactive silicate is formulated to inhibit the formation of metal hydroxides. The process is a water base reaction where both reagents are thoroughly mixed with the ASR.

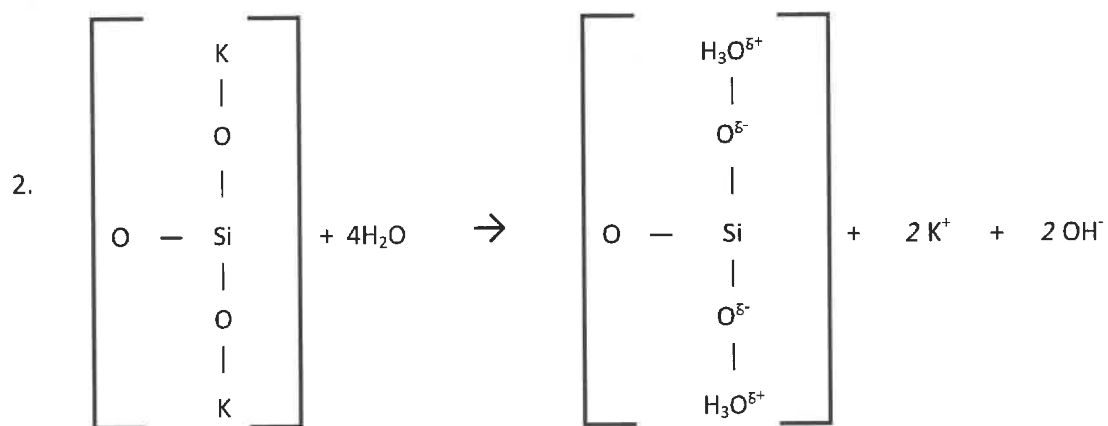
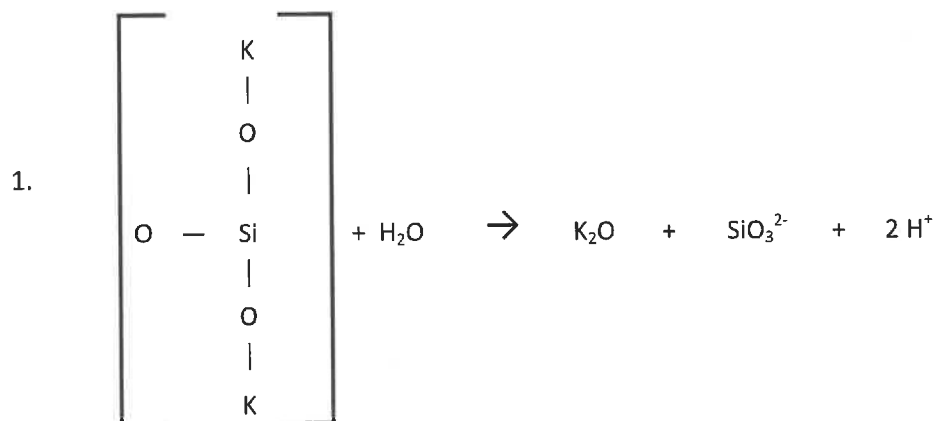
A detailed description of the chemical reaction equations is given in "Remediation of Heavy Metal Contaminated Solids Using Polysilicates," (Trezek, 1994). Example chemical equations involved in formation of liquid silicate polymer, its fixation to metallic elements, and Portland cement reaction are repeated in Figures 2 through 4.

Figure 2: Formation of Liquid Silicate Polymer

Water



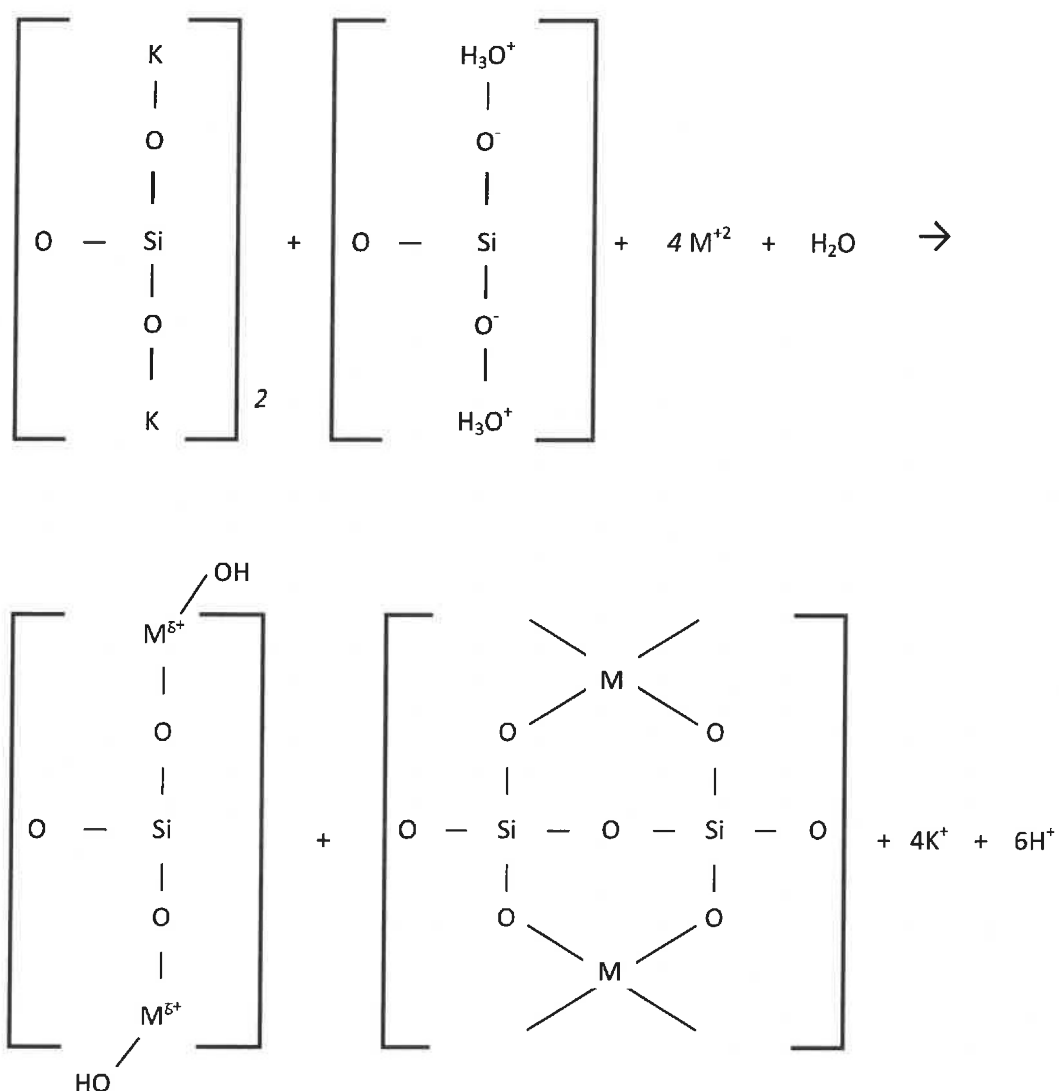
Liquid Silicate



As noted above, the liquid silicates depolymerize when mixed with water, and thereby expose their negatively charged oxygen sites. Silicone backbones continue to break down in water, creating ionically charged clusters.

Figure 3: Polysilicate Reaction with Metallic Elements

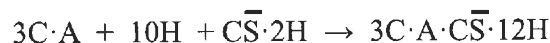
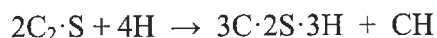
When ASR with active metallic elements is introduced, the reaction can be characterized as follows:



The evidence of structural changes in treated materials has been recorded through the application of electron microscopy and X-ray diffraction studies conducted at the Eitle Institute of Silicate Science under the direction of Professor William Kneller (Krofchak, 1979). These studies and analysis identified the presence of silicate compounds in a comparison of before and after treated material. For more information on these microscopic studies of the silicate reactions, please refer to the Krofchak reference included in Section IX.

Once the polysilicate solution has been added and thoroughly mixed with the ASR, a dry AA such as Portland cement is added to the partially-treated ASR in the pug mill. The addition of Portland cement to the treatment process yields the following reactions:

Figure 4: Portland Cement Reactions (in cement chemistry notation)



Where: C = CaO, S = SiO₂, H = H₂O, A = Al₂O₃, F = Fe₂O₃, C $\bar{S}$ = CaSO₄, (USEPA, 2008, p. A-3).

Although, at the time this report was prepared, each of the auto shredders reviewed for this report was using Portland cement as its AA additive, similar reactions and results can be achieved by using other pozzolanic AA additives.

The underlying principle of the technology is the transformation of the metal oxides into insoluble metal-silicates. Thus, it is the silicates that are the primary treatment chemical, with the AA in the supporting role of pH adjuster. The solubility curves of the primary metals of concern, such as lead, cadmium, zinc, have parabolic shapes with the lowest solubility inflection points falling within a range of approximately 9.5 to 11 on the pH scale (Cullinane, Jones & Malone, 1986). It is the behavior of these curves that controls the optimum amount of AA addition. For example, if a five percent addition gives good results, doubling the amount to ten percent will not be twice as effective. Instead, this action would result in a shift to a higher part of the solubility curve or a higher solubility constant. Controlling the amount of AA addition is part of the ongoing monitoring process, and is necessary to maximize treatment efficiency and minimize the cost of treatment additives and the incremental increase in the weight of the treated ASR.

B. CHEMICAL REACTION, NOT DILUTION

Dilution is not a factor in this treatment process, as seen by a simple mass balance of metal solubility and treated ASR weight increases. If the addition of silicates and AA increase the overall treated weight of ASR by 5% to 10%, then simple dilution would decrease the soluble metal concentrations by a similar amount. However, test results show that reductions in metal solubility are in the range of 67% to 99% for the primary metals of concern in ASR samples (Cd, Pb and Zn). See Table 3.

It should also be noted that the silicate treatment is designed to reduce only metal leachability or solubility. This treatment does not alter the total concentration of metals in the ASR beyond the modest decline associated with an increase in weight due to the addition of 5% to 10% cement or other AA.

C. INFLUENCE OF PARTICLE SIZE

The reduction of metals leachability in the ASR is caused by the chemical reactions previously described, as well as by the increase in small particle size attributed to the adsorption of silicate followed by the AA binder. The addition of silicates reduces the time required for curing of the cementitious AA binder, and increases its hardness and resistance to acid attack (PQ® Corp, 2011). This effect was studied by Davis, Krumrine, Boyce and Falcone in the mid-1980s. Their experiments determined that the time required for a highly acidic solution to leach away 50% of a 2 cm particle size can be increased 100-fold by the addition of soluble silicates (Davis, Krumrine, Boyce, and Falcone, 1986). Experiments by Dr. Trezek in the 1980s also confirmed that this significant reduction in metals leachability is even more pronounced in smaller particles, when exposed to multiple simulated landfill leachate extractions using either of two dilute acidic solutions (Trezek, 1994). These experiments and others, along with the known characteristic of cementitious materials to continue to harden for years after initial reaction, confirm that the effectiveness of the treatment will continue after the ASR is placed in the landfill environment. The long-term effectiveness of the treatment process is discussed in Section VI.

VI. LONG-TERM EFFECTIVENESS OF TREATMENT PROCESS

As part of the early development of the polysilicate treatment technology in the late 1980s, Dr. Trezek studied the effect of metals leachability during successive extractions on identical samples of treated and untreated soil media (Trezek, 1994). In order to evaluate the durability or time-dependent stability of treated material, USEPA developed the Multiple Extraction Procedure (MEP) as a test method. The details of this procedure are described in SW-846, Method 1320 (USEPA, 1986). The California Waste Extraction Test (WET) and the Multiple Extraction Procedure were applied sequentially to soil contaminated with copper, lead, and zinc.

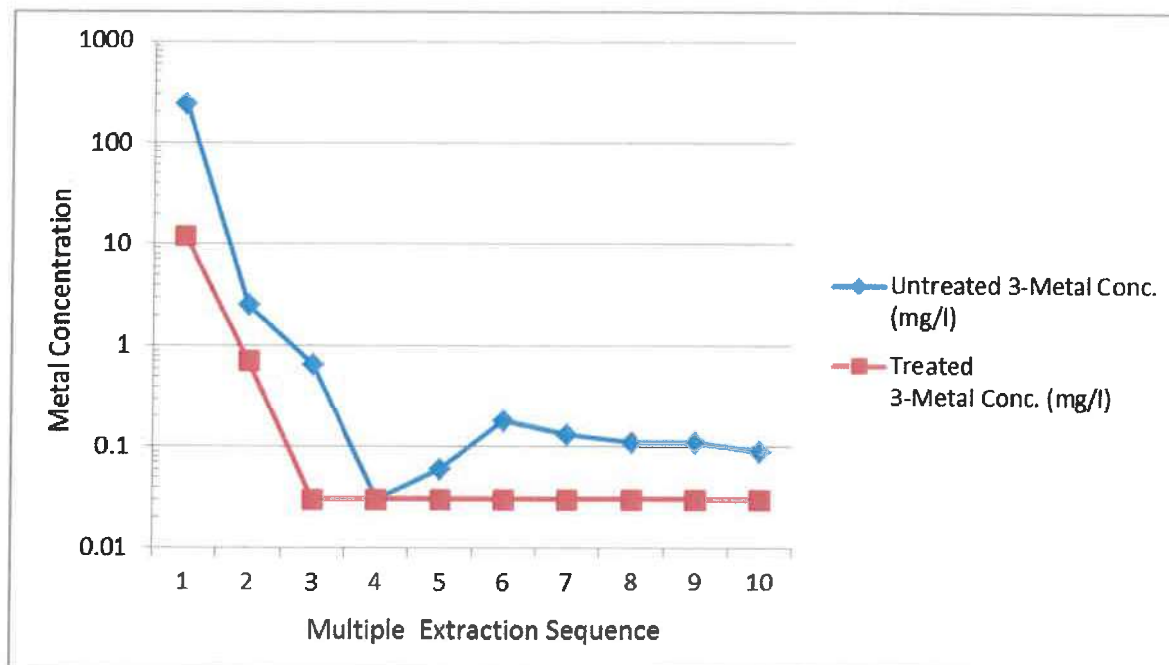
This treatability study included one initial extraction by the California WET method and nine additional extractions of the same sample by EPA Method 1320. The results of the initial WET on the untreated soil yielded extractable metal concentrations of 22 mg/l for copper, 110 mg/l for lead, and 106 mg/l for zinc (a total of 238 mg/l for all three metals) (Trezek, 1994). Comparisons between the treated and untreated samples, and subsequent extraction results, were performed using the extractable total of all three metals. Results of these multiple extraction tests are tabulated below, and graphed in Figure 5, which follows.

Table 2
Long-Term Effectiveness Study Using Multiple Extractions

Extraction/Method	Untreated 3-Metal Conc. (mg/l)	Treated 3-Metal Conc. (mg/l)	Reduction in Conc. of Extractable Metals (Treated vs. Untreated)	Percent Reduction from Prior Treated Extraction
#1 / WET Method	238	11.7	95%	NA
#2 / Method 1320	2.5	0.7	72%	94%
#3 / Method 1320	0.65	0.03	95%	96%
#4 / Method 1320	0.03	0.03	0%	0%
#5 / Method 1320	0.06	0.03	50%	0%
#6 / Method 1320	0.18	0.03	83%	0%
#7 / Method 1320	0.13	0.03	77%	0%
#8 / Method 1320	0.11	0.03	73%	0%
#9 / Method 1320	0.11	0.03	73%	0%
#10 / Method 1320	0.09	0.03	67%	0%

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Figure 5 Log Graph of 3-Metal Concentration Using Multiple Extractions



As noted in Table 2, extractable target metals present in the untreated sample were reduced by 95% using polysilicate/cement treatment, as evidenced by the first extraction of treated and untreated samples using the WET method. The comparison of initial WET extractions of untreated and treated samples is also graphically depicted above as extraction #1.

Subsequent extractions by EPA Method 1320 (extractions 2 thru 10 on the graph) showed a decline in extractable metals in the treated sample over the next two extractions (94% and 96%, respectively), then reached the equilibrium extractable value (0.03 mg/l) for the remainder of the extraction tests. The untreated sample required four extractions to reach the same extractable metal concentration observed in the third extraction of the treated sample, and then rebounded to a higher concentration in the remaining extraction tests. This long-term effectiveness study demonstrates that treatment by polysilicate solution and alkaline additive reduces the WET-extractable metals concentration in soils by an average of 95%, and that this treatment benefit is durable enough to withstand multiple extractions (by Method 1320).

It should be noted that the Multiple Extraction Procedure (MEP) is designed to simulate 1,000 years of freeze and thaw cycles and prolonged exposure to an acidic environment (USEPA, 2003). The MEP also gradually removes excess alkalinity from the sampled material, thereby decreasing the pH and ultimately increasing the solubility of most metals. This pH reduction is significant because of the alkaline activator employed in the treatment system and the metals

solubility curves previously discussed, and further validates that the treatment has long-term effectiveness, even in an acidic environment.

Although this study used soil as the treated media, similar long-term effectiveness can be expected in soil-like ASR, as evidenced by the treatability studies and empirical data for treated ASR, which are discussed in the following sections.

A. HISTORICAL ASR TREATABILITY STUDIES

Dr. Trezek has been performing treatability studies on ASR since the late 1980s, and the following tables provide treatability data from his initial work, as well as more recent studies by Dr. Trezek and others.

Historical total (mg/kg) and extractable (mg/l) metal concentrations, as determined by the California WET method, for California shredder facilities are provided in Table 3 below. These data, which are from the 1988-1989 time period, were collected as part of the original ASR treatability studies conducted by Dr. Trezek. These data were generated for the purpose of demonstrating the effectiveness of the polysilicate/cement treatment in substantially reducing the extractability of metals found in ASR. Table 3 features cadmium (Cd), lead (Pb) and zinc (Zn), as these were the primary metals of concern to DTSC.

Table 3
Historical ASR Treatability Data

SAMPLE DATE	SAMPLE TYPE	TYPE OF ANALYSIS	WET results in mg/L Total results in mg/kg		
			Cd	Pb	Zn
3/17/1988	Untreated	WET	2.9	65	950
		Totals	76	2900	14000
	Treated	WET	0.14	39	140
		Totals	35	2800	6500
3/18/1988	Untreated	WET	2.60	73	780
		Totals	52	2400	12000
	Treated	WET	0.17	16	23
		Totals	37	1800	7400
3/19/1988	Untreated	WET	2.4	93	570
		Totals	56	2400	9800
	Treated	WET	0.26	7.1	12
		Totals	30	1500	5700

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Table 3 - Historical ASR Treatability Data (continued)

SAMPLE DATE	SAMPLE TYPE	TYPE OF ANALYSIS	WET results in mg/L Total results in mg/kg		
			Cd	Pb	Zn
3/22/1988	Untreated	WET	1.8	73	530
		Totals	54	3200	11000
	Treated	WET	0.2	19	53
		Totals	50	2800	7900
3/25/1988	Untreated	WET	1.4	48	440
		Totals	20	970	5100
	Treated	WET	0.11	19	110
		Totals	17	1500	4100
3/29/1988	Untreated	WET	1.8	65	67
		Totals	100	1900	8500
	Treated	WET	0.85	19	160
		Totals	90	1900	5900
4/1/1988	Untreated	WET	0.75	34	180
		Totals	26	1000	6500
	Treated	WET	0.48	31	82
		Totals	18	1200	5500
4/5/1988	Untreated	WET	0.45	24	150
		Totals	35	1100	8300
	Treated	WET	0.6	25	140
		Totals	20	650	5100
4/8/1988	Untreated	WET	0.8	31	260
		Totals	29	1300	9000
	Treated	WET	0.25	5.5	12
		Totals	18	1700	7700
4/12/1988	Untreated	WET	0.78	36	240
		Totals	17	660	3100
	Treated	WET	0.05	6.4	7.6
		Totals	22	1200	4600

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Table 3 - Historical ASR Treatability Data (continued)

SAMPLE DATE	SAMPLE TYPE	TYPE OF ANALYSIS	WET results in mg/L Total results in mg/kg		
			Cd	Pb	Zn
4/15/1988	Untreated	WET	0.59	25	450
		Totals	20	1000	5700
	Treated	WET	0.03	3.5	12
		Totals	20	650	3800
4/19/1988	Untreated	WET	1.5	30	590
		Totals	21	790	6800
	Treated	WET	0.06	5.8	30
		Totals	25	1000	5700
4/22/1988	Untreated	WET	1.1	47	480
		Totals	35	3900	9400
	Treated	WET	0.3	19	81
		Totals	34	2700	10000
2/15/1989	Untreated	WET	0.95	34.8	463
		Totals	29.9	1750	3710
	Treated	WET	ND	10.0 / 1.81	13.6
		Totals	37.9	3340	7630
2/16/1989	Untreated	WET	1.84	441	629
		Totals	26.5	5200	6870
	Treated	WET	ND	ND	0.16
		Totals	21.2	4260	8330
2/17/1989	Untreated	WET	1.71	28.1	640
		Totals	31.5	1550	7270
	Treated	WET	ND	10.4	21.1
		Totals	35.1	2040	8880
2/21/1989	Untreated	WET	1.77	33.3	766
		Totals	24.9	1470	7070
	Treated	WET	ND	12.6 / 3.15	61.7
		Totals	34.5	2670	10500
2/22/1989	Untreated	WET	1.76	1110	679
		Totals	26.1	22100	11300
	Treated	WET	ND	ND	0.17
		Totals	33.2	7830	8780

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SAMPLE DATE	SAMPLE TYPE	TYPE OF ANALYSIS	WET results in mg/L Total results in mg/kg		
			Cd	Pb	Zn
2/23/1989	Untreated	WET	2.25	44.30	717.00
		Totals	42.5	2270	5170
	Treated	WET	ND	20.9 / ND	22.0
		Totals	24.6	3770	7680
2/24/1989	Untreated	WET	1.68	71.1	635
		Totals	28.3	1980	8650
	Treated	WET	ND	0.73	0.16
		Totals	28.9	7080	9980
Mean Values	Untreated	WET	1.49	120	511
		Totals	37.5	2992	7962
	Treated	WET	0.19	12.5	49.1
		Totals	31.6	2620	7084
Treatment Reduction (as % of Untreated Conc.)		WET	87.0%	89.6%	90.4%

N.D. = non-detect, or concentration less than lab reporting limit.

As noted by the bold figures at the bottom of Table 3 above, treatment efficiency for extractable cadmium, lead and zinc averaged between 87% and 90%.

Similar reductions were achieved for the four other metals that were evaluated (Cr, Cu, Hg and Ni). The average treatment reduction of extractable (WET) nickel was similar to the ratios expressed above for cadmium, lead and zinc. Extractable chromium and mercury values for untreated samples were too low to generate comparable reduction data in the treated samples. The fourth metal, copper, showed a slight increase in extractability with treatment, although all samples, both treated and untreated, were well below the STLC (25 mg/l).

B. RECENT ASR TREATABILITY STUDIES

More recent treatability studies have been conducted to evaluate the effectiveness of ASR treatment. Results of one such study are presented in the Table 4 and involve ASR conveyor belt samples collected before and after treatment.

Table 4
Recent Treatability Study Using Belt-Collected ASR Samples

Sample Date	Sample Type	Type of Analysis	Parameter		
			Cd (mg/L)	Pb (mg/L)	Zn (mg/L)
4/23/2009	Untreated	WET	0.776	73.8	1170
4/23/2009	Treated	WET	0.239	2.47	186
4/23/2009	Untreated	WET	0.228	42.6	1050
4/23/2009	Treated	WET	0.14	3.20	78.2
4/23/2009	Untreated	WET	0.931	28.1	1420
4/23/2009	Treated	WET	0.102	7.33	73.4
Mean Values	Untreated	WET	0.645	48.17	1213
	Treated	WET	0.160	4.33	113
Treatment Reduction (as % of Untreated Conc.)		WET	75%	91%	91%

Note: Samples were collected from ASR conveyor belt, before and after treatment, with pairs sampled approximately 5 minutes apart to allow for average pug mill treatment dwell time.

In addition to treatment studies involving one formulation of treatment chemicals, there is ongoing activity within the auto shredding industry to advance the efficacy of ASR treatment through formula modifications. This typically involves a collaborative effort between the manufacturer of the chemicals and the auto shredder.

Collaborative treatability studies between the chemical manufacturer and the auto shredder often involve applying various treatment protocols to bench scale samples. For example, 150 gram quantities of ASR taken from a 10,000 gram composite stockpile are common. The testing involves the application of various types and quantities of silicate blends and alkaline activators. Although each manufacturer claims to have a proprietary blend, the basic components are either potassium silicate or sodium silicate, combined with other additives such as phosphates and wetting agents. The original Lopat K20 blend that was developed in the 1980s contained three different viscosity potassium silicates, with borax and glycerin as additives. Thus, the goal has been to develop blends that provide the maximum effectiveness while minimizing the use of Portland cement or other alkaline activators.

During the past several years, one chemical manufacturer and a California auto shredder facility have collaborated to conduct a variety of ASR treatability studies concentrating on the target metals of cadmium, lead, copper, and zinc. The testing generally involved: (1) treating ASR with reformulated silicate blends (usually with sixteen aliquots and three or four alkaline activators), (2) measuring the metal concentrations in an accredited laboratory, and (3) selecting the most

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promising combination for further evaluation. More than thirty different blends were evaluated using these basic parameters. A summary of these treatability results for varying polysilicate blends is provided in Table 5 below.

Table 5
Comparison of Treatment Formulations
(WET results, mg/L)

Formula	Date	Sample #	Cd	Pb	Zn	Cu	Application Sequence
NMET	8/3/2009	1	ND	5.23	19.6	19.2	1nmet,10L
	8/3/2009	3	0.094	7.63	21.2	6.14	1nmet,7C
	8/3/2009	5	0.079	16.3	25.6	17.9	2nmet,10L
	8/3/2009	6	0.332	7.21	118	20.1	2nmet,7l
NMET2&W	11/12/2009	9	0.252	31.2	221	21.7	1nmet2,50w,10L
	11/12/2009	10	0.12	25.8	75.2	30.5	1nmet2,50w,7L
NMET3&W	11/12/2009	14	0.119	14.7	87.5	36.4	1nmet3,50W,7L
	11/12/2009	16	0.12	15.3	93.8	36.2	1nmet3,50W,5L
NMET3GS	2/18/2010	5	ND	19.9	90.7	36.6	nmetgs,10L
NMET4	2/18/2010	9	ND	22.4	113	25.1	nmet4,10L
NMETG	8/3/2009	9	ND	17.1	91.1	24.6	1nmetg,10L
	8/3/2009	13	0.051	12.9	55.8	20.1	2nmetg,10L
NMETNK	8/14/2000	1	ND	26.7	47.8	27.7	1nmetnk,10L
	8/14/2009	5	0.407	2.74	208	4.96	2nmetnk,10L
NMETNKG	8/14/2009	9	ND	9.71	47.3	27.4	1nmet-,10L
	8/14/2009	13	ND	21.6	44.5	22.6	2nmet-,10L
MET535G	8/21/2009	5	ND	67.6	187	22.3	met535g,10L
	8/21/2009	9	0.147	21.1	142	0.53	2met535g,10L
MET540	8/21/2009	13	0.116	7.24	65.1	0.622	1met540,10L
KMET	7/28/2009	13	0.212	14.7	124	15.8	1kmet,10L
	7/28/2009	9	0.188	14.2	139	26.8	2kmet,10L
	7/14/2009	1	0.075	4.19	25.8	2.51	2kmet,10L
	7/14/2009	3	0.333	1.59	105	1.88	2kmet,10C
	7/14/2009	8	ND	3.61	24.3	0.18	2kmet,10L
KMET&TRIA	10/26/2009	8	0.398	19.4	125	21.1	kmet,tria,7L
K90	7/14/2009	4	0.083	6.15	39.1	13	2k90,10L
	7/14/2009	7	ND	7.54	40.9	0.273	1,k90,10L
	7/14/2009	6	0.795	1.57	283	1.36	2k90,10C
	7/28/2009	5	0.147	16.3	153	29.4	1k90,10L
	7/28/2009	1	0.276	11.2	109	2.6	2k90,10L
K90&N	7/14/2009	9	0.092	17.6	67	12.4	1k90,2n,10L
	7/14/2009	10	0.27	1.18	268	0.785	1k90,2n,10C
N1	7/9/2009	5nd	ND	10.6	89.7	1.06	1,2n1,10L
	7/9/2009	6	0.06	18.1	82.2	22.1	0,2n1,10L
	6/18/2009	7	ND	1.47	141	0.08	1,2n1,10L
	6/18/2009	4	ND	0.447	286	ND	2,1n1,10L
	7/21/2009	4	0.071	6.58	28.4	2.72	1n1,10L

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Table 5
Comparison of Treatment Formulations
(WET results, mg/L)

Formula	Date	Sample #	Cd	Pb	Zn	Cu	Application Sequence
N1&TRI	10/26/2009	1	0.234	4.09	73.7	2.57	1n1,1tr1,7L
N1A	5/19/2010	4	ND	49.5	51.5	20.4	n1a,10L
N1B	5/19/2010	8	0.112	26.9	34.9	22.3	n1b,10L
N1C	5/19/2010	12	ND	10.8	48.2	5.67	n1c,10L
N1D	5/19/2010	16	0.247	17.1	57.9	26.5	n1d,10L
MCX90N	8/21/2009	1	0.181	15.5	143	0.988	1mcx90n,10L
MCX90CS	2/9/2010	1	0.412	2.16	206	4.46	mcx90,10L
	2/9/2010	5	0.266	4.26	75.1	5.96	2mcx90,10L
MCX90CH	10/26/2010	4	0.317	16.4	109	56.8	mcx90,10L
MCX90N2B	2/18/2010	1	0.143	5.59	50.3	3.88	mcx90n2b,10L
MCX90N1&	1/25/2011	8	0.314	3.47	119	2.39	mcx90n1,10L
MCX90N1&M	4/28/2011	8	ND	0.119	168	0.169	mcx90n1,10M,5L
	4/28/2011	9	ND	0.844	157	0.806	mcx90n1,10M,5C
MCX90N1&MTT	8/23/2011	2	0.256	7.44	109	4.64	mcx90n1,1mtt,7L
	8/23/2011	4	0.159	2.91	112	3.12	mcx90n1,1mtt,10L
	9/14/2011	4	0.288	4.18	99.4	2.75	mcx90n1,1mtt,10L
MCX90N1&MFT	8/23/2011	6	ND	0.539	130	0.475	mcx90n1,1mft,7L
	9/14/2011	8	ND	5.54	53.6	1.54	mcx90n1,1mft,10L
MCX90N1<T	8/23/2011	10	ND	3.83	40.7	1.89	mcx90n1,10ltt,7L
	8/23/2011	12	ND	2.15	12.8	1.44	mcx90n1,10ltt,10L
	9/14/2011	12	ND	5.22	43.2	4.2	mcx90n1,10ltt,10L
PREA	10/20/2009	8	0.195	8.37	158	2.69	1.5prea,10L
RG	7/21/2009	5	0.166	12.9	134	22.9	2rg,10L
RGK	7/21/2009	6	0.7	4.5	41.9	2.17	2rgk,10L
RGS	7/21/2009	7	0.74	9.05	58.6	3.74	2rgs,10L
Ka,Kb	7/21/2009	1	0.071	8.12	43.6	2.65	1ka,1kb,10L
	7/21/2009	2	0.374	2.91	122	1.71	1ka,1kb,10C
	7/21/2009	3	1.1	1.98	246	1.5	1ka,1kb,10C/L
RUOH	9/9/2009	5	0.221	13.2	156	8.32	1ruoh,10L
	10/20/2009	12	0.236	15.2	248	4.11	1ruoh,10L
K20A,K20B	11/12/2009	1	ND	24.6	132	36.9	1a,b,10L
K20A,K20B&W	11/12/2009	5	0.147	112	173	42.9	1a,b,25w,10L
	11/12/2009	6	0.215	39.7	92.6	35.9	1a,b,25w,7L
K20A&TSUL	11/4/2009	6	0.9	9.19	220	10.4	10k,28t,10L
125A&B	7/21/2010	10	0.329	3.4	156	40.3	2,125ab,7L
	7/21/2010	12	ND	2.68	31.2	34.1	2,125ab,10L
STLC Values (from CCR, Title 22 Ch. 11, § 66261.24)			1	50*	250	25	

Key to table: ND=no detection, below reporting limit. . **Bold text** represents results in excess of the STLC. For ASR, the de facto STLC for lead is 50 mg/l, as per the DTSC reclassification letters. The requirements of the reclassification letters vary with respect to other Title 22 metals.

VII. TREATED ASR – CHARACTERIZATION DATA REQUIRED BY LANDFILLS

The following section discusses landfill characterization data for treated ASR using either the standard or a modified WET method. Under the modified WET method, landfill leachate from the specific landfill that is receiving treated ASR is used as the extraction solution in lieu of the citrate buffer. For some landfills, the Waste Discharge Requirements may specify use of deionized water as the extraction solution.

A. LANDFILL LEACHATE TEST DATA

A summary of treated ASR results using landfill leachate (from Potrero Hills) as the extraction medium is provided in the following table.

Table 6
Summary of Landfill Leachate Testing of Treated ASR

SAMPLE DATE	Parameter							
	Cd (mg/L)	Cr (mg/L)	Cu (mg/L)	Pb (mg/L)	Hg (mg/L)	Ni (mg/L)	Zn (mg/L)	Cr VI (mg/L)
1/20/2009	< 0.05	< 0.050	0.45	< 0.100	< 0.005	0.20	0.18	< 0.020
4/3/2009	< 0.050	< 0.050	0.06	< 0.100	< 0.005	0.236	0.275	< 0.020
7/7/2009	< 0.050	< 0.050	< 0.05	< 0.100	< 0.005	0.123	0.201	< 0.020
10/15/2009	< 0.050	< 0.100	0.165	< 0.100	< 0.100	0.142	0.351	< 0.100
1/18/2010	< 0.020	< 0.100	1.2	< 0.100	< 0.100	0.217	< 0.100	< 0.100
4/8/2010	< 0.020	< 0.100	1.25	< 0.100	< 0.005	0.147	< 0.100	< 0.020

Note: purple cells represent results below laboratory reporting limit (N.D.).

In contrast to the results from standard WET method analysis, solubility testing conducted with landfill leachate (which is representative of actual conditions in the landfill, as opposed to the WET) shows little to no leachable heavy metals in the treated ASR.

C. TREATED ASR CHARACTERIZATION DATA (TOTAL AND WET)

Table 7 presents Total and extractable data gathered between January 2009 and January 2012 as part of routine characterization testing of treated ASR conducted by California auto shredders. Many of these analyses were required by the reclassification letters issued to certain of the shredder facilities and/or by the Waste Discharge Requirements or other permits for certain landfills that accept treated ASR for use as alternative daily cover. In some cases, WET data is required to be submitted to the landfills on a quarterly basis, as part of existing alternative daily cover acceptance agreements between the landfills and the individual auto shredders.

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Table 7 - Total and WET Results for Treated ASR

SAMPLE DATE	Total							WET						
	Cd (mg/kg)	Cr (mg/kg)	Cu (mg/kg)	Pb (mg/kg)	Hg (mg/kg)	Ni (mg/kg)	Zn (mg/kg)	Cd (mg/L)	Cr (mg/L)	Cu (mg/L)	Pb (mg/L)	Hg (mg/L)	Ni (mg/L)	Zn (mg/L)
1/7/2009	-	-	-	690	-	-	-	-	-	-	35	-	-	-
1/16/2009	< 0.5	408	4390	835	0.890	< 2.5	9950	< 0.1	1.03	6.12	6.27	< 0.02	0.625	144
1/16/2009	16	110	37000	1000	0.89	150	11000	0.11	0.84	9.8	1.4	0.0017	0.96	22
1/16/2009	< 0.5	56.2	5350	1110	1.02	< 2.5	15000	< 0.1	0.669	9.91	4.70	< 0.02	0.565	34.7
4/10/2009	19.4	77.9	807	1040	2.48	184	11100	0.073	0.688	6.04	2.17	< 0.02	0.589	31.3
4/11/2009	12.7	103	1010	991	1.64	145	9140	0.109	0.816	7.92	6.96	< 0.02	0.680	94.1
5/26/2009	< 0.5	84.7	16300	3340	0.991	258	11500	< 0.1	0.948	10.6	10.4	< 0.01	0.638	48.9
7/2/2009	-	-	-	150	-	-	-	-	-	-	22.0	-	-	-
7/2/2009	-	-	-	910	-	-	-	-	-	-	51.0	-	-	-
7/10/2009	65.4	83.9	16300	1360	0.300	< 2.5	10500	< 0.1	1.13	7.76	7.08	< 0.01	0.593	52.0
7/17/2009	183	217	10800	1420	1.23	305	15100	0.313	1.15	16.6	3.49	< 0.01	0.860	94.5
7/18/2009	58.2	100	333	1010	0.823	< 2.5	8980	< 0.1	0.889	4.30	4.63	< 0.02	0.758	154
10/2/2009	< 0.5	137	2150	1400	0.499	390	11700	< 0.1	1.10	12.1	6.17	< 0.02	< 0.3	38.8
10/9/2009	< 0.5	150	3520	1060	1.07	286	8720	0.085	1.00	5.87	6.11	< 0.01	< 0.3	32.0
10/10/2009	< 0.5	81.5	707	1020	0.647	< 2.5	11170	0.038	0.841	7.26	3.99	< 0.02	< 0.3	32.6
2/1/2010	-	-	-	1284	-	-	-	-	-	-	39.16	-	-	-
2/1/2010	-	-	-	901	-	-	-	-	-	-	4.86	-	-	-
2/1/2010	-	-	-	2577	-	-	-	-	-	-	47.24	-	-	-
2/3/2010	< 0.5	136	2100	1810	2.60	< 2.5	9540	0.358	1.84	8.42	2.64	< 0.01	1.17	123
2/5/2010	< 0.5	113	1920	785	8.15	< 2.5	9140	< 0.1	1.62	8.04	14.3	< 0.02	< 0.3	58.2
2/6/2010	< 0.5	121	17600	843	2.42	< 2.5	6470	0.152	1.30	12.4	1.37	< 0.01	0.846	38.2
4/9/2010	< 0.5	118	976	1160	1.65	< 2.5	10900	0.372	1.08	5.59	5.13	< 0.02	0.947	198
4/10/2010	< 0.5	196	3440	1440	2.45	311	14300	0.075	0.769	10.9	6.93	< 0.02	1.09	46.5
4/12/2010	< 0.5	114	17100	1330	0.581	< 2.5	10600	0.121	0.725	8.76	1.43	< 0.01	0.646	22.1
7/7/2010	< 0.5	173	7300	6450	1.15	269	16400	0.065	0.976	23.7	6.64	< 0.01	0.563	28.7
7/10/2010	< 0.5	154	20400	830	1.67	< 2.5	9180	< 0.050	0.843	6.71	1.13	< 0.01	0.751	11.0
7/16/2010	10.1	160	8610	681	1.27	337	8000	0.659	1.54	1.43	3.97	< 0.01	1.97	233
7/26/2010	-	-	-	2600	-	-	-	-	-	-	3.20	-	-	-
7/26/2010	-	-	-	740	-	-	-	-	-	-	4.30	-	-	-
7/26/2010	-	-	-	700	-	-	-	-	-	-	5.60	-	-	-

Table 7 - Total and WET Results for Treated ASR

SAMPLE DATE	Total							WET						
	Cd (mg/kg)	Cr (mg/kg)	Cu (mg/kg)	Pb (mg/kg)	Hg (mg/kg)	Ni (mg/kg)	Zn (mg/kg)	Cd (mg/L)	Cr (mg/L)	Cu (mg/L)	Pb (mg/L)	Hg (mg/L)	Ni (mg/L)	Zn (mg/L)
10/9/2010	18.9	82.3	2740	879	0.558	141	8570	0.233	1.33	7.21	2.64	< 0.01	0.839	45.6
10/9/2010	10.6	62.9	870	469	1.49	122	5430	< 0.1	0.697	8.49	1.17	< 0.01	0.742	5.62
10/21/2010	20.6	68.5	3260	997	1.24	182	11900	< 0.1	0.756	11.6	2.10	< 0.01	0.605	12.7
1/7/2011	7.12	84.8	240	400	0.702	92.8	6300	< 0.1	0.902	4.18	1.41	< 0.01	0.496	11.3
1/7/2011	21.7	88.0	2040	854	0.312	159	9530	0.056	1.13	14.4	2.11	< 0.02	0.575	8.59
1/8/2011	15.2	86.9	2190	742	0.617	159	7730	< 0.1	0.900	4.40	0.637	< 0.01	0.534	4.30
1/12/2011	-	-	-	630	-	-	-	-	-	-	11.0	-	-	-
1/12/2011	-	-	-	360	-	-	-	-	-	-	4.10	-	-	-
1/12/2011	-	-	-	360	-	-	-	-	-	-	28.0	-	-	-
4/9/2011	15.5	132	7030	731	1.11	108	7750	< 0.1	0.719	4.09	2.27	< 0.02	0.467	16.1
4/9/2011	16.0	104	1290	1150	1.55	188	8380	0.190	1.31	4.63	2.07	< 0.01	0.758	111
4/15/2011	50.3	91.4	412	957	0.578	138	7650	0.097	0.758	13.0	6.46	< 0.02	0.775	118
7/6/2011	-	-	-	1000	-	-	-	-	-	-	< 0.25	-	-	-
7/6/2011	-	-	-	1000	-	-	-	-	-	-	0.48	-	-	-
7/6/2011	-	-	-	1100	-	-	-	-	-	-	2.00	-	-	-
7/9/2011	7.72	496	5670	433	0.966	135	3630	< 0.1	0.606	7.57	1.58	< 0.01	0.554	7.29
7/15/2011	18.4	76.4	17000	1400	0.768	145	8190	< 0.1	1.00	6.47	1.30	< 0.02	0.435	3.97
7/23/2011	15.5	67.9	6810	711	1.25	153	9370	< 0.1	0.622	6.63	4.32	< 0.01	0.567	22.6
10/5/2011	7.88	41.7	750	449	0.252	51.3	3310	0.086	0.934	12.8	0.753	< 0.02	0.390	7.22
10/7/2011	8.33	43.3	368	665	0.474	140	6090	0.038	0.631	6.25	6.01	< 0.01	5.24	31.4
10/8/2011	12.7	66.2	14800	877	0.794	429	9090	< 0.1	0.821	5.18	1.07	< 0.01	0.514	6.15
1/20/2012	-	-	-	970	-	-	-	-	-	-	0.81	-	-	-
1/20/2012	-	-	-	1100	-	-	-	-	-	-	6.20	-	-	-
1/20/2012	-	-	-	920	-	-	-	-	-	-	0.54	-	-	-
# in Data Set	36	36	36	54	36	36	36	36	36	36	54	36	36	36
90% UCL Value	27.0	142.2	8966	1499	1.56	185	10114	0.137	1.035	9.55	12.2	< 0.02	1.22	69.2
TTLC / STLC	100	2500	2500	1000	20	2000	5000	1	*5 / 560	25	50	0.2	20	250

Notes: USEPA Method 8210 for Pb, Cd, Cr, Cu, Ni, Hg, Zn. USEPA Method 1631 for Pb, Cd, Cr, Cu, Ni, Hg, Zn. USEPA Method 1631 for Pb, Cd, Cr, Cu, Ni, Hg, Zn.

Notes: USEPA ProUCL Software Version 4.1.01 was used to calculate 90% UCL values. Non-detect values were included in UCL data sets, and distribution model recommended by program for 95% UCL was used for each set. The results shown in the purple cells are below the lab reporting limit. **Bold** values are in excess of standards.

* The STLC standard for Cr VI is 5 mg/l, whereas the Total or Cr III STLC for samples passing the TCLP test is 560 mg/l. NA=not applicable, highest ND value used instead.

The preceding Table 7 of total and WET Results for Treated ASR includes a minimum of 36 sample sets, for seven Total and WET-extractable metals, collected over a 3-year period. Eighteen additional Total and WET-extractable lead-only results from a California shredder during the same period were also included in the data set.

USEPA's ProUCL Software Version 4.1.01 was utilized to calculate the 90% Upper Confidence Limits (90% UCLs) for each metal in the sample data set (USEPA, 2011b). This statistical value is intended to represent the upper limit (with 90% confidence) of the true mean of any randomly drawn subsets of the data. Comparison of total concentrations of metals in the untreated ASR with extractable concentrations in the treated material clearly demonstrates the effectiveness of the ASR treatment process.

VIII. CONCLUSIONS

This report has been prepared at the request of the California Chapter of the Institute of Scrap Recycling Industries (ISRI) to objectively evaluate whether the auto shredder residue (ASR) treatment process currently employed at three California shredders effectively reduces the amount of extractable metals in ASR, such that treated ASR is suitable for disposal or beneficial use as Alternative Daily Cover in nonhazardous waste landfills. The ASR treatment process involves the use of soluble silicates in an aqueous solution, in combination with dry cement or another alkaline activator, which alters the chemical characteristics of leachable heavy metals in the ASR matrix. This treatment technology is known to the USEPA as *Stabilization*, and has been studied and shown to be effective on a wide range of constituents including heavy metals (USEPA, 2009).

Treatability studies by Dr. Trezek and others on the specific use of this technology for treatment of ASR began in the early 1980s, and concluded that the extractability of lead, cadmium, zinc and other heavy metals can be reduced by 90% to 99% with the use of this technology. These treatability study findings were submitted to DTSC and, on that basis, DTSC determined that treated ASR was eligible for reclassification on the grounds that it possesses mitigating physical and chemical characteristics that render it insignificant as a hazard to human health and the environment. The current review demonstrates that the earlier reclassification decision continues to be supported by analytical data related to the extractability of heavy metals (primarily lead, cadmium and zinc) in the waste before and after treatment.

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Exhibit 24



Material Safety Data Sheet

Material Name: ASR

*** Section 1 - Chemical Product and Company Identification ***

Chemical Name: Composite material.

Product Use: Star Process, recycling through mechanical separation.

Synonyms: Shredder Residue (SR); Automobile Shredder Residue (ASR); Shredder Heavy Fraction; Dense Media Feedstock; Aluminum Breakage; Aluminum Sweeps; "Rock and Wire"

Manufacturer Information

Gerdau Long Steel North America
4221 West Boy Scout Blvd.
Suite 600
Tampa, FL 33607

Phone: (800) 876-3626

Emergency # 800-424-9300 CHEMTREC

*** Section 2 - Hazards Identification ***

Emergency Overview

This is generally a non-combustible, non-reactive solid material. Certain residues, coating, and hydrocarbon components may render this mixture combustible. Processing of the product for some final uses can include formation of dusts, particulates or fumes which may present certain health hazards. Generation of large quantities of airborne dusts and particulates may produce a fire hazard. Molten metal may react violently with water. Exposure to powder or dusts may be irritating to eyes and skin.

Potential Health Effects: Eyes

Dust or powder may cause irritation and/or inflammation to the eye tissue. Rubbing may cause abrasion of cornea.

Potential Health Effects: Skin

Product may contain levels of components that may cause allergic skin reactions. Dust or powder may irritate the skin. This product may produce skin abrasions, lesions, or cuts.

Potential Health Effects: Ingestion

Ingestion of this product is unlikely; however if ingested may cause gastrointestinal disturbances, abdominal pain, fever, vomiting, and diarrhea. Ingestion of large amounts of product may produce more serious toxicities including: shock, metabolic acidosis, decreased white blood cell count, neurological damage, cardiovascular shock, anemia, liver damage, renal failure, lethargy and coma.

Potential Health Effects: Inhalation

Product may contain levels of components that may cause allergic respiratory sensitization and cancer. Normal use of this product should not generate fumes. Dusts, vapors, and fumes generated during processing may irritate the respiratory system. Severe acute overexposure or chronic overexposure to dusts or processing fumes may produce more serious toxicities including: siderosis, lung damage, weakness, anorexia, impairment of sleep and vision, personality changes, blood formation effects, nervous and circulatory system damage, kidney damage, and may pose a reproductive hazard.

HMIS Ratings: Health: 1 Fire: 0 HMIS Reactivity 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

*** Section 3 - Composition / Information on Ingredients ***

CAS #	Component	Percent
7429-90-5	Aluminum	0-100
7440-44-0	Carbon	0-90
7440-66-6	Zinc	0-50
7440-50-8	Copper	0-50
7440-70-2	Calcium	0-40
7440-21-3	Silicon	0-20
7439-89-6	Iron	0-20
7440-47-3	Chromium	0-5
7439-92-1	Lead	0-5

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1314-13-2	Zinc oxide	<1
7439-96-5	Manganese	<1
7440-02-0	Nickel	0-2
7440-31-5	Tin	0-1
7440-43-9	Cadmium	<0.1
7440-38-2	Arsenic	<0.1
7440-42-8	Boron	<0.1
7440-32-6	Titanium	<0.1
7440-48-4	Cobalt	<0.1
7440-62-2	Vanadium	<0.1
7440-67-7	Zirconium	<0.1
7439-98-7	Molybdenum	0-0.2
7440-03-1	Niobium	<0.1

*** Section 4 - First Aid Measures ***

First Aid: Eyes

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. In case of mechanical abrasions and cuts, seek medical attention.

First Aid: Skin

For skin contact, wash immediately with soap and water. Cuts or abrasions should be treated promptly with thorough cleansing of the affected area.

First Aid: Ingestion

Seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

First Aid: Inhalation

Remove the affected person to fresh air. If the affected person is not breathing, apply artificial respiration. Seek medical attention immediately.

*** Section 5 - Fire Fighting Measures ***

General Fire Hazards

See Section 9 for Flammability Properties.

Dust accumulation from this product may present an explosion hazard in the presence of an ignition source.

Coatings and oil residue on the product may enhance flammability. Keep product damp to minimize fire hazards.

Avoid welding near product.

Hazardous Combustion Products

Fire or thermal processing may release products of hydrocarbon decomposition and metal fumes.

Extinguishing Media

Dry chemical, soda ash, sand. Molten metal may react violently with water.

Fire Fighting Equipment/Instructions

Fire fighters should wear full-face, self contained breathing apparatus and impervious protective clothing. Fire fighters should avoid inhaling any combustion products.

NFPA Ratings: Health: 1 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

*** Section 6 - Accidental Release Measures ***

Containment Procedures

If the product is regulated as a PCB Bulk Product Waste, it must be completely contained on-site. If significant concentrations of dusts or particulates are generated, eliminate sources of ignition.

Clean-Up Procedures

If the product is regulated as a PCB Bulk Product Waste, it must be completely contained and collected in appropriate containers, or returned to product storage.

Evacuation Procedures

None necessary.

Special Procedures

This material may be regulated as a PCB Bulk Product Waste.

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*** Section 7 - Handling and Storage ***

Handling Procedures

Avoid inhaling dusts or vapors produced during thermal processing. Avoid eye and excessive skin contact. Use only with adequate ventilation. As with all chemicals, good industrial hygiene practices should be followed when handling this material. Special care must be taken to avoid buildup of dusts.

Storage Procedures

Keep this material in a well-ventilated area. Keep this material slightly damp to avoid fire hazards.

*** Section 8 - Exposure Controls / Personal Protection ***

A: Component Exposure Limits

Aluminum (7429-90-5)

ACGIH: 1 mg/m³ TWA (respirable fraction)
 OSHA: 15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)
 NIOSH: 10 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable dust)

Copper (7440-50-8)

ACGIH: 0.2 mg/m³ TWA (fume); 1 mg/m³ TWA (dust and mist, as Cu)
 OSHA: 0.1 mg/m³ TWA (dust, fume, mists, as Cu)
 NIOSH: 1 mg/m³ TWA (dust and mist)

Silicon (7440-21-3)

OSHA: 10 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)
 NIOSH: 10 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable dust)

Chromium (7440-47-3)

ACGIH: 0.5 mg/m³ TWA
 OSHA: 1 mg/m³ TWA
 NIOSH: 0.5 mg/m³ TWA

Lead (7439-92-1)

ACGIH: 0.05 mg/m³ TWA
 OSHA: 50 µg/m³ TWA (as Pb); 30 µg/m³ Action Level (as Pb, Poison - see 29 CFR 1910.1025)
 NIOSH: 0.050 mg/m³ TWA

Zinc oxide (1314-13-2)

ACGIH: 2 mg/m³ TWA (respirable fraction)
 10 mg/m³ STEL (respirable fraction)
 OSHA: 5 mg/m³ TWA (fume); 10 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)
 10 mg/m³ STEL (fume)
 NIOSH: 5 mg/m³ TWA (dust and fume)
 10 mg/m³ STEL (fume)
 15 mg/m³ Ceiling (dust)

Manganese (7439-96-5)

ACGIH: 0.2 mg/m³ TWA
 OSHA: 1 mg/m³ TWA (fume)
 3 mg/m³ STEL (fume)
 5 mg/m³ Ceiling
 NIOSH: 1 mg/m³ TWA (fume)
 3 mg/m³ STEL

Nickel (7440-02-0)

ACGIH: 1.5 mg/m³ TWA (inhalable fraction)
 OSHA: 1 mg/m³ TWA
 NIOSH: 0.015 mg/m³ TWA

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Tin (7440-31-5)

ACGIH: 2 mg/m³ TWA
 OSHA: 2 mg/m³ TWA
 NIOSH: 2 mg/m³ TWA

Cadmium (7440-43-9)

ACGIH: 0.01 mg/m³ TWA; 0.002 mg/m³ TWA (respirable fraction)
 OSHA: 2.5 µg/m³ Action Level; 5 µg/m³ TWA (Do not eat, drink or chew tobacco or gum or apply cosmetics in regulated areas. Carcinogen - dust can cause lung and kidney disease. see 29 CFR 1910.1027)

Molybdenum (7439-98-7)

ACGIH: 10 mg/m³ TWA (inhalable fraction); 3 mg/m³ TWA (respirable fraction)
 OSHA: 10 mg/m³ TWA

Cobalt (7440-48-4)

ACGIH: 0.02 mg/m³ TWA
 OSHA: 0.05 mg/m³ TWA (dust and fume)
 NIOSH: 0.05 mg/m³ TWA (dust and fume)

Vanadium (7440-62-2)

OSHA: 0.05 mg/m³ TWA (respirable dust, as V₂O₅); 0.05 mg/m³ TWA (fume, as V₂O₅)
 NIOSH: 1 mg/m³ TWA (dust, listed under Ferrovandium dust)
 3 mg/m³ STEL (dust, listed under Ferrovandium dust)

Arsenic (7440-38-2)

ACGIH: 0.01 mg/m³ TWA
 OSHA: 0.5 mg/m³ TWA
 NIOSH: 0.002 mg/m³ Ceiling (15 min)

Zirconium (7440-67-7)

ACGIH: 5 mg/m³ TWA
 10 mg/m³ STEL
 OSHA: 5 mg/m³ TWA
 10 mg/m³ STEL
 NIOSH: 5 mg/m³ TWA
 10 mg/m³ STEL

Engineering Controls

Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing.

PERSONAL PROTECTIVE EQUIPMENT**Personal Protective Equipment: Eyes/Face**

Wear safety glasses with side shields.

Personal Protective Equipment: Skin

Use impervious gloves.

Personal Protective Equipment: Respiratory

When dusts or thermal processing fumes are generated and ventilation is not sufficient to effectively remove them, appropriate NIOSH/MSHA approved respiratory protection must be provided.

Personal Protective Equipment: General

Use good industrial hygiene practices in handling this material.

*** Section 9 - Physical & Chemical Properties ***

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Material Name: ASR

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Appearance: Depends on scrap composition. Physical State: Solid Vapor Pressure: NA Boiling Point: NA Solubility (H₂O): Insoluble Evaporation Rate: NA Octanol/H₂O Coeff.: Flash Point Method: NA Lower Flammability Limit (LFL): NA Auto Ignition: NA	Odor: NA pH: NA Vapor Density: NA Melting Point: NA Specific Gravity: NA VOC: NA Flash Point: NA Upper Flammability Limit (UFL): NA Burning Rate: NA
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*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability

This is a stable material.

Chemical Stability: Conditions to Avoid

In case of fire, molten metal may react violently with water.

Incompatibility

None under normal use.

Hazardous Decomposition

Decomposition of this product may yield metallic oxides.

Possibility of Hazardous Reactions

Will not occur.

*** Section 11 - Toxicological Information ***

Acute Dose Effects**A: General Product Information**

Operations or fire which supply sufficient energy to the product (i.e. welding, high speed grinding or melting) can release dust or fumes which may make components of the product biologically available. Exposure to dusts or fumes from some metals including iron, zinc, manganese, chromium, cobalt and copper can produce a condition known as metal fume fever. Iron dust can irritate the eyes and respiratory tract by mechanical action. Acute iron poisoning may involve hemorrhagic vomiting and diarrhea, abdominal pain, acidosis, coagulaopathy, shock, coma and convulsions followed by hepatic and renal failure and perhaps cardiovascular collapse. Chronic inhalation of iron has resulted in mottling of the lungs, a condition referred to as siderosis. Zinc poisoning can cause anemia, lethargy and dizziness. Early signs of manganese poisoning are sluggishness, loss of appetite, sleepiness, weakness in the legs, uncontrollable laughter, hallucinations, delusions, spastic or slow gait, speech impairment, aggressiveness, tremor, mask-like faces, and clumsy movements. May also result in CNS effects, anemia and lung damage.

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Aluminum soluble compounds, when ingested or inhaled, may have neurotoxic effects evidently due to the metal binding to nervous tissue. Chronic overexposure to aluminum can result in lung damage and has been associated with asthma-like syndrome. Accumulation of aluminum in the body may result in neurological damage, anemia and bone softening. With acute exposure, arsenic can cause damage to mucous membranes and skin, and is a severe eye and respiratory tract irritant. Arsenic can also cause severe gastrointestinal damage, muscle cramps, cardiac abnormalities, anemia, decreased white blood cell count, and enlargement of the liver. Ingestion of boron in humans can cause gastrointestinal effects. There are also reports of effects of boron on the liver and kidney. Systemic effects from ingestion of nickel include capillary damage, kidney damage, myocardial weakness and central nervous system depression. Allergic skin sensitization reactions are the most frequent effect of exposure to nickel compounds. Exposure to nickel compounds may also result in allergic lung sensitization. Exposure to copper fume or dust can cause respiratory tract irritation, hemolytic anemia and allergic contact dermatitis. Lead has been found to have toxic effects on both the central and peripheral nervous systems. Acute exposure to lead may cause acute encephalopathy which is accompanied by the symptoms of ataxis, coma, and convulsions. As toxicity progresses, symptoms of peripheral neuropathy can develop, as well as some cases of irreversible kidney damage. Effects of overexposure to cobalt include lung effects (irritation, fibrosis, asthma, pneumoconiosis), goiter and cardiovascular effects (cardiomyopathy), and allergic skin and lung sensitization reactions. Dusts and fumes from this product may cause cancer, reproductive and/or birth defects. Cadmium is a cancer suspect agent. May cause lung, kidney and liver damage. Causes digestive and respiratory tract irritation. May cause reproductive and fetal effect.

B: Component Analysis - LD50/LC50**Carbon (7440-44-0)**

Oral LD50 Rat: >10000 mg/kg

Iron (7439-89-6)

Oral LD50 Rat: 984 mg/kg

Silicon (7440-21-3)

Oral LD50 Rat: 3160 mg/kg

Zinc oxide (1314-13-2)

Oral LD50 Rat: >5000 mg/kg

Manganese (7439-96-5)

Oral LD50 Rat: 9 g/kg

Nickel (7440-02-0)

Oral LD50 Rat: >9000 mg/kg

Cadmium (7440-43-9)

Oral LD50 Rat: 2330 mg/kg; Inhalation LC50 Rabbit: 8 mg/L/4H

Cobalt (7440-48-4)

Inhalation LC50 Rat: >10 mg/L/1H; Oral LD50 Rat: 6170 mg/kg

Arsenic (7440-38-2)

Oral LD50 Rat: 763 mg/kg

Boron (7440-42-8)

Oral LD50 Rat: 650 mg/kg

Material Safety Data Sheet

Material Name: ASR

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Carcinogenicity

A: General Product Information

Although some lead salts have produced tumors in animals, the evidence is insufficient to determine the carcinogenicity of lead in humans. Inorganic arsenic can produce lung, skin and lymphatic cancer with long term occupational exposure above the established limits. A significant excess of lung cancer mortality was seen in a study of hard metal workers with at least one year of cobalt exposure. The carcinogenic effect of nickel has been well documented in occupationally exposed nickel refinery workers. Lung and nasal cancers were the predominant forms of cancer in the exposed workers. Studies indicate workers exposed to cadmium have an increased rate of prostate and respiratory tract cancer.

B: Component Carcinogenicity

Aluminum (7429-90-5)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

Chromium (7440-47-3)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Monograph 49 [1990] (listed under Chromium and Chromium compounds), Supplement 7 [1987] (Group 3 (not classifiable))

Lead (7439-92-1)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

OSHA: 50 µg/m3 TWA (as Pb); 30 µg/m3 Action Level (as Pb, Poison - see 29 CFR 1910.1025)

NTP: Reasonably Anticipated To Be A Human Carcinogen (Possible Select Carcinogen)

IARC: Monograph 87 [2006] evaluates inorganic lead compounds as Group 2A and organic lead compounds as Group 3. (Group 2A (probably carcinogenic to humans))

Nickel (7440-02-0)

ACGIH: A5 - Not Suspected as a Human Carcinogen

NIOSH: potential occupational carcinogen

NTP: Reasonably Anticipated To Be A Human Carcinogen (Possible Select Carcinogen)

IARC: Monograph 49 [1990], Supplement 7 [1987] (Group 2B (possibly carcinogenic to humans))

Cadmium (7440-43-9)

ACGIH: A2 - Suspected Human Carcinogen

OSHA: 2.5 µg/m3 Action Level; 5 µg/m3 TWA (Do not eat, drink or chew tobacco or gum or apply cosmetics in regulated areas. Carcinogen - dust can cause lung and kidney disease. see 29 CFR 1910.1027)

NIOSH: potential occupational carcinogen

NTP: Known Human Carcinogen (Select Carcinogen)

IARC: Monograph 58 [1993], Supplement 7 [1987] (Group 1 (carcinogenic to humans))

Cobalt (7440-48-4)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

IARC: Monograph 86 [2006] (without tungsten carbide), Monograph 52 [1991] (Group 2B (possibly carcinogenic to humans))

Arsenic (7440-38-2)

ACGIH: A1 - Confirmed Human Carcinogen

NIOSH: potential occupational carcinogen

IARC: Monograph 84 [2004] (in drinking water), Supplement 7 [1987], Monograph 23 [1980] (Group 1 (carcinogenic to humans))

Zirconium (7440-67-7)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

Mutagenicity

Aluminum and cobalt have been shown to increase the number of sister chromatid exchanges. Nickel inhibited DNA repair and induced transformation in experimental assays.

Material Safety Data Sheet

Material Name: ASR

ID: GER-11

Teratogenicity

Manganese and aluminum have been shown to have teratogenic effects. Manganese, copper and nickel have been reported to have adverse reproductive effects in experimental animals. Copper and nickel have been shown to be fetotoxic in experimental animals. Excessive zinc levels have been reported to be associated with increased risk for neural tube defects. Lead has a wide variety of reproductive effects in humans. It can affect the male and female reproductive organs as well as egg and sperm production and development. Lead can also cause neurodevelopmental debilitations in children from both prenatal and postnatal exposures.

Neurological Effects

Chronic overexposure to manganese compounds may result in CNS effects such as weakness, sleepiness, emotional instability and spastic gait. These effects can be permanent. Symptoms of lead toxicity include behavioral disturbances including irritability, restlessness, insomnia, and other sleep disturbances, fatigue, vertigo, headache, poor memory, tremor, depression, and apathy. In acute lead encephalopathy, neurological damage can be permanent. Inhalation of fine aluminum particles has produced progressive encephalopathy, followed by dementia and convulsions.

Other Toxicological Information

Under normal conditions of handling, the likelihood of inhaling or ingesting amounts necessary for these effects to occur is very small.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

A: General Product Information

No information available for the product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Copper (7440-50-8)

Test & Species

Conditions

96 Hr LC50 Pimephales promelas	23 µg/L
96 Hr LC50 Oncorhynchus mykiss	13.8 µg/L
96 Hr LC50 Lepomis macrochirus	236 µg/L
72 Hr EC50 Scenedesmus subspicatus	120 µg/L
96 Hr EC50 water flea	10 µg/L
96 Hr EC50 water flea	200 µg/L

Zinc (7440-66-6)

Test & Species

Conditions

96 Hr LC50 Pimephales promelas	6.4 mg/L
96 Hr EC50 Selenastrum capricornutum	30 µg/L
72 Hr EC50 water flea	5 µg/L

Iron (7439-89-6)

Test & Species

Conditions

96 Hr LC50 Morone saxatilis	13.6 mg/L [static]
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Lead (7439-92-1)

Test & Species

Conditions

96 Hr LC50 Pimephales promelas	6.5 mg/L
48 Hr EC50 water flea	600 µg/L

Nickel (7440-02-0)

Test & Species

Conditions

96 Hr LC50 Oncorhynchus mykiss	31.7 mg/L	adult
96 Hr LC50 Pimephales promelas	3.1 mg/L	
96 Hr LC50 Brachydanio rerio	>100 mg/L	

Material Safety Data Sheet

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72 Hr EC50 freshwater algae (4 species)	0.1 mg/L
72 Hr EC50 Selenastrum capricornutum	0.18 mg/L
96 Hr EC50 water flea	510 µg/L

Cadmium (7440-43-9)**Test & Species**

96 Hr LC50 Oncorhynchus mykiss	0.0013 mg/L
96 Hr EC50 water flea	9.9 µg/L

Conditions

swimup

Cobalt (7440-48-4)**Test & Species**

96 Hr LC50 Brachydanio rerio	>100 mg/L [static]
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Conditions

*** Section 13 - Disposal Considerations ***

US EPA Waste Number & Descriptions**Component Waste Numbers****Chromium (7440-47-3)**

RCRA: 5.0 mg/L regulatory level

Lead (7439-92-1)

RCRA: 5.0 mg/L regulatory level

Cadmium (7440-43-9)

RCRA: 1.0 mg/L regulatory level

Arsenic (7440-38-2)

RCRA: 5.0 mg/L regulatory level

Disposal Instructions

Byproducts and residues from this product may be reprocessed or recycled. Whatever cannot be recycled should be managed in an appropriate and approved waste disposal facility. Dispose in accordance to local, state, and federal regulations.

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

*** Section 14 - Transportation Information ***

US DOT Information

Shipping Name: Not Regulated

TDG Information

Shipping Name: Not Regulated

*** Section 15 - Regulatory Information ***

US Federal Regulations**A: Component Analysis**

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Aluminum (7429-90-5)

SARA 313: 1.0 % de minimis concentration (dust or fume only)

Material Safety Data Sheet

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Copper (7440-50-8)

SARA 313: 1.0 % de minimis concentration

CERCLA: 5000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 2270 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers)

Zinc (7440-66-6)

SARA 313: 1.0 % de minimis concentration (dust or fume only)

CERCLA: 1000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 454 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the solid metal released is larger than 100 micrometers)

Chromium (7440-47-3)

SARA 313: 1.0 % de minimis concentration

CERCLA: 5000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 2270 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers)

Lead (7439-92-1)

SARA 313: 0.1 % Supplier notification limit; 0.1 % de minimis concentration (when contained in stainless steel, brass, or bronze)

CERCLA: 10 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 4.54 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers)

Nickel (7440-02-0)

SARA 313: 0.1 % de minimis concentration

CERCLA: 100 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 45.4 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers)

Cadmium (7440-43-9)

CERCLA: 10 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 4.54 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers)

Arsenic (7440-38-2)

CERCLA: 1 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 0.454 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal release is larger than 100 micrometers)

Material Safety Data Sheet

Material Name: ASR

ID: GER-11

B: Component Marine Pollutants

This material contains one or more of the following chemicals required by US DOT to be identified as marine pollutants.

Component	CAS #	
Copper	7440-50-8	DOT regulated severe marine pollutant

State Regulations**A: General Product Information**

Other state regulations may apply. Check individual state requirements.

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Aluminum	7429-90-5	Yes	Yes	Yes	Yes	Yes	Yes
Carbon	7440-44-0	No	No	No	No	No	Yes
Copper	7440-50-8	Yes	Yes	Yes	Yes	Yes	Yes
Zinc	7440-66-6	Yes	Yes	No	Yes	Yes	Yes
Calcium	7440-70-2	Yes	Yes	No	Yes	Yes	Yes
Iron	7439-89-6	Yes	No	No	No	No	No
Silicon	7440-21-3	No	Yes	Yes	Yes	Yes	Yes
Chromium	7440-47-3	Yes	Yes	Yes	Yes	Yes	Yes
Lead	7439-92-1	Yes	Yes	Yes	Yes	Yes	Yes
Zinc oxide	1314-13-2	Yes	Yes	Yes	Yes	Yes	Yes
Manganese	7439-96-5	Yes	Yes	Yes	Yes	Yes	Yes
Nickel	7440-02-0	Yes	Yes	Yes	Yes	Yes	Yes
Tin	7440-31-5	Yes	Yes	Yes	Yes	Yes	Yes
Cadmium	7440-43-9	Yes	Yes	Yes	Yes	Yes	Yes
Molybdenum	7439-98-7	Yes	Yes	Yes	Yes	Yes	Yes
Cobalt	7440-48-4	Yes	Yes	Yes	Yes	Yes	Yes
Titanium	7440-32-6	Yes	No	No	Yes	No	No
Vanadium	7440-62-2	Yes	Yes	No	Yes	Yes	No
Arsenic	7440-38-2	Yes	Yes	Yes	Yes	Yes	Yes
Zirconium	7440-67-7	Yes	Yes	No	Yes	Yes	Yes
Boron	7440-42-8	No	No	No	Yes	No	No

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

WARNING! This product contains a chemical known to the state of California to cause reproductive/developmental effects.

Material Safety Data Sheet

Material Name: ASR

ID: GER-11

Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Aluminum	7429-90-5	1 %
Copper	7440-50-8	1 %
Chromium	7440-47-3	0.1 %
Lead	7439-92-1	0.1 %
Nickel	7440-02-0	0.1 %

Additional Regulatory Information

A: General Product Information

No information available for the product.

B: Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Aluminum	7429-90-5	Yes	DSL	EINECS
Carbon	7440-44-0	Yes	DSL	EINECS
Copper	7440-50-8	Yes	DSL	EINECS
Zinc	7440-66-6	Yes	DSL	EINECS
Calcium	7440-70-2	Yes	DSL	EINECS
Iron	7439-89-6	Yes	DSL	EINECS
Silicon	7440-21-3	Yes	DSL	EINECS
Chromium	7440-47-3	Yes	DSL	EINECS
Lead	7439-92-1	Yes	DSL	EINECS
Zinc oxide	1314-13-2	Yes	DSL	EINECS
Manganese	7439-96-5	Yes	DSL	EINECS
Nickel	7440-02-0	Yes	DSL	EINECS
Tin	7440-31-5	Yes	DSL	EINECS
Cadmium	7440-43-9	Yes	DSL	EINECS
Molybdenum	7439-98-7	Yes	DSL	EINECS
Niobium	7440-03-1	Yes	DSL	EINECS
Cobalt	7440-48-4	Yes	DSL	EINECS
Titanium	7440-32-6	Yes	DSL	EINECS
Vanadium	7440-62-2	Yes	DSL	EINECS
Arsenic	7440-38-2	Yes	DSL	EINECS
Zirconium	7440-67-7	Yes	DSL	EINECS
Boron	7440-42-8	Yes	DSL	EINECS

*** Section 16 - Other Information ***

Other Information

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.

Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; ADG = Australian Code for the Transport of Dangerous Goods by Road and Rail; ADR/RID = European Agreement of Dangerous Goods by Road/Rail; AS = Standards Australia; DFG = Deutsche Forschungsgemeinschaft; DOT = Department of Transportation; DSL = Domestic Substances List; EEC = European Economic Community; EINECS = European Inventory of Existing Commercial Chemical Substances; ELINCS = European List of Notified Chemical Substances; EU = European Union; HMIS = Hazardous Materials Identification System; IARC = International Agency for Research on Cancer; IMO = International Maritime Organization; IATA = International Air Transport Association; MAK = Maximum Concentration Value in the Workplace; NDSL = Non-Domestic Substances List; NFPA = National Fire Protection Association; NOHSC = National Occupational Health & Safety Commission; NTP = National Toxicology Program; STEL = Short-term Exposure Limit; TDG = Transportation of Dangerous Goods; TLV = Threshold Limit Value; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average

Exhibit 25

IEPA (/epa/Pages/default.aspx) ► Topics (/epa/topics/Pages/default.aspx) ► Waste Management (/epa/topics/waste-management/Pages/default.aspx) ► Waste Disposal (/epa/topics/waste-management/waste-disposal/Pages/default.aspx) ► Special Waste (/epa/topics/waste-management/waste-disposal/special-waste/Pages/default.aspx)

Do I Have a Special Waste?

Information presented in this publication is intended to provide a general understanding of the statutory and regulatory requirements governing special waste. This information is not intended to replace, limit or expand upon the complete statutory and regulatory requirements found in the Illinois Environmental Protection Act and Title 35 of the Illinois Administrative Code of Regulations.

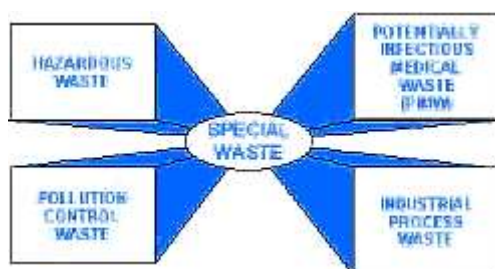
Illinois regulates many different types of waste, including special waste. Because you generate waste, it is your responsibility to figure out what type of waste you generate. This can be a confusing process! This fact sheet will help you understand what special waste is and help you determine whether you generate a special waste. Special waste needs to be managed and disposed of properly to protect our environment. To understand what kind of special wastes you may generate, ask yourself the following questions in the order presented below, then follow the flowchart below to figure out if you generate a special waste. If you have additional questions, please call the Office of Small Business at 1-888-EPA-1996.

What is a Special Waste?

Special waste includes hazardous waste, potentially infectious medical waste (PIMW), industrial process waste, and pollution control waste.

What is a Hazardous Waste?

A hazardous waste is (1) listed on the Illinois Environmental Protection Agency hazardous waste list which can be obtained from the Office of Small Business or (2) has the characteristic of ignitability, corrosivity, reactivity, or toxicity (determined by generator knowledge or analytical testing in a laboratory).



Generator knowledge and analytical testing of the waste are used to determine if your waste is a hazardous waste. Generator knowledge means the business that generates the waste has sufficient information to determine if the waste is hazardous based on its understanding of the waste generating process and the raw materials used in the process. Analytical testing of a sample of your waste is done by a laboratory.

What is a PIMW?

PIMW is generated in connection with the diagnosis, treatment, or immunization of human beings or animals; medical research; and biological testing. The businesses that typically generate PIMW are hospitals, nursing homes, medical or veterinary clinics, dental offices, clinical or pharmaceutical laboratories, university or research facilities, and other such facilities.

What is an Industrial Process Waste?

An industrial process waste is any liquid, solid, semisolid, or gaseous waste generated when manufacturing a product or performing a service. Examples include cutting oils, paint sludges, equipment cleanings, metallic dust sweepings, used solvents from parts cleaners, and off-specification, contaminated, or recalled wholesale or retail products. The following wastes are not industrial process wastes:

- Uncontaminated packaging materials
- Uncontaminated machinery components
- General household waste
- Landscape waste
- Construction or demolition debris

Where Can I Find Information?

A material safety data sheet (MSDS) is a document available for most commercial products and chemicals that presents information on the materials such as hazard classification and proper disposal.

What is a Pollution Control Waste?

A pollution control waste is generated directly or indirectly when businesses remove contaminants from air, soil, or water. Examples include baghouse dust, landfill waste, scrubber sludge, and chemical spill cleaning material.

If your industrial process waste or pollution control waste is any one of the following, it is a special waste:

- *A liquid waste*
- *An asbestos waste regulated under the Clean Air Act*
- *A regulated polychlorinated biphenyl (PCB) waste*
- *A delisted hazardous waste*
- *A characteristic hazardous waste treated or stabilized to be nonhazardous*
- *A waste material generated by shredding recyclable metals*

The following questions will help you understand each of these industrial process or pollution control wastes.

What is Used Oil?

Because used oil is often recycled or reused, used oil has its own management requirements. For more information on how to manage your used oil, see the "Managing Your Used Oil!" factsheet or call the Office of Small Business.

What is a Liquid Waste?

Liquid waste is any waste material that is determined to contain "free liquids." Used cutting oil is a typical liquid waste. For sludges or other wastes that you cannot easily determine is liquid, you can use the paint filter test. The test requires pouring the waste through a specific filter to determine if the waste contains "free liquids." For further information about this test, please call the Office of Small Business.

What is an Asbestos Waste Regulated Under the Clean Air Act?

Asbestos waste regulated under the Clean Air Act is (1) any waste that contains commercial asbestos and (2) any asbestos waste generated during demolition or renovation. Examples include insulation, fireproofing materials, and packaging contaminated with commercial asbestos.

What is a Regulated PCB Waste?

PCBs are typically found in old transformers and other electrical equipment. A PCB waste is a waste that contains any monochlorinated or polychlorinated biphenyl or any mixture that contains one or more of them. This includes equipment, solids (including empty containers) and contaminated liquids.

Tip

To protect the environment and reduce your regulatory requirements, minimize the amount of waste you generate. For more information, call the Office of Small Business.

What is a Delisted Hazardous Waste?

A delisted hazardous waste is excluded from the list of hazardous wastes when the Illinois Pollution Control Board grants a petition filed by a business.

What is a Decharacterized Hazardous Waste?

A decharacterized hazardous waste is a hazardous waste that has been treated to make it nonhazardous or the hazardous characteristic, ignitability, corrosivity, reactivity, or toxicity, has been removed.

What is an Example of a Waste Generated by Shredding Recyclable Metals?

When autos and trucks are shredded to reclaim metals, a significant amount of other materials are generated such as upholstery and plastics (auto fluff). This material is often contaminated during the recycling process and must be managed as a special waste.

Are There Industrial Process Wastes and Pollution Control Wastes that are not Special Waste?

Yes, in some instances you may certify that your waste is not a special waste by following the procedures on page 4.

Special Waste Determination Process

This flow chart can assist you in determining if you generate a special waste.