United States
Environmental Protection
Agency

User Guide to the Docket for the 2015 Annual Review and the Preliminary 2016 Effluent Guidelines Program Plan

EPA Docket Number EPA-HQ-OW-2015-0665 (www.regulations.gov)

June 2016
DCN 08313

1.0 OVERVIEW

Under the Clean Water Act (CWA), EPA establishes technology-based national regulations, termed "effluent limitations guidelines and standards," to reduce pollutant discharges from categories of industrial facilities to waters of the United States. Under the CWA, EPA similarly establishes technology-based regulations, termed "pretreatment standards" to reduce indirect pollutant discharges from industrial facilities to waters of the United States.

The CWA also specifies effluent guideline planning and review requirements. There are different requirements for direct and indirect dischargers, but both specify annual review of promulgated effluent guidelines and pretreatment standards. For direct dischargers, the CWA requires EPA to publish an Effluent Guidelines Program Plan every two years after allowing for public review and comment on the plan prior to final publication.

This document provides information on the docket supporting the 2015 Annual Review and the Preliminary 2016 Effluent Guidelines Program Plan (Preliminary 2016 Plan). See the Federal Register Notice presenting EPA's 2015 Annual Review and the Preliminary 2016 Effluent Guidelines Program Plan, 81 FR 41535 (27 June 2016). Documents cited in the Preliminary 2016 Plan are listed in Attachment 3, with their Regulations.gov Document ID Numbers noted. Key supporting documents are also available on EPA's Effluent Guidelines Plan web page at www.epa.gov/eg/effluent-guidelines-plan .

2.0 BACKGROUND INFORMATION ON THE DOCKET

What is the Docket and How Can I Gain Access to It?

Docket ID No. EPA-HQ-OW-2015-0665 is the official docket for EPA's Preliminary 2016 Plan and its 2015 Annual Review of existing effluent limitations guidelines. The official docket consists of the documents specifically referenced in the Federal Register notices of these actions, any public comments received, and other related information. Although it is a part of the official docket, Confidential Business Information (CBI) or other information whose disclosure is restricted by statute is not included in the materials available to the public.

The official public docket is the collection of electronic and hard copy materials that is available for public viewing at the Water Docket in the EPA Docket Center, (EPA/DC), located in the EPA Headquarters Library, WJC West Building, Room Number 3334, 1301 Constitution Ave., NW, Washington, DC. An electronic version of the public docket is available through a federal-wide electronic docket management system located at www.regulations.gov.

You may use the Regulations.gov web site to view public comments, access a listing of the contents of the official docket, and access those documents in the public docket that are available electronically. Certain documents are not available in the electronic docket system. These documents include, but are not limited to copyright-protected material; physical objects such as maps, aerial photographs, colored charts; and information that has been claimed as confidential. Although not all docket materials may be available electronically, you may still access any of the publicly-available docket materials at the EPA Docket Center.

Can I retrieve information that has been claimed "Confidential Business Information?"

The docket may contain some documents that contain confidential business information (CBI). CBI documents are not available for review by the public, and are not filed in the Water Docket in the EPA Docket Center. Some documents are classified as CBI because companies providing the information specifically claimed certain information (e.g., operating or financial data) as CBI. Other documents are classified as CBI because release of these documents could indirectly reveal information claimed to be confidential.

How is the Docket for EPA's Preliminary 2016 Plan related to the Docket for the 2014 Effluent Guidelines Program Plan?

The CWA requires EPA to publish an Effluent Guidelines Program Plan every two years after allowing for public review and comment on the plan prior to final publication. Documents supporting the Final 2014 Effluent Guidelines Program Plan, including the 2013 and 2014 annual reviews of existing effluent limitations guidelines are located in Docket ID No. EPA-HQ-OW-2014-0170. Docket ID No. EPA-HQ-OW-2014-0170 is incorporated by reference into the docket for the Preliminary 2016 Plan (Docket ID No. EPA-HQ-OW-2015-0665). See EPA-HQ-OW-2015-0665, DCN 08311. All of the documents in the docket supporting the Final 2014 Effluent Guidelines Program Plan also support the 2015 Annual Review and Preliminary 2016 Plan. EPA has also incorporated by reference all of the documents in the dockets supporting the Plans for 2004, 2006, 2008, 2010, and 2012, which include the annual reviews for years 2003-2012. See EPA-HQ-OW-2006-0771-0822 (DCN 05106), EPA-HQ-OW-2008-0517-0475 (DCN 06937), EPA-HQ-OW-2010-0824-0121 (DCN 07722), and EPA-HQ-OW-2014-0170-0078 (DCN 07987).

3.0 ACCESSING INFORMATION IN THE DOCKET

How Do I Find Documents in the Docket?

Water Docket in the EPA Docket Center

The official public docket is the collection of electronic and hard copy materials that is available for public viewing at the Water Docket in the EPA Docket Center, (EPA/DC), located in the EPA Headquarters Library, WJC West Building, Room Number 3334, 1301 Constitution Ave., NW, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Water Docket is (202) 566–2426. You can also contact the Water Docket via e-mail: OW-Docket@epa.gov.

Regulations.gov

You will find instructions for using Regulations.gov on its Internet home page. Regulations.gov provides limited electronic search capabilities. If you know the Document ID Number (e.g., EPA-HQ-OW-2015-0665-0290) of the document you wish to view, you can type that number directly into the field beneath the "Enter Keyword or ID."

If you do not know the specific Document ID Number, you can input the docket identification number (EPA-HQ-OW-2015-0665) in the field beneath the "Enter Keyword or ID" heading and click Search. You will now see a listing of the contents of the official docket in the public record. The listing includes the Document Title (e.g., "Preliminary 2016 Effluent Guidelines Program Plan"), Document ID Number (e.g., EPA-HQ-OW-2015-0665-0290), Date Posted (e.g., "June 27, 2016"), Document Type (e.g., "Notice"), and other information.

You have several options to narrow your search within the docket listing by using the filters under the "Select Document Type" field. For example, you can specify the Document Type (e.g., Public Submissions, Notices, or Rules) as well as status (e.g. Open for Comment/Submission).

How are Documents Organized in the EPA-HQ-OW-2015-0665 Docket?

Each document in the docket has two document identification numbers. One is the Regulations.gov Document ID Number (e.g., EPA-HQ-OW-2015-0665-0290) that was assigned when EPA added the document to the official docket. The last four digits are the unique consecutive regulations.gov document ID. The second is the document control number (DCN) that was assigned during the development of the document (e.g., DCN 08208). In documents prepared for the docket, EPA typically identifies references by their DCN. The DCN appears at the end of the document titles in the **Document Title** field listed in Regulations.gov (e.g., "Preliminary 2016 Effluent Guidelines Program Plan - DCN 08208").

What is the Docket EPA-HQ-OW-2015-0665 Subject Outline?

EPA has prepared a *subject outline* of the documents included in EPA-HQ-OW-2015-0665 to help you locate documents that address related topics or subjects. The subject outline for EPA-HQ-OW-2015-0665 is provided in Attachment 1. With the exception of public submissions, each document in the docket has been assigned to an outline section.

What is the Docket EPA-HQ-OW-2015-0665 Subject Index?

The docket EPA-HQ-OW-2015-0665 *subject index* is a list of documents in the docket, sorted by subject outline section, available as Attachment 2 to this document. Because of its size, Attachment 2 is available separately, at DCN 08313A1. The subject index summarizes certain information for each document, including the subject outline section, Regulations.gov Document ID Number, DCN, document title, author, and abstract. EPA assigned each document to a subject outline section during the development of the document.

The subject index for the docket includes the following fields:

Field Name	Description
Record Section	Section number from docket subject outline.
Regulations.gov Document ID Number	Unique document number assigned when EPA added the document to the official docket. The Document ID Number includes the Docket Number (e.g., EPA-HQ-OW-2015-0665) followed by a consecutive document number to distinguish the individual documents within the docket.
Title	Title of document.
Abstract	Additional description of document.
Document Type	Type of supporting and related materials (e.g., publication, meeting materials, data, etc.).
Author	Author of document (Last name, first full name).
Author Date	Date of publication, issue, edition, or version. Actual date of meeting or telephone call.
Source Citation	For copyright protected documents, this is a bibliographic citation (without title or author) that you can use to find the document in a library. For materials retrieved from the Internet, Source Citation lists the URL.
Category Industry	Industry category that the document is supporting.
Page	Number of pages in document.
CBI	Confidential Business Information (Yes/No). CBI is not available to the public.
Copyrighted	(Materials that are copyright protected (e.g., books and other published material) (Yes/No). Copyrighted documents are not available through Regulations.gov; they are only available in hard copy at the EPA Docket Center.
DCN	Unique document control number (DCN) assigned during the development of the document.

How Do I Use the Subject Index to Find Documents in the Docket?

Review the subject outline (see Attachment 1) to determine which section may contain the documents of interest. Then, locate documents for that section in the index and note their Regulations.gov Document ID Number. Documents available electronically can be accessed through Regulations.gov. Other documents can be reviewed at the Water Docket in the EPA Docket Center in Washington, DC. See information on the Water Docket above. You may also be able to locate copyright protected materials (for example, articles from technical publications) at an academic or public library.

4.0 FURTHER INFORMATION

The primary contact regarding questions or comments on Docket ID No. EPA-HQ-OW-2015-0665, the 2015 Annual Review, and the Preliminary 2016 Effluent Guidelines Program Plan is:

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Attachment 1

SUBJECT OUTLINE FOR THE 2015 ANNUAL REVIEW AND THE PRELIMIARY 2016 EFFLUENT GUIDELINES PROGRAM PLAN DOCKET EPA-HQ-OW-2015-0665

2015 Annual Review and
Preliminary 2016 Effluent Guidelines Program Plan Docket Subject Outline

Docket EPA-HQ-OW-2015-0665

The following existing sections include the docket materials for the 2004 Effluent Guidelines Program Plan.

1 Docket OW-2003-0074: Background Documents *(includes TSD and appendices)*

2 Docket OW-2003-0074: Screening Level Review (supporting 2004 Plan)

3 Docket OW-2003-0074: Industry Rankings

The following sections will be used to organize the docket and project file materials for the 2006, 2008, 2010, 2012, 2014, and 2016 Effluent Guidelines Program Plans.

4 Public Comments

Docket EPA-HQ-OW-2004-0032
Docket EPA-HQ-OW-2003-0074
Docket EPA-HQ-OW-2006-0771
Docket EPA-HQ-OW-2008-0517
Docket EPA-HQ-OW-2010-0824
Docket EPA-HQ-OW-2014-0170
Docket EPA-HQ-OW-2015-0665

5 No entries

6 Federal Register Notices, Outreach Materials, and Other Background Documents

6.1 Previous Dockets, by reference
6.2 Federal Register Notices
6.3 Outreach Efforts
6.4 Technical Support Documents and Appendices

7 Public and Inter-Agency Comments

7.1 Public Comments on the 2004 Effluent Guidelines Program Plan
7.2 Public Comments on the Preliminary 2006 Effluent Guidelines Program Plan
7.3 Public Comments on the Final 2006 Effluent Guidelines Program Plan
7.4 Public Comments on the Preliminary 2008 Effluent Guidelines Program Plan
7.5 Public Comments on the First CBM ICR (January 2008)
7.6 Public Comments on the first HCI ICR (August 2008)
7.7 Public Comments on the Final 2008 Effluent Guidelines Program Plan
7.8 Public Comments on the Preliminary 2010 Effluent Guidelines Program Plan
7.9 Public Comments on the Final 2010 Effluent Guidelines Program Plan

7.10 Public Comments on the Preliminary 2012 Effluent Guidelines Program Plan
7.11 Public Comments on the Final 2012 Effluent Guidelines Program Plan
7.12 Public Comments on the Preliminary 2014 Effluent Guidelines Program Plan

8 CWA §304(g) Review

Review of the pretreatment standards for industrial point source categories composed entirely or almost entirely of indirect dischargers.

8.1 Food Service Establishments
8.2 Industrial Laundries
8.3 Photo-processing
8.4 Printing and Publishing
8.5 Health Services Industries
  8.5.1 Independent and Stand-alone Medical and Dental Laboratories
  8.5.2 Offices and Clinics of Doctors of Medicine
  8.5.3 Offices and Clinics of Dentists
  8.5.4 Nursing and Personal Care Facilities
  8.5.5 Veterinary Care Services
  8.5.6 Hospitals and Clinics
  8.5.7 Health Services Industries Economic Information
8.6 Independent and Stand-alone Laboratories
8.7 Industrial Container and Drum Cleaning (ICDC)
8.8 Tobacco Products Processing
8.9 Correctional Institutions (Prisons)

9 Screening-Level Reviews

Screening-level review of existing guidelines and standards and new categories.

9.1 Analyses of the Toxics Release Inventory
  Plan, database, QC checks (including telecons)
9.2 Analyses of Permit Compliance System data Plan, ICIS-NPDES Data Plan, database, QC checks (including telecons)
9.3 Other Screening-Level Data Sources NAICS/SIC/Point Source Category Crosswalks
9.4 Screening-Level Review Reports
  QA Project Plans for TRI and PCS Analysis,
  2005 Screening-Level Analysis Report
  Nutrients Memo
9.5 Toxic Weighting Factor Development

10 Existing Guidelines and Standards Review

Further review based on National Strategy Factors, of industries with existing guidelines and standards, prioritized during screening-level review. The National Strategy Factors are: 1) human health and environment hazards; 2) technology innovation and process changes; 3) economics; 4) implementation and efficiency considerations.

10.1 Preliminary Review Reports Review of Prioritized Categories of Industrial Dischargers

All existing categories are listed below. Potential new subcategories are included with their parent category. If no materials specific to a category are collected, the section will be identified as "no entries." Materials collected in support of detailed studies are organized in additional sections, following Section 11.

10.2 Aluminum Forming, Part 467
10.3 Aquatic Animal Production Industry, Part 451
10.4 Asbestos Manufacturing, Part 427
10.5 Battery Manufacturing, Part 461
10.6 Centralized Waste Treaters, Part 437
10.7 Canned and Preserved Seafood, Part 408
10.8 Carbon Black Manufacturing, Part 458
10.9 Cement Manufacturing, Part 411
10.10 Coal Mining, Part 434
10.11 Coil Coating, Part 465
10.12 Concentrated Animal Feeding Operations, Part 412
10.13 Copper Forming, Part 468
10.14 Dairy Products Processing, Part 405
10.15 Electrical and Electronic Components, Part 469
10.16 Electroplating, Part 413
10.17 Explosives, Part 457
10.18 Ferroalloy Manufacturing, Part 424
10.19 Fertilizer Manufacturing, Part 418
10.20 Fruits and Vegetable Processing, Part 407
10.21 Glass Manufacturing, Part 426
10.22 Grain Mills Manufacturing, Part 406
10.23 Gum and Wood Chemicals, Part 454
10.24 Hospitals, Part 460
10.25 Ink Formulating, Part 447
10.26 Inorganic Chemicals, Part 415
10.27 Iron and Steel Manufacturing, Part 420
10.28 Landfills, Part 445
10.29 Leather Tanning and Finishing, Part 425
10.30 Meat and Poultry Products, Part 432
10.31 Metal Finishing, Part 433
10.32 Metal Molding and Casting (Foundries), Part 464
10.33 Metal Products and Machinery, Part 438
10.34 Mineral Mining and Processing, Part 436
10.35 Nonferrous Metals Forming and Metal Powders, Part 471

10.36 Nonferrous Metals Manufacturing, Part 421
10.37 Oil & Gas Extraction, Part 435
  10.37.1 Coalbed Methane
  10.37.2 Shale Gas Extraction
10.38 Ore Mining and Dressing, Part 440
10.39 Organic Chemicals, Plastics and Synthetic Fibers, Part 414 (including Thompson Report response materials)
  10.39.1 Chemical Formulating, Packaging and Repackaging
  10.39.2 Biodiesel, Ethanol, and Other Biofuels
10.40 Paint Formulating, Part 446
10.41 Paving and Roofing Materials (Tars and Asphalt), Part 443
10.42 Pesticide Chemicals Manufacturing, Formulation and Repackaging, Part 455
10.43 Petroleum Refining, Part 419
  10.43.1 Petroleum Bulk Stations and Terminals (PBST)
10.44 Pharmaceutical Manufacturing, Part 439
10.45 Phosphate Manufacturing, Part 422
10.46 Photographic, Part 459
10.47 Plastic Molding and Forming, Part 463
10.48 Porcelain Enameling, Part 466
10.49 Pulp, Paper, and Paperboard, Part 430 (materials not related to detailed study, e.g., Phase III permit writers support materials)
10.50 Rubber Manufacturing, Part 428
10.51 Soaps and Detergents Manufacturing, Part 417
10.52 Steam Electric Power Generation, Part 423
10.53 Sugar Processing, Part 409
10.54 Textile Mills, Part 410
10.55 Timber Products Processing, Part 429
10.56 Transportation Equipment Cleaning, Part 442
10.57 Waste Combustors (Commercial Incinerators Combusting Hazardous Waste), Part 444

11 Review of Categories Without Existing Guidelines

11.1 Airport Deicing Operations (now Part 449)
11.2 Water Supply (Drinking Water Treatment)
11.3 Miscellaneous Foods and Beverages
  11.4.1 Distilled and Blended Liquor
  11.4.2 Malt Beverages
  11.4.3 Soybean Oil Mills
  11.4.4 Miscellaneous Foods and Beverages Economic Information
11.4 Liquefied Natural Gas Import Terminals
11.5 Biofuel Manufacturing
11.6 Engineered Nanomaterials Manufacturing and Production Use
11.7 Brick and Structural Clay Products Manufacturing

12 Water Pollution Control Technologies, Water Reuse, Water Conservation

Include information about pollution prevention, wastewater treatment, and other wastewater pollution control technologies that applies to multiple point source categories. Technologies or case studies that focus on one category should be included in the section for the category or detailed study.

12.1 Water Conservation Issues
12.2 Wastewater Treatment Technologies Investigation

13 Steam Electric Power Generation Detailed Study (closed as of December 2009)

13.1 Study Plans
Detailed Study Plan, QA Project Plan
13.2 Industry Profile
13.3 NPDES Permits
13.4 Stakeholder Meeting Material
13.5 Pollution Control Technologies and Their Costs
13.6 Industry Surveys
13.7 Detailed Study Reports
13.8 Site Visits
13.9 Sampling
13.10 EPA Data Request Development Files
13.11 Technology Options, Costs, and Loads
13.12 Environmental Assessment Documentation

14 Tobacco Products Processing Detailed Study (closed as of December 2006)

14.1 Study Plans (Detailed Study Plan, QA Project Plan)
14.2 Industry Profile (include information on companies and individual plants)
14.3 Site Visits, Sampling and Analysis (include pre-sampling telephone contact reports)
14.4 Pollution Control Technologies and Their Costs
14.5 Detailed Study Reports
14.6 Tobacco Products Economic Information

15 Pulp, Paper, and Paperboard Detailed Study (closed as of December 2006)

15.1 Study Plans (Detailed Study Plan)
15.2 Industry Information
Meeting summary, AF&PA disputed loads letter with enclosures, AF&PA minimum monitoring letter with enclosures, Mill discharge data (i.e., minor discharger, Washington mills), Phase I Mill Industry Profile.
Draft TRI Guidance Document, TAPPI paper Comparing Chlorinated Phenolic loadings
15.2.1 Pulp and Paper Industry Economic Information
15.3 Quality Review
Designation of SIC codes into Phase, Changes to Phases, telecons (i.e., Kimberly- Clark Everett WA, Weyerhaeuser surface impoundment, IP-Cantonment Permit Status)
15.4 NPDES Permits (Includes factsheets and communication from mills that defined outfalls)
15.4.1 Phase I mill permits

15.4.2 Phase II mill permits
15.5 Detailed Study Reports

16 Coal Mining Detailed Study (closed as of 2006)

16.1 Study Plans (Detailed Study Plan, QAPP)
16.2 Industry profile for the coal mining industry
16.3 Pollutant loads
Data Obtained from states and IMCC
Pollutant Loads Concept Memo
Loads spreadsheets and results
16.4 Treatment technologies and costs
Model mine memo, AMD Treat review, costing spreadsheets and results
16.5 Environmental assessment
Memos addressing "Key questions"
Articles collected related to impacts of manganese
16.6 Flight 93 Memorial Site Information
Joanne Hanley e-mails, Lenny Lichvar document, PBS Coals letters
16.7 Non-CWA Regulations (SMCRA, Other Federal, and State Laws)
16.8 Economics, Bonds, and Trust Funds

17 Health Care Detailed Study (closed as of 2011)

17.1 Study Plans and Reports
17.2 Dental Hg Industry Profile and Background Information (including wastewater characteristics, regulations, guidance)
17.3 Dental Hg BMPs, Control Technologies, and their Costs
17.4 Dental Hg POTW Treatment Efficiencies, pass through, and interferences
17.5 Dental Hg Economic Information
17.6 Dental Hg Meetings
17.7 Unused Pharmaceuticals Industry Profile and Background Information (including wastewater characteristics, regulations, guidance)
17.8 Unused Pharmaceuticals Data Request and Responses
17.9 Unused Pharmaceuticals BMPs, Control Technologies, and their Costs
17.10 Unused Pharmaceuticals POTW Treatment Efficiencies, pass through, and interferences
17.11 Unused Pharmaceuticals Economic Information
17.12 Unused Pharmaceuticals Meetings and Site Visits

18 Coalbed Methane Detailed Study (closed as of 2014)

18.1 Plans
18.2 Stakeholder Meetings
18.3 Site Visits/Sampling
18.4 Industry Survey Development and Distribution
18.4.1 Questionnaire Development
18.4.2 Survey Sampling Strategy includes development of mailing list
18.4.3 Information Collection Request includes burden estimate, drafts of ICRs
18.5 Industry Survey Results

Attachment 2

SUBJECT INDEX LISTING ALL DOCUMENTS SUPPORTING THE 2015 ANNUAL REVIEW AND THE PRELIMINARY 2016 EFFLUENT GUIDELINES PROGRAM PLAN

User Guide Index for EPA-HQ-OW-2015-0665

RECORD SECTION	DOCUMENT ID NUMBER	TITLE	ABSTRACT	DOCUMENT TYPE	AUTHOR	AUTHOR DATE	SOURCE CITATION	CATEGORY INDUSTRY	PAGE	CBI	COPY - RIGHTED	DCN
6.01	EPA-HQ-OW-2015-0665-0302	Memorandum from W. Swietlik, EPA, to Public Docket EPA-HQ-OW-2015-0665 Re: Docket EPA-HQ-OW-2014-0170 Incorporated by Reference - DCN 08311	Memorandum detailing the docket number EPA-HQ-OW-2014-0170 is incorporated by reference through the memorandum into the public record for the "Preliminary 2016 Effluent Guidelines Program Plan", EPA Docket Number OW-2015-0665.	Memorandum	William Swietlik, EPA	05/24/2016	Swietlik, W. 2016. Memorandum from W. Swietlik, EPA, to Public Docket, EPA-HQ-OW-2015-0665. Re: Docket EPA-HQ-OW-2014-0170 Incorporated by Reference.		1	No	No	08311
6.04	EPA-HQ-OW-2015-0665-0290	Preliminary 2016 Effluent Guidelines Program Plan - DCN 08208	Preliminary 2016 Plan for the Industrial Effluent Guidelines Program.	Publication; USEPA	U.S. EPA	06/17/2016	U.S. EPA. 2016. Preliminary 2016 Effluent Guidelines Program Plan. Washington D.C.		62	No	No	08208
6.04	EPA-HQ-OW-2015-0665-0299	The 2015 Annual Effluent Guidelines Review Report - DCN 08209	The report containing the analyses completed during the 2015 Annual Review.	Publication; USEPA	U.S. EPA	06/17/2016	U.S. EPA. 2016. The 2015 Annual Effluent Guidelines Review Report. Washington D.C.		198	No	No	08209

RECORD SECTION	DOCUMENT ID NUMBER	TITLE	ABSTRACT	DOCUMENT TYPE	AUTHOR	AUTHOR DATE	SOURCE CITATION	CATEGORY INDUSTRY	PAGE	CBI	COPY - RIGHTED	DCN
6.04	EPA-HQ-OW-2015-0665-0291	The 2015 Annual Effluent Guidelines Review Report Appendices A-E - DCN 08210	Appendices supporting the 2015 Annual Review Report	Publication; USEPA	U.S. EPA	06/17/2016	U.S. EPA. 2016. The 2015 Annual Effluent Guidelines Review Report Appendices A-E. Washington D.C.		247	No	No	08210
9.0	EPA-HQ-OW-2015-0665-0284	Memorandum from William Swietlik, U.S. EPA, to Public Docket for the Preliminary 2016 Effluent Guidelines Program Plan, EPA Docket Number EPA-HQ-OW-2015-0665. Re: Summary of Methodology for Handling Non-Detect Data: 304m and Steam Electric Power Generating - DCN 08212	Memorandum summarizing how non-detect data is handled for 304m and the Steam Electric Power Generating ELG.	Memorandum	U.S. EPA	02/16/2016	U.S. EPA. 2016. Memorandum from William Swietlik, U.S. EPA, to the Public Docket, EPA-HQ-OW-2015-0665. Re: Non-Detect Data Methodology.		5	No	No	08212
9.1	EPA-HQ-OW-2015-0665-0200	2013 Toxics Release Inventory (TRI) Water Release Database - DCN 08120	2013 TRI water release data supporting the 2015 Annual Review Report.	Data	Eastern Research Group, Inc	12/01/2015	DMR Loading Tool Output – 2013 TRI Data		0	No	No	08120

RECORD SECTION	DOCUMENT ID NUMBER	TITLE	ABSTRACT	DOCUMENT TYPE	AUTHOR	AUTHOR DATE	SOURCE CITATION	CATEGORY INDUSTRY	PAGE	CBI	COPY - RIGHTED	DCN
9.1	EPA-HQ-OW-2015-0665-0283	Memorandum from William Swietlik, U.S. EPA, to Public Docket for the Preliminary 2016 Effluent Guidelines Program Plan, EPA Docket Number EPA-HQ-OW-2015-0665. Re: Hydrogen Sulfide Releases Reported to the Toxics Release Inventory (TRI) in 2013 - DCN 08211	Memorandum detailing hydrogen sulfide releases reported to the TRI in 2013.	Memorandum	U.S. EPA	10/29/2015	U.S. EPA. 2015. Memorandum from William Swietlik, U.S. EPA, to Public Docket, EPA-HQ-OW-2015-0665. Re: H2S Releases in TRI.		12	No	No	08211
9.1	EPA-HQ-OW-2015-0665-0078	Telephone and Email Communication with Brian Beeler, Lafayette WWTP, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 Hydrogen Sulfide Discharges at POTWs - DCN 08217	Telephone and email conversation between Brian Beeler, Lafayette WWTP, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 Hydrogen Sulfide Discharges at POTWs.	Meeting Materials	Beeler, Brian	12/19/2014	Beeler, B. 2014. Correspondence between Brian Beeler, Lafayette WWTP, and Kim Bartell, ERG. Re: 2013 Hydrogen Sulfide Discharges at POTWs. (Dec 19).		3	No	No	08217
9.1	EPA-HQ-OW-2015-0665-0090	Telephone and Email Communication with David Tyler, Tolleson WWTP, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 Hydrogen Sulfide Discharges at POTWs - DCN 08229	Telephone and email conversation between David Tyler, Tolleson WWTP, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 Hydrogen Sulfide Discharges at POTWs.	Meeting Materials	Tyler, David	12/19/2014	Tyler, D. 2014. Correspondence between David Tyler, Tolleson WWTP, and Kim Bartell, ERG. Re: 2013 Hydrogen Sulfide Discharges at POTWs. (Dec 19).		3	No	No	08229

RECORD SECTION	DOCUMENT ID NUMBER	TITLE	ABSTRACT	DOCUMENT TYPE	AUTHOR	AUTHOR DATE	SOURCE CITATION	CATEGORY INDUSTRY	PAGE	CBI	COPY - RIGHTED	DCN
9.1	EPA-HQ-OW-2015-0665-0091	NRMRL Treatability Data Base, Version 5.0 - DCN 08230	Office of Research and Development. NRMRL Treatability Database, Version 5.0	Data	U.S. EPA	02/01/2004	U.S. EPA. 2004. Office of Research and Development. NRMRL Treatability Data Base, Version 5.0. Cincinnati, OH. (Feb).		2	No	No	08230
9.1	EPA-HQ-OW-2015-0665-0092	EPA’s Risk-Screening Environmental Indicators (RSEI) Methodology - DCN 08231	Methodology for EPA's computer-based RSEI tool to identify toxic releases that may require further evaluation and to plan for the future.	Data	U.S. EPA	07/01/2013	U.S. EPA. 2013b. EPA’s Risk-Screening Environmental Indicators (RSEI) Methodology. Washington, D.C. (July).		92	No	No	08231
9.1	EPA-HQ-OW-2015-0665-0094	Document Search for the Louisiana Department of Environmental Quality - DCN 08233	Louisiana Department of Environmental Quality Document Search for permit documents and DMRs.	Data	LA DEQ	12/23/2015	LA DEQ. 2015. LA Department of Environmental Quality. Document Search. Available online at: http://edms.deq.louisiana.gov/app/doc/querydef.aspx.		1	No	No	08233

RECORD SECTION	DOCUMENT ID NUMBER	TITLE	ABSTRACT	DOCUMENT TYPE	AUTHOR	AUTHOR DATE	SOURCE CITATION	CATEGORY INDUSTRY	PAGE	CBI	COPY - RIGHTED	DCN
9.1	EPA-HQ-OW-2015-0665-0095	CERCLA Compliance between Other Laws Manual: Interim Final - DCN 08234	The CERCLA Compliance with Other Environmental Laws Manual was developed to provide guidance to Remedial Project Managers, State personnel at State-lead Superfund sites, On-Scene Coordinators, and other persons responsible for planning response actions un	Publication; US EPA	U.S. EPA	08/01/1988	U.S. EPA. 1988. CERCLA Compliance between Other Laws Manual: Interim Final. EPA-540-G-89-006. OSWER Publication 9234.1-01. Washington, D.C. (Aug).		243	No	No	08234
9.1	EPA-HQ-OW-2015-0665-0096	Guidance on Remedial Actions for Contaminated Ground Water at Superfund Sites - DCN 08235	This document provides guidance for making key decisions in developing, evaluating, and selecting ground-water remedial actions at Superfund sites.	Publication; US EPA	U.S. EPA	12/01/1988	U.S. EPA. 1988. Guidance on Remedial Actions for Contaminated Ground Water at Superfund Sites. OSWER Directive 9283.1-2. EPA-540-G-88-003. (Dec).		121	No	No	08235
9.1	EPA-HQ-OW-2015-0665-0097	Known Data Problems for ECHO - DCN 08236	Known Data Problems for the Enforcement and Compliance History Online	Data	U.S. EPA	08/01/2015	U.S. EPA. 2015. Known Data Problems. Enforcement and Compliance History Online. Washington, D.C. (August).		13	No	No	08236

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9.1	EPA-HQ-OW-2015-0665-0098	Is My Facility's Six-Digit NAICS Code a TRI-Covered Industry? Toxics Release Inventory Program - DCN 08237	The North American Industry Classification System (NAICS) is a framework by which economic units that have similar production processes are classified into the same industry by a numerical designation, the most detailed of which is six digits.	Data	U.S. EPA	02/03/2015	U.S. EPA. 2015. Is My Facility's Six-Digit NAICS Code a TRI-Covered Industry? Toxics Release Inventory Program. Washington, D.C. (February 3).		10	No	No	08237
9.1	EPA-HQ-OW-2015-0665-0236	Toxicological Review of Hydrogen Sulfide - DCN 08276	Toxicological review to provide scientific support and rationale for the hazard and dose-response assessment in IRIS pertaining to chronic exposure to hydrogen sulfide.	Report	U.S. EPA	06/01/2003	EPA. 2003. Toxicological Review of H2S. Washington, D.C. Available online at: http://www.epa.gov/ncea/iris/toxreviews/0061tr.pdf		74	No	No	08276
9.1	EPA-HQ-OW-2015-0665-0237	2013 Toxics Release Inventory (TRI) Water Release Database - Version 0 - DCN 08277	2013 TRI water release data prior to the hydrogen sulfide POTW percent removal update.	Data	Eastern Research Group, Inc	11/01/2014	DMR Loading Tool Output – 2013 TRI Data		0	No	No	08277

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9.2	EPA-HQ-OW-2015-0665-0201	2013 Discharge Monitoring Report (DMR) Database - DCN 08121	2013 DMR data supporting the 2015 Annual Review Report.	Data	Eastern Research Group, Inc	12/01/2015	DMR Loading Tool Output – 2013 DMR Data		0	No	No	08121
10.1	EPA-HQ-OW-2015-0665-0086	Telephone and Email Communication with Gina Self, Montana Department of Environmental Quality, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Arsenic Discharges for Decker Coal Co - DCN 08225	Telephone and email conversation between Gina Self, Montana Department of Environmental Quality, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 DMR Arsenic Discharges for Decker Coal Co.	Meeting Materials	Self, Gina	11/14/2014	Self, G. 2014. Correspondence between Gina Self, Montana DEQ, and Kim Bartell, ERG. Re: 2013 DMR Arsenic Discharges for Decker Coal Co. (Nov 14).	Coal Mining	1	No	No	08225
10.2	EPA-HQ-OW-2015-0665-0084	Telephone and Email Communication with John Prigge, JR Simplot, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 TRI Hydrogen Sulfide Discharges for JR Simplot in Grand Forks, ND - DCN 08223	Telephone and email conversation between John Prigge, JR Simplot, and Kimberly Bartell, Eastern Research Group, Inc., about: 2013 TRI Hydrogen Sulfide Discharges for JR Simplot in Grand Forks, ND.	Meeting Materials	Prigge, John	12/22/2014	Prigge, J. 2014. Correspondence between John Prigge, JR Simplot, and Kim Bartell, ERG. Re: TRI H2S Discharges for JR Simplot. (Dec 22).	Canned and Preserved Fruits and Vegetable Processing	3	No	No	08223

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10.5	EPA-HQ-OW-2015-0665-0202	The 2014 Accord Plug-In - DCN 08242	Model speciifications for American Honda 2014 Accord Plug-In	Publication Copyrighted Material	Honda	01/01/2013	American Honda Motor Company, Inc. 2013a. 2015 ARR	Battery Manufacturing	2	No	Yes	08242
10.5	EPA-HQ-OW-2015-0665-0203	2014 Fit EV - DCN 08243	Model speciifications for American Honda 2014 Fit EV	Publication Copyrighted Material	Honda	01/01/2013	American Honda Motor Company, Inc. 2013b. 2015 ARR	Battery Manufacturing	3	No	Yes	08243
10.5	EPA-HQ-OW-2015-0665-0204	CR-Z 2015 - DCN 08244	Model speciifications for American Honda CR-Z 2015	Publication Copyrighted Material	Honda	01/01/2014	American Honda Motor Company, Inc. 2014. 2015 ARR	Battery Manufacturing	11	No	Yes	08244

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10.5	EPA-HQ-OW-2015-0665-0205	Accord 2015 - DCN 08245	Model speciifications for American Honda Accord 2015	Publication Copyrighted Material	Honda	01/01/2015	American Honda Motor Company, Inc. 2015a. 2015 ARR	Battery Manufacturing	11	No	Yes	08245
10.5	EPA-HQ-OW-2015-0665-0206	Civic 2015 - DCN 08246	Model speciifications for American Honda Civic 2015	Publication Copyrighted Material	Honda	01/01/2015	American Honda Motor Company, Inc. 2015b. . 2015 ARR	Battery Manufacturing	11	No	Yes	08246
10.5	EPA-HQ-OW-2015-0665-0207	FCX Clarity Specifications - DCN 08247	Model speciifications for American Honda FCX Clarity Specifications	Publication Copyrighted Material	Honda	01/01/2015	American Honda Motor Company, Inc. 2015c. . 2015 ARR	Battery Manufacturing	2	No	Yes	08247

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10.5	EPA-HQ-OW-2015-0665-0208	2014 Insight Specifications - DCN 08248	Model speciifications for American Honda 2014 Accord Plug-In	Publication Copyrighted Material	Honda	01/01/2015	American Honda Motor Company, Inc. 2015d. . 2015 ARR	Battery Manufacturing	2	No	Yes	08248
10.5	EPA-HQ-OW-2015-0665-0209	Vanadium Flow Batteries - DCN 08249	As VFB solutions continue to be developed and implemented, new demand for vanadium is expected to raise the overall consumption of this critical element.	Publication Copyrighted Material	American Vanadium	09/10/2014	American Vanadium. 2014. . 2015 ARR	Battery Manufacturing	4	No	Yes	08249
10.5	EPA-HQ-OW-2015-0665-0210	Tesla CEO Elon Musk reveals Powerwall home battery - DCN 08250	Silicon Valley electric-vehicle automaker Tesla Motors is expanding its presence beyond luxury cars with plans to produce a wall-mounted battery pack designed to store renewable energy in the home.	Publication	Bomey, N.	05/01/2015	Bomey, N. 2015. 2015 ARR	Battery Manufacturing	3	No	No	08250

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10.5	EPA-HQ-OW-2015-0665-0211	Secondary Batteries - DCN 08251	After 30 years of being the main battery technology used in space applications, the Nickel Cadmium (NiCd) battery is no longer the first choice energy storage system for space missions.	Publication Copyrighted Material	Clyde Space	09/10/2014	Clyde Space. 2014. 2015 ARR	Battery Manufacturing	2	No	Yes	08251
10.5	EPA-HQ-OW-2015-0665-0212	Nickel Metal Hydride (NiMH) Handbook and Application Manual - DCN 08252	The number of portable battery operated electronic devices has grown tremendously. This handbook will provide a better understanding of rechargeable Nickel Metal Hydride (NiMH) batteries.	Publication Copyrighted Material	Energizer	01/01/2010	Energizer. 2010. 2015 ARR	Battery Manufacturing	16	No	Yes	08252
10.5	EPA-HQ-OW-2015-0665-0213	National Pollutant Release Inventory (NPRI) Online Data Search - DCN 08253	Canada's legislated, publicly accessible inventory of pollutant releases to air, water and land, and reviewed disposals and transfers for recycling by the company name and by industry.	Publication	Environment Canada	09/10/2014	Environment Canada. 2014. 2015 ARR	Battery Manufacturing	2	No	No	08253

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10.5	EPA-HQ-OW-2015-0665-0214	Spark EV 2015 - DCN 08254	Cotains specifications on SparkEV and its features	Publication Copyrighted Material	General Motors	01/01/2014	General Motors. 2014a. Spark EV 2015. 2015 ARR	Battery Manufacturing	2	No	Yes	08254
10.5	EPA-HQ-OW-2015-0665-0215	Volt 2015 - DCN 08255	Cotains specifications on Volt 2015 and its features	Publication Copyrighted Material	General Motors	01/01/2014	General Motors. 2014b. Volt 2015. 2015 ARR	Battery Manufacturing	2	No	Yes	08255
10.5	EPA-HQ-OW-2015-0665-0216	Rechargeable Batteries Product Index - DCN 08256	Introduces Prismatic Lithium-ion Rechargeable cells. Maxell offers these cells only as battery packs, which include electronic circuits to prevent overcharge, overdischarge, etc.	Publication Copyrighted Material	Maxell	09/17/2014	Maxell. 2012. Rechargeable Batteries Product Index. Available online at: http://biz.maxell.com/en/product_index/?pci=6. Accessed: September 10, 2014	Battery Manufacturing	3	No	Yes	08256

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10.5	EPA-HQ-OW-2015-0665-0217	How do batteries work? - DCN 08257	An article on different components of a working battery and flow of electrons through a conductive path.	Publication	Northwestern University	09/16/2014	Northwestern University. 2014. 2015 ARR	Battery Manufacturing	2	No	No	08257
10.5	EPA-HQ-OW-2015-0665-0218	Anode Materials for Lithium Ion Batteries - DCN 08258	Battery workshop on litihim ion batteries	Publication Copyrighted Material	Patterson, Mary L.	11/01/2009	Patterson, Mary L. 2009. 2015 ARR	Battery Manufacturing	33	No	Yes	08258
10.5	EPA-HQ-OW-2015-0665-0219	Tesla confirms Nevada to get battery factory - DCN 08259	Tesla confirmed on Thursday it would build a $5 billion advanced battery factory in Nevada, a move that Gov. Brian Sandoval estimates would have a $100 billion economic impact over the next 20 years.	Publication	Ramsey, M	09/10/2014	Ramsey, M. 2014. 2015 ARR	Battery Manufacturing	3	No	No	08259

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10.5	EPA-HQ-OW-2015-0665-0220	Batteries, Other Secondary Cells - DCN 08260	The proliferation of portable electronic devices has fueled rapid market growth for the rechargeable battery industry. Miniaturization of electronics continues to spur interest in advanced battery systems. Interest also continues to run strong in electric vehicles (EVs).	Publication Copyrighted Material	Salkind, A. J.	12/19/2003	Salkind, A. J., 2015 ARR	Battery Manufacturing	13	No	Yes	08260
10.5	EPA-HQ-OW-2015-0665-0221	The German-American Vanadium Flow Battery Connection - DCN 08261	Over the past few years, flow battery startups have been vying for media attention for their attempts to bring this potentially disruptive technology for long-term, grid-scale energy storage to the commercial market.	Publication	St. John, J.	02/24/2014	St. John, J. 2014. 2015 ARR	Battery Manufacturing	6	No	No	08261
10.5	EPA-HQ-OW-2015-0665-0222	Tesla Energy - DCN 08262	Of all the fossil fuel consumed in the United States, one third is used in transportation and another third goes to electricity production.The EPA says it would require 1.6 billion acres of US forest to negate the environmental damage.	Publication Copyrighted Material	Tesla Motors	06/11/2015	Tesla Motors. 2015a. 2015 ARR	Battery Manufacturing	6	No	Yes	08262

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10.5	EPA-HQ-OW-2015-0665-0223	Tesla Energy - DCN 08263	Tesla's mission is to accelerate the world's transition to sustainable transportation. To achieve that goal, we must produce electric vehicles in sufficient volume to force change in the automobile industry.	Publication Copyrighted Material	Tesla Motors	06/11/2015	Tesla Motors. 2015b. 2015 ARR	Battery Manufacturing	2	No	Yes	08263
10.5	EPA-HQ-OW-2015-0665-0224	Tesla Energy - DCN 08264	Model speciifications for Tesla Model S	Publication Copyrighted Material	Tesla Motors	08/11/2015	Tesla Motors. 2015c. 2015 ARR	Battery Manufacturing	5	No	Yes	08264
10.5	EPA-HQ-OW-2015-0665-0225	2013 Scion iQ EV - DCN 08265	Model speciifications for Toyota's Scion iQ EV	Publication Copyrighted Material	Toyota	11/20/2012	Toyota. 2012. 2013 Scion iQ EV. 2015 ARR	Battery Manufacturing	2	No	Yes	08265

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10.5	EPA-HQ-OW-2015-0665-0226	Avalon 2015 - DCN 08266	Model speciifications for Toyota's Avalon 2015	Publication	Toyota	01/01/2015	Toyota. 2015a. Avalon 2015. Available online at: http://www.toyota.com/content/ebrochure/2015/avalon_ebrochure.pdf. Accessed June 11, 2015.	Battery Manufacturing	22	No	No	08266
10.5	EPA-HQ-OW-2015-0665-0227	Camry 2015 - DCN 8267	Model speciifications for Toyota's Camry 2015	Publication	Toyota	01/01/2015	Toyota. 2015b. Camry 2015. Available online at: http://www.toyota.com/content/ebrochure/2015/camry_ebrochure.pdf. Accessed June 11, 2015.	Battery Manufacturing	37	No	No	08267
10.5	EPA-HQ-OW-2015-0665-0228	Highlander 2015 - DCN 08268	Model speciifications for Toyota's Highlander 2015	Publication	Toyota	01/01/2015	Toyota. 2015c. Highlander 2015. Available online at: http://www.toyota.com/content/ebrochure/2015/highlander_ebrochure.pdf. Accessed June 11, 2015.	Battery Manufacturing	22	No	No	08268

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10.5	EPA-HQ-OW-2015-0665-0229	Prius 2015 - DCN 08269	Model speciifications for Toyota's Prius 2015	Publication	Toyota	01/01/2015	Toyota. 2015d. Prius 2015. Available online at: http://www.toyota.com/content/ebrochure/2015/prius_ebrochure.pdf. Accessed June 11, 2015.	Battery Manufacturing	21	No	No	08269
10.5	EPA-HQ-OW-2015-0665-0230	Prius c 2015 - DCN 08270	Model speciifications for Toyota's Prius C 2015	Publication	Toyota	01/01/2015	Toyota. 2015e. Prius c 2015. Available online at: http://www.toyota.com/content/ebrochure/2015/priusc_ebrochure.pdf.	Battery Manufacturing	21	No	No	08270
10.5	EPA-HQ-OW-2015-0665-0231	Prius Plug-In Hybrid - DCN 08271	Model speciifications for Toyota's Prius Plug-In Hybrid	Publication	Toyota	01/01/2015	Toyota. 2015f. 2015 Prius Plug-In Hybrid. 2015 ARR	Battery Manufacturing	6	No	No	08271

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10.5	EPA-HQ-OW-2015-0665-0232	Prius v 2015 - DCN 08272	Model speciifications for Toyota's Prius v 2015	Publication	Toyota	01/01/2015	Toyota. 2015g. Prius v 2015. Available online at: http://www.toyota.com/content/ebrochure/2015/priusv_ebrochure.pdf. Accessed June 11, 2015.	Battery Manufacturing	21	No	No	08272
10.5	EPA-HQ-OW-2015-0665-0233	Development Document for Effluent Limitations Guidelines and Standards for the Battery Manufacturing Point Source Category, Volume I. - DCN 08273	Development Document for Effluent Limitations Guidelines and Standards for the Battery Manufacturing Point Source Category	Publication; USEPA	U.S. EPA	09/01/1984	U.S. EPA. 1984a. 2015 ARR	Battery Manufacturing	1126	No	No	08273
10.5	EPA-HQ-OW-2015-0665-0234	Development Document for Effluent Limitations Guidelines and Standards for the Battery Manufacturing Point Source Category, Volume II. - DCN 08274	Development Document for Effluent Limitations Guidelines and Standards for the Battery Manufacturing Point Source Category, Volume II.	Publication	U.S. EPA	09/01/1984	U.S. EPA. 1984b. 2015 ARR	Battery Manufacturing	712	No	No	08274

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10.5	EPA-HQ-OW-2015-0665-0235	Lithium Ion Battery Manufacturing - DCN 08275	Lithium-ion batteries are common in consumer electronics. They are one of the most popular types of rechargeable battery for portable electronics, with one of the best energy densities, no memory effect, and a slow loss of charge when not in use. Beyond consumer electronics, LIBs are also growing in popularity for military, electric vehicle, and aerospace applications.	Publication Copyrighted Material	Vacuum Products Canada	09/17/2014	Vacuum Products Canada, Inc. 2013. 2015 ARR	Battery Manufacturing	5	No	Yes	08275
10.6	EPA-HQ-OW-2015-0665-0080	Telephone and Email Communication with Celina Camarena, U.S. Ecology Texas Inc., and Kara Edquist, Eastern Research Group, Inc., Re: 2013 DMR Discharges for U.S. Ecology Texas Inc., Robstown, TX - DCN 08219	Telephone and email conversation between Celina Camarena, U.S. Ecology Texas Inc., and Kara Edquist, Eastern Research Group, Inc., about 2013 DMR Discharges for U.S. Ecology Texas Inc., Robstown, TX.	Meeting Materials	Camarena, Celina	02/18/2015	Camarena, C. 2015. Correspondence between Celina Camarena, U.S. Ecology Texas, and Kara Edquist, ERG. Re: DMR Discharges. (Feb 18).	Centralized Waste Treatment	1	No	No	08219
10.6	EPA-HQ-OW-2015-0665-0285	Centralized Waste Treatment Facility List - DCN 08312	September 2015 memorandum detailing EPA's methodology for identifying and creating a list of U.S. CWT facilities.	Memorandum	O'Connell, James and Itle, Courtney, ERG	09/19/2015		Centralized Waste Treaters	34	No	No	08312

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10.8	EPA-HQ-OW-2015-0665-0273	Preliminary Category Review – Facility Data Review and Revised Calculations for Point Source Category 458 – Carbon Black Manufacturing - DCN 08122	Underlying data analysis and calculations for facilities reviewed as part of the 2015 preliminary category review for PSC 458 – Carbon Black Manufacturing.	Data	Eastern Research Group, Inc	09/01/2015	ERG. 2015. Prelim Category Review – Facility Data Review and Revised Calculations for PSC 458 – Carbon Black Manufacturing. (Sept).	Carbon Black Manufacturing	0	No	No	08122
10.8	EPA-HQ-OW-2015-0665-0002	Telephone Communication with Scott Longon, Cabot Corporation Canal Plant, and Kara Edquist, Eastern Research Group, Inc., Re: 2013 TRI PAC Discharges for Cabot Corporation's Canal Plant, Franklin, LA - DCN 08123	Telephone conversation between Scott Longon, Cabot Corporation Canal Plant, and Kara Edquist, Eastern Research Group, Inc., about TRI PAC discharges for Cabot Corporation's Canal Plant, Franklin, LA.	Meeting Materials	Longon, Scott	04/14/2015	Longon, S. 2015. Correspondence between Scott Longon, Cabot, and Kara Edquist, ERG. Re: 2013 TRI PAC Discharges. (April 14).	Carbon Black Manufacturing	2	No	No	08123
10.8	EPA-HQ-OW-2015-0665-0003	Telephone Communication with Beverley Philpot, Graftech International Holdings, Inc., and Kara Edquist, Eastern Research Group, Inc., Re: 2013 TRI PAC Discharges for Graftech International Holdings, Inc., Columbia, TN - DCN 08124	Telephone conversation between Beverley Philpot, Graftech International Holdings, Inc., and Kara Edquist, Eastern Research Group, Inc., about 2013 TRI PAC discharges for Graftech International Holdings, Inc., Columbia, TN.	Meeting Materials	Philpot, Beverley	04/14/2015	Philpot, B. 2015. Correspondence between Beverley Philpot, Graftech International, and Kara Edquist, ERG. Re: 2013 TRI PAC Discharges. (April 14).	Carbon Black Manufacturing	2	No	No	08124

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10.15	EPA-HQ-OW-2015-0665-0254	Treatment of CMP Waste Streams - DCN 08292	Powerpoint presentation on Treatment of CMP Waste Streams by Arizona Board of Regents for the University of Arizona.	Publication; Copyrighted Materials	Belongia, B. M., et. al.	01/01/1999	Belongia, B. M., See 2015 ARR.	Electrical and Electronic Components	45	No	Yes	08292
10.15	EPA-HQ-OW-2015-0665-0255	Submicron-Size Patterning on the Sapphire Substrate Prepared by Nanosphere Lithography and Nanoimprint Lithography Techniques - DCN 08293	Summary of the demonstration and comparison of the formation of ordered etching masks for submicron-size patterned sapphire substrates through use of the nanosphere lithography and nanoimprint lithography methods.	Publication; Copyrighted Materials	Chang, C-M., et. al.	09/04/2012	Chang, C-M., See 2015 ARR.	Electrical and Electronic Components	6	No	Yes	08293
10.15	EPA-HQ-OW-2015-0665-0256	ClearlySapphire.com: Growth - DCN 08294	Summary of process to grow sapphire crystals from the ClearlySapphire.com website.	Publication; Copyrighted Materials	ClearlySapphire.com.	01/01/2014	ClearlySapphire.com. 2014. See 2015 ARR.	Electrical and Electronic Components	4	No	Yes	08294

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10.15	EPA-HQ-OW-2015-0665-0257	Polishing of Sapphire Substrates - DCN 08295	Article on the specification of sapphire substrate, processes to manufacture the sapphire substrate, and model for the CMP process.	Publication; Copyrighted Materials	Dinh, H	01/01/2011	Dinh, H. 2011. See 2015 ARR.	Electrical and Electronic Components	24	No	Yes	08295
10.15	EPA-HQ-OW-2015-0665-0258	Sapphire Wafer Lapping - DCN 08296	GRISH is the leading manufacturer of Polycrystalline Diamond Slurry and Silica Slurry in China. Summary of products for sapphire wafer lapping.	Publication	GRISH	01/01/2011	GRISH. 2011. See 2015 ARR.	Electrical and Electronic Components	1	No	No	08296
10.15	EPA-HQ-OW-2015-0665-0259	GT Advanced Technologies: Worldwide Locations - DCN 08297	Overview of worldwide locations and products for GT Advanced Technologies (GTAT).	Publication; Copyrighted Materials	GT Advanced Technologies	01/01/2013	GT Advanced Technologies. 2013. See 2015 ARR.	Electrical and Electronic Components	3	No	Yes	08297

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10.15	EPA-HQ-OW-2015-0665-0260	A Century of Sapphire Crystal Growth - DCN 08298	Today, domes in the U.S. are made by “scooping” sapphire boules with diamond-impregnated cutting tools. Commercial markets for sapphire, especially in the semiconductor industry, are healthy and growing at the dawn of the 21st century.	Publication	Harris, D.C	05/01/2004	Harris, D.C. 2004. See 2015 ARR.	Electrical and Electronic Components	74	No	No	08298
10.15	EPA-HQ-OW-2015-0665-0261	Processing of Sapphire Surfaces for Semiconductor Device Applications - DCN 08299	This thesis explores the preparation of sapphire surfaces for use in semiconductor device applications. Sapphire has shown promise in a few niche applications as a device substrate due to its insulating nature and extremely stable behavior.	Publication; Copyrighted Materials	Kirby, K.W.	05/01/2008	Kirby, K.W. 2008. See 2015 ARR.	Electrical and Electronic Components	78	No	Yes	08299
10.15	EPA-HQ-OW-2015-0665-0262	Apple factory in Mesa ramps up sapphire production - DCN 08300	While significant startup challenges have slowed progress on Apple's sapphire-glass factory in Mesa, the massive facility is nearly finished and is ramping up production of the scratch-resistant material, GT Advanced Technologies CEO Tom Gutierrez recently said.	Publication	Leavitt, P	08/11/2014	Leavitt, P. 2014. See 2015 ARR.	Electrical and Electronic Components	3	No	No	08300

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10.15	EPA-HQ-OW-2015-0665-0263	Advancements in Lapping and Polishing with Diamond Slurries - DCN 08301	A new diamond micron powder HYPERION™ and diamond slurry contains such powder was developed to improve fine lapping and polishing of advanced compound semiconductor materials such as sapphire and silicon carbide (SiC). Testing showed that the novel diamond and diamond slurry significantly increased effectiveness of fine lapping and polishing thereby allowing reduction in cost and increase in productivity.	Publication	Ng, K-Y., and Dumm, T.	01/01/2012	Ng, K-Y., and Dumm, T. 2012. See 2015 ARR.	Electrical and Electronic Components	4	No	No	08301
10.15	EPA-HQ-OW-2015-0665-0264	History in the Making: Driving the RF SOI Revolution - DCN 08302	History of the Peregrine Semiconductor story.	Publication	Peregrine Semiconductor	01/01/2012	Peregrine Semiconductor Corporation. 2012. See 2015 ARR.	Electrical and Electronic Components	23	No	No	08302
10.15	EPA-HQ-OW-2015-0665-0265	Sapphire Wafer Processing - DCN 08303	Sapphire wafers, optics, and semiconductor wafers are an increasingly important manufacturing segment. Sapphire substrates for LED (GaN) light-emitting diodes are contributing to energy savings.	Publication; Copyrighted Materials	PR Hoffman	01/01/2013	PR Hoffman. 2013. See 2015 ARR.	Electrical and Electronic Components	6	No	Yes	08303

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10.15	EPA-HQ-OW-2015-0665-0266	Saint-Gobain Crystals Achieves ISO 9001 Certification - DCN 08304	Saint-Gobain news release on crystals receiving ISO 9001 certification.	Publication; Copyrighted Materials	Saint-Gobain	04/24/2009	Saint-Gobain. 2009. See 2015 ARR.	Electrical and Electronic Components	2	No	Yes	08304
10.15	EPA-HQ-OW-2015-0665-0267	Rubicon Technology: a high tech start-up successfully practices strategic focus - DCN 08305	Rubicon Technology is a materials science company focused primarily on the manufacture and marketing of high quality single crystals. Some of the major applications for its products include high brightness LEDs (light emitting diodes), integrated circuits for cellular telephones and high end computers, and semiconductor manufacturing equipment.	Publication	Sterling, J.	01/01/2011	Sterling, J. 2011. See 2015 ARR.	Electrical and Electronic Components	9	No	No	08305
10.15	EPA-HQ-OW-2015-0665-0268	Development Document for the Electrical and Electronic Components Point Source Category: Phase I - DCN 08306	Regulations and effluent guidelines for the Electrical and Electronic Components Point Source Category: Phase I.	Publication; USEPA	U.S. EPA	04/21/1983	U.S. EPA. 1983. See 2015 ARR.	Electrical and Electronic Components	216	No	No	08306

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10.15	EPA-HQ-OW-2015-0665-0269	Two-Step Chemical Mechanical Polishing of Sapphire Substrate - DCN 08307	Chemical mechanical polishing CMP, as a widely used planarization technology, requires high removal rate and low surface roughness generally. However, it is difficult to meet these requirements in a single-step polishing process.	Publication; Copyrighted Materials	Zhang, Z., et. al.	05/03/2010	Zhang, Z., See 2015 ARR.	Electrical and Electronic Components	5	No	Yes	08307
10.15	EPA-HQ-OW-2015-0665-0270	Sapphire crystal makers' business on upswing - DCN 08308	Part of the trick of making larger wafers is forming the large boules of pure sapphire. Currently, the LED industry seems to be centered on boules in the 80–90 kg range, but Rubicon has demonstrated that it can produce a 200kg crystal.	Publication; Copyrighted Materials	Wray, P.	02/21/2011	Wray, P. 2011. See 2015 ARR.	Electrical and Electronic Components	2	No	Yes	08308
10.22	EPA-HQ-OW-2015-0665-0004	Draft Toxicological Profile for Hydrogen Sulfide and Carbonyl Sulfide - DCN 08125	Toxicological profile for hydrogen sulfide and carbonyl sulfide, drafted by the Agency for Toxic Substances and Disease Registry.	Report	ATSDR	10/01/2014	ATSDR. 2014. U.S. Department of HHS, ATSDR. Draft Toxicological Profile for Hydrogen Sulfide and Carbonyl Sulfide. Atlanta, GA. (Oct).	Grain Mills Manufacturing	317	No	No	08125

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10.22	EPA-HQ-OW-2015-0665-0274	Preliminary Category Review – Facility Data Review for Point Source Category 406 – Grain Mills - DCN 08126	Underlying data analysis and calculations for facilities reviewed as part of the 2015 preliminary category review for PSC 406 – Grain Mills.	Data	Eastern Research Group, Inc	09/01/2015	ERG. 2015. Prelim Category Review – Facility Data Review for PSC 406 – Grain Mills. (Sept).	Grain Mills Manufacturing	0	No	No	08126
10.22	EPA-HQ-OW-2015-0665-0005	Telephone and Email Communication with Jonathan Razink, Cargill, Inc., and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 TRI Hydrogen Sulfide Releases - DCN 08127	Telephone and email conversation between Jonathan Razink, Cargill, Inc., and Kimberly Bartell, Eastern Research Group, Inc. about 2013 TRI Hydrogen Sulfide Releases from Cargill, Inc. in Wahpeton, ND.	Meeting Materials	Razink, Jonathan	12/22/2014	Razink, J. 2014. Correspondence between Jonathan Razink, Cargill, Inc., and Kim Bartell, ERG, Re: 2013 TRI Hydrogen Sulfide Releases. (December 22)	Grain Mills Manufacturing	2	No	No	08127
10.22	EPA-HQ-OW-2015-0665-0006	Hydrogen Sulfide in Drinking-water - DCN 08128	Background document for development of WHO Guidelines for Drinking-water Quality	Publication Copyrighted Material	WHO	01/01/2003	WHO. 2003. World Health Organization. Hydrogen Sulfide in Drinking-water.	Grain Mills Manufacturing	9	No	Yes	08128

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10.26	EPA-HQ-OW-2015-0665-0099	Telephone and Email Communication with Cecil Hopper, PCS Nitrogen Fertilizer LP, and Eva Knoth, Eastern Research Group, Inc., Re: 2013 TRI Surface Water Releases - DCN 08238	Telephone and email conversation between Cecil Hopper, PCS Nitrogen Fertilizer LP, and Eva Knoth, Eastern Research Group, Inc., Re: 2013 TRI Surface Water Releases.	Meeting Materials	Hopper, Cecil	12/12/2014	Hopper, C. 2014. Telephone Communication between Cecil Hopper, PCS Nitrogen, and Eva Knoth, ERG. Re: 2013 TRI Surface Water Releases. (Dec 12).	Inorganic Chemicals	5	No	No	08238
10.27	EPA-HQ-OW-2015-0665-0007	Telephone Communication with Doug Bley, ArcelorMittal Burns Harbor LLC, and William Swietlik, U.S. EPA, Re: 2013 TRI Lead Discharges - DCN 08129	Telephone conversation between Doug Bley, ArcelorMittal Burns Harbor LLC, and William Swietlik, U.S. EPA, about 2013 TRI Lead Discharges.	Meeting Materials	Bley, Doug	06/30/2015	Bley, D. 2015. Correspondence between Doug Bley, ArcelorMittal, and William Swietlik, U.S. EPA, Re: 2013 TRI Lead Discharges. (June 30)	Iron and Steel Manufacturing	3	No	No	08129
10.27	EPA-HQ-OW-2015-0665-0279	Preliminary Category Review – Facility Data Review for Point Source Category 420 – Iron and Steel Manufacturing - DCN 08130	Underlying data analysis and calculations for facilities reviewed as part of the 2015 preliminary category review for PSC 420 – Iron and Steel Manufacturing.	Data	Eastern Research Group, Inc	09/01/2015	ERG. 2015. Prelim Category Review – Facility Data Review for PSC 420 –Iron and Steel Manufacturing. (Sept).	Iron and Steel Manufacturing	0	No	No	08130

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10.27	EPA-HQ-OW-2015-0665-0008	Indiana Department of Environmental Management (IDEM). National Pollutant Discharge Elimination System Facility Permit for NPDES IN0059650 - AK Steel Rockport Works, Rockport, IN - DCN 08131	NPDES Facility Permit for AK Steel Rockport Works, Rockport, IN - IN0059650.	Permit, Registration	Indiana DEM	07/01/2011	IDEM. 2011. Indiana Department of Environmental Management. NPDES Permit: AK Steel Rockport Works, Rockport, IN (IN0059650). (July 1).	Iron and Steel Manufacturing	225	No	No	08131
10.27	EPA-HQ-OW-2015-0665-0009	Indiana Department of Environmental Management (IDEM). Amended National Pollutant Discharge Elimination System Facility Permit for NPDES IN0000281 - U.S. Steel Gary Works, Gary, IN - DCN 08132	Amended NPDES Permit for U.S. Steel Gary Works, Gary, IN - IN0000281.	Permit, Registration	Indiana DEM	03/21/2014	IDEM. 2014. Indiana Department of Environmental Management. Amended NPDES Permit: U.S. Steel Gary Works, Gary, IN (IN0000281). (July 1).	Iron and Steel Manufacturing	71	No	No	08132
10.27	EPA-HQ-OW-2015-0665-0010	Illinois Environmental Protection Agency (IL EPA). National Pollutant Discharge Elimination System Facility Permit for NPDES IL0000329 - U.S. Steel Granite City Works, Granite City, IL - DCN 08133	NPDES Facility Permit for U.S. Steel Granite City Works, Granite City, IL - IL0000329.	Permit, Registration	Illinois EPA	05/22/2015	ILEPA. 2015. Illinois Environmental Protection Agency. NPDES Permit: U.S. Steel Granite City Works, Granite City, IL (IL0000329). (May 22).	Iron and Steel Manufacturing	11	No	No	08133

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10.27	EPA-HQ-OW-2015-0665-0011	Telephone and Email Communication with Brian Lasko, U.S. Steel, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR and TRI Discharges for U.S. Steel Facilities - DCN 08134	Telephone and email conversation between Brian Lasko, U.S. Steel, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 DMR and TRI Discharges for U.S. Steel Facilities.	Meeting Materials	Lasko, Brian	05/27/2015	Lasko, B. 2015. Correspondence between Brian Lasko, U.S. Steel, and Kim Bartell, ERG. Re: 2013 DMR and TRI Discharges for U.S. Steel. (May 27).	Iron and Steel Manufacturing	9	No	No	08134
10.27	EPA-HQ-OW-2015-0665-0012	Telephone and Email Communication with Jay Lawniczak, Charter Steel Cleveland, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 TRI Lead and Lead Compound Discharges for Charter Steel - DCN 08135	Telephone and Email conversation between Jay Lawniczak, Charter Steel Cleveland, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 TRI Lead and Lead Compound Discharges for Charter Steel.	Meeting Materials	Lawniczak, Jay	06/01/2015	Lawniczak, J. 2015. Correspondence between Jay Lawniczak, Charter Steel, and Kim Bartell, ERG. Re: 2013 TRI Lead Discharges. (June 1).	Iron and Steel Manufacturing	5	No	No	08135
10.27	EPA-HQ-OW-2015-0665-0013	Telephone and Email Communication with Between Dave Miracle, AK Steel, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 TRI Nitrate Discharges - DCN 08136	Telephone and email conversation between Dave Miracle, AK Steel, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 TRI Nitrate Discharges.	Meeting Materials	Miracle, Dave	05/21/2015	Miracle, D. 2015. Correspondence between Dave Miracle, AK Steel, and Kimberly Bartell, ERG. Re: 2013 TRI Nitrate Discharges. (May 21).	Iron and Steel Manufacturing	4	No	No	08136

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10.27	EPA-HQ-OW-2015-0665-0014	Pennsylvania Department of Environmental Protection (PA DEP). 2002 National Pollutant Discharge Elimination System Facility Permit for NPDES PA0004472 - U.S. Steel Clairton Works, Clairton, PA - DCN 08137	2002 NPDES Facility Permit for U.S. Steel Clairton Works, Clairton, PA - PA0004472.	Permit, Registration	U.S. EPA	02/01/2002	PADEP. 2002. Pennsylvania Department of Environmental Protection. NPDES Permit: U.S. Steel Clairton Works, Clairton, PA (PA0004472). (Feb 1).	Iron and Steel Manufacturing	64	No	No	08137
10.27	EPA-HQ-OW-2015-0665-0015	Pennsylvania Department of Environmental Protection (PA DEP). 2012 National Pollutant Discharge Elimination System Facility Permit for NPDES PA0004472 - U.S. Steel Clairton Works, Clairton, PA - DCN 08138	2012 NPDES Facility Permit for U.S. Steel Clairton Works, Clairton, PA - PA0004472.	Permit, Registration	U.S. EPA	05/01/2012	PADEP. 2012. Pennsylvania Department of Environmental Protection. NPDES Permit: U.S. Steel Clairton Works, Clairton, PA (PA0004472). (May 1).	Iron and Steel Manufacturing	88	No	No	08138
10.27	EPA-HQ-OW-2015-0665-0016	Pennsylvania Department of Environmental Protection (PA DEP). 2015 National Pollutant Discharge Elimination System Facility Permit for NPDES PA0004472 U.S. Steel Clairton Works, Clairton, PA - DCN 08139	2015 NPDES Facility Permit for U.S. Steel Clairton Works, Clairton, PA - PA0004472.	Permit, Registration	U.S. EPA	02/01/2015	PADEP. 2015. Pennsylvania Department of Environmental Protection. NPDES Permit: U.S. Steel Clairton Works, Clairton, PA (PA0004472). (Feb 1).	Iron and Steel Manufacturing	79	No	No	08139

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10.27	EPA-HQ-OW-2015-0665-0017	Telephone and Email Communication with Patrick Smith, Mountain State Carbon, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Cyanide Discharges - DCN 08140	Telephone and email conversation between Patrick Smith, Mountain State Carbon, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 DMR Cyanide Discharges.	Meeting Materials	Smith, Patrick	05/13/2015	Smith, P. 2015. Correspondence between Patrick Smith, Mountain State Carbon, and Kimberly Bartell, ERG. Re: 2013 DMR Cyanide Discharges. (May 13).	Iron and Steel Manufacturing	5	No	No	08140
10.27	EPA-HQ-OW-2015-0665-0018	West Virginia Department of Environmental Protection (WV DEP). 2013 National Pollutant Discharge Elimination System Facility Permit for NPDES WV0004499 - Mountain State Carbon, Follansbee, WV - DCN 08141	2013 NPDES Facility Permit for Mountain State Carbon, Follansbee, WV - WV0004499.	Permit, Registration	U.S. EPA	08/29/2013	WVDEP. 2013. West Virginia Department of Environmental Protection. NPDES Permit: Mountain State Carbon, Follansbee, WV (WV0004499). (Aug 29).	Iron and Steel Manufacturing	89	No	No	08141
10.27	EPA-HQ-OW-2015-0665-0019	West Virginia Department of Environmental Protection (WV DEP). 2014 National Pollutant Discharge Elimination System Facility Permit for NPDES WV0003336 - ArcelorMittal Weirton Inc. (Weirton Steel Corporation), Weirton, WV - DCN 08142	2014 NPDES Facility Permit for ArcelorMittal Weirton Inc., Weirton, WV - WV0003336.	Permit, Registration	U.S. EPA	03/18/2014	WVDEP. 2014. West Virginia Department of Environmental Protection. NPDES Permit: ArcelorMittal Weirton Inc., Weirton, WV (WV0003336). (March 18).	Iron and Steel Manufacturing	112	No	No	08142

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10.27	EPA-HQ-OW-2015-0665-0077	Telephone and Email Communication with Krista Armentrout, US Steel, and Eva Knoth, Eastern Research Group, Inc., Re: 2013 TRI Water Releases - DCN 08216	Telephone and email conversation between Krista Armentrout, US Steel, and Eva Knoth, Eastern Research Group, Inc., about 2013 TRI Water Releases for US Gary Works, Gary, IN.	Meeting Materials	Armentrout, Krista	12/12/2014	Armentrout, K. 2014. Correspondence between Krista Armentrout, US Steel, and Eva Knoth, ERG. Re: 2013 TRI Water Releases. (Dec 12).	Iron and Steel Manufacturing	2	No	No	08216
10.27	EPA-HQ-OW-2015-0665-0087	Telephone and Email Communication with Patrick Smith, Mountain State Carbon, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 TRI PAC Discharges for Mountain State Carbon - DCN 08226	Telephone and email conversation between Patrick Smith, Mountain State Carbon, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 TRI PAC Discharges for Mountain State Carbon.	Meeting Materials	Smith, Patrick	12/23/2014	Smith, P. 2014. Correspondence between Patrick Smith, Mountain State Carbon, and Kim Bartell, ERG. Re: PAC Discharges (Dec 23).	Iron and Steel Manufacturing	3	No	No	08226
10.27	EPA-HQ-OW-2015-0665-0271	West Virginia Department of Environmental Protection (WV DEP). 2013 National Pollutant Discharge Elimination System Facility Fact Sheet Addendum for NPDES WV0003336 - ArcelorMittal Weirton Inc. (Weirton Steel Corporation), Weirton, WV - DCN 08310	2014 NPDES Facility Fact Sheet Addendum for ArcelorMittal Weirton Inc., Weirton, WV - WV0003336.	Permit, Registration	WV DEP	01/01/2013	23. WVDEP. 2013a. WVDEP. NPDES Fact Sheet Addendum: Arcelormittal Weirton Inc., Weirton, WV (WV0003336).	Iron and Steel Manufacturing	134	No	No	08310

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10.28	EPA-HQ-OW-2015-0665-0280	Preliminary Category Review – Facility Data Review for Point Source Category 445 – Landfills - DCN 08143	Underlying data analysis and calculations for facilities reviewed as part of the 2015 preliminary category review for PSC 445 – Landfills.	Data	Eastern Research Group, Inc	09/01/2015	ERG. 2015. Prelim Category Review – Facility Data Review for PSC 445 – Landfills. (Sept).	Landfills	0	No	No	08143
10.28	EPA-HQ-OW-2015-0665-0020	Telephone and Email Communication with Beverly Gish, SMR Laboratories, Inc., and Eva Knoth, Eastern Research Group, Inc., Re: 2013 DMR Iron Discharges from Bluegrass Containment LLC - DCN 08144	Telephone and email conversation between Beverly Gish, SMR Laboratories, Inc., and Eva Knoth, Eastern Research Group, Inc., about 2013 DMR iron discharges from Bluegrass Containment LLC.	Meeting Materials	Gish, Beverly	05/21/2015	Gish, B. 2015. Correspondence between Beverly Gish, SMR Laboratories, Inc., and Eva Knoth, ERG. Re: 2013 DMR Iron Discharges. (May 21).	Landfills	1	No	No	08144
10.28	EPA-HQ-OW-2015-0665-0021	Telephone and Email Communication with Jerry Milburn, Kentucky Department for Environmental Protection, and Eva Knoth, Eastern Research Group, Inc., Re: 2013 DMR Iron Discharges from Bluegrass Containment LLC - DCN 08145	Telephone and email conversation between Jerry Milburn, Kentucky Department for Environmental Protection, and Eva Knoth, Eastern Research Group, Inc., about 2013 DMR iron discharges from Bluegrass Containment LLC.	Meeting Materials	Milburn, Jerry	05/21/2015	Milburn, J. 2015. Correspondence between Jerry Milburn, KY DEP, and Eva Knoth, ERG. Re: 2013 DMR Discharges from Bluegrass Containment LLC. (May 21).	Landfills	2	No	No	08145

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10.28	EPA-HQ-OW-2015-0665-0022	Telephone and Email Communication with Crystal Rippy, South Carolina Department of Health and Environmental Compliance, and Eva Knoth, Eastern Research Group, Inc., Re: 2013 DMR Selenium Discharges from SCGENCO/A.M. Williams Ash Disposal Facility - DCN 08146	Telephone and email conversation between Crystal Rippy, South Carolina Department of Health and Environmental Compliance, and Eva Knoth, Eastern Research Group, Inc., about 2013 DMR selenium discharges from SCGENCO/A.M. Williams Ash Disposal Facility.	Meeting Materials	Rippy, Crystal	04/30/2015	Rippy, C. 2015. Correspondence between Crystal Rippy, SC DHEC, and Eva Knoth, ERG. Re: 2013 DMR Data from SCGENCO. (April 30).	Landfills	3	No	No	08146
10.28	EPA-HQ-OW-2015-0665-0023	South Carolina Department of Health and Environmental Compliance (SC DHEC). 2009 National Pollutant Discharge Elimination System Facility Permit Fact Sheet and Rationale for SC0046175 - South Carolina Generating Company (SCGENCO) A.M. Williams Station-Highway 52 Ash Disposal Facility - DCN 08147	2009 NPDES Facility Permit Fact Sheet and Rationale for South Carolina Generating Company (SCGENCO) A.M. Williams Station-Highway 52 Ash Disposal Facility - SC0046175.	Permit, Registration	SC DHEC	02/27/2009	SC DHEC. 2009a. SC Department of Health and Environmental Compliance. NPDES Permit Fact Sheet and Rationale: SCGENCO (SC0046175). (February 27).	Landfills	32	No	No	08147
10.28	EPA-HQ-OW-2015-0665-0024	South Carolina Department of Health and Environmental Compliance (SC DHES). 2009 National Pollutant Discharge Elimination System Facility Permit for SC0046175 - South Carolina Generating Company (SCGENCO) A.M. Williams Station-Highway 52 Ash Disposal Facility - DCN 08148	2009 NPDES Facility Permit for South Carolina Generating Company (SCGENCO) A.M. Williams Station-Highway 52 Ash Disposal Facility - SC0046175.	Permit, Registration	SC DHEC	03/04/2009	SC DHEC. 2009b. SC Department of Health and Environmental Compliance. NPDES Permit: SCGENCO. (SC0046175). (March 4).	Landfills	24	No	No	08148

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10.28	EPA-HQ-OW-2015-0665-0025	South Carolina Department of Health and Environmental Compliance (SC DHES). 2013 National Pollutant Discharge Elimination System Facility Permit for SC0046175 - South Carolina Generating Company (SCGENCO) A.M. Williams Station-Highway 52 Ash Disposal Facility - DCN 08149	2013 NPDES Facility Permit for South Carolina Generating Company (SCGENCO) A.M. Williams Station-Highway 52 Ash Disposal Facility - SC0046175.	Permit, Registration	SC DHEC	08/30/2013	SC DHEC. 2013a. SC Department of Health and Environmental Compliance. NPDES Permit: SCGENCO (SC0046175). (August 30).	Landfills	49	No	No	08149
10.28	EPA-HQ-OW-2015-0665-0026	South Carolina Department of Health and Environmental Compliance (SC DHES). 2013 National Pollutant Discharge Elimination System Facility Permit Fact Sheet and Rationale for SC0046175 - South Carolina Generating Company (SCGENCO) A.M. Williams Station-Highway 52 Ash Disposal Facility - DCN 08150	2013 NPDES Facility Permit Fact Sheet and Rationale for South Carolina Generating Company (SCGENCO) A.M. Williams Station-Highway 52 Ash Disposal Facility - SC0046175.	Permit, Registration	SC DHEC	08/29/2013	SC DHEC. 2013b. SC Department of Health and Environmental Compliance. NPDES Permit Fact Sheet and Rationale: SCGENCO (SC0046175). (August 30).	Landfills	30	No	No	08150
10.28	EPA-HQ-OW-2015-0665-0027	Telephone and Email Communication with Brian Williams, Henderson City Landfill, Henderson, KY, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Cadmium Discharges - DCN 08151	Telephone and email conversation between Brian Williams, Henderson City Landfill, Henderson, KY, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 DMR Cadmium Discharges.	Meeting Materials	Williams, Brian	02/12/2015	Williams, B. 2015. Correspondence between Brian Williams, Henderson City Landfill, and Kim Bartell, ERG. Re: 2013 DMR Cadmium Discharges. (Feb 12).	Landfills	3	No	No	08151

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10.28	EPA-HQ-OW-2015-0665-0076	Telephone and Email Communication with Jason Anderson, SMR Environmental Services, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Cadmium Discharges for Henderson City Landfill - DCN 08215	Telephone and email conversation between Jason Anderson, SMR Environmental Services, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Cadmium Discharges for Henderson City Landfill.	Meeting Materials	Anderson, Jason	02/12/2015	Anderson, J. 2015. Correspondence between J. Anderson, SMR Environmental, and K. Bartell, ERG. Re: DMR Data for Henderson City Landfill. (Feb 12).	Landfills	3	No	No	08215
10.28	EPA-HQ-OW-2015-0665-0085	Telephone and Email Communication with Amanda Sappington, Missouri Department of Natural Resources, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Silver/Selenium Discharges for Black Oak Landfill - DCN 08224	Telephone and email conversation between Amanda Sappington, Missouri Department of Natural Resources, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 DMR Silver/Selenium Discharges for Black Oak Landfill.	Meeting Materials	Sappington, Amanda	11/14/2014	Sappington, A. 2014. Correspondence between Amanda Sappington, MO DNR, and Kim Bartell, ERG. Re: 2013 DMR Data for Black Oak Landfill. (Nov 14).	Landfills	3	No	No	08224
10.03	EPA-HQ-OW-2015-0665-0081	Telephone and Email Communication with Kim Dirks, Tyson Fresh Meats, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 TRI Hydrogen Sulfide Discharges for Tyson Fresh Meats in Hillsdale, IL - DCN 08220	Telephone and email conversation between Kim Dirks, Tyson Fresh Meats, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 TRI Hydrogen Sulfide Discharges for Tyson Fresh Meats in Hillsdale, IL.	Meeting Materials	Dirks, Kim	12/22/2014	Dirks, K. 2014. Correspondence between Kim Dirks, Tyson, and Kim Bartell, ERG. Re: 2013 TRI Hydrogen Sulfide Discharges for Tyson. (Dec 22).	Meat and Poultry Products, Part 432	3	No	No	08220

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10.03	EPA-HQ-OW-2015-0665-0083	Telephone and Email Communication with Susan Murphy, Smithfield Farmland Corp., and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 TRI Hydrogen Sulfide Discharges for Smithfield Farmland Corp in Denison, IA. (December 22) - DCN 08222	Telephone and email conversation between Susan Murphy, Smithfield Farmland Corp., and Kimberly Bartell, Eastern Research Group, Inc., about 2013 TRI Hydrogen Sulfide Discharges for Smithfield Farmland Corp in Denison, IA. (December 22).	Meeting Materials	Murphy, Susan	12/22/2014	Murphy, S. 2014. Correspondence between Susan Murphy, Smithfield, and Kim Bartell, ERG. Re: TRI Hydrogen Sulfide Discharges for Smithfield. (Dec 22).	Meat and Poultry Products, Part 432	3	No	No	08222
10.30	EPA-HQ-OW-2015-0665-0028	Telephone and Email Communication between Kim Dirks and Christopher Logue, Tyson Fresh Meats, Inc., and Kimberly Bartell, Eastern Research Group, Inc., Re: TRI Clarification for Hydrogen Sulfide Discharges - DCN 08152	Telephone and email conversation between Kim Dirks and Christopher Logue, Tyson Fresh Meats, Inc., and Kimberly Bartell, Eastern Research Group, Inc., about TRI clarification for hydrogen sulfide discharges.	Meeting Materials	Dirks, Kim & Chris Logue	12/22/2014	Dirks, K. & C. Logue. 2014. Correspondence between Kim Dirks and Chris Logue, Tyson, and Kim Bartell, ERG. Re: TRI H2S Discharges. (Dec 22).	Meat and Poultry Products, Part 432	3	No	No	08152
10.30	EPA-HQ-OW-2015-0665-0281	Preliminary Category Review – Facility Data Review for Point Source Category 432 – Meat and Poultry - DCN 08153	Underlying data analysis and calculations for facilities reviewed as part of the 2015 preliminary category review for PSC 432 – Meat and Poultry.	Data	Eastern Research Group, Inc	09/01/2015	ERG. 2015. Prelim Category Review – Facility Data Review for PSC 432 – Meat and Poultry. (Sept).	Meat and Poultry Products, Part 432	0	No	No	08153

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10.30	EPA-HQ-OW-2015-0665-0029	Telephone Communication with Wendy Heeb, Iowa Department of Natural Resources, and Kara Edquist, Eastern Research Group, Inc., Re: Obtaining Tyson Fresh Meats, Columbus Junction, IA NPDES permit - DCN 08154	Telephone conversation between Wendy Heeb, Iowa Department of Natural Resources, and Kara Edquist, Eastern Research Group, Inc., about obtaining Tyson Fresh Meats, Columbus Junction, IA NPDES permit.	Meeting Materials	Heeb, Wendy	06/08/2015	Heeb, W. 2015. Correspondence between Wendy Heeb, IA DNR, and Kara Edquist, ERG. Re: Obtaining Tyson Fresh Meats NPDES permit. (June 8).	Meat and Poultry Products, Part 432	1	No	No	08154
10.30	EPA-HQ-OW-2015-0665-0030	Iowa Department of Natural Resources (IA DNR). National Pollutant Discharge Elimination System Facility Permit for NPDES IA0060569 – Cargill Meat Solutions Corporation, Ottumwa, IA - DCN 08155	NPDES Facility Permit for Cargill Meat Solutions Corporation, Ottumwa, IA -IA0060569.	Permit, Registration	IA DNR	05/06/2009	IA DNR. 2009. Iowa Department of Natural Resources. NPDES Permit: Cargill Meat Solutions Corporation, Ottumwa, IA (IA0060569). (May 6).	Meat and Poultry Products, Part 432	13	No	No	08155
10.30	EPA-HQ-OW-2015-0665-0031	Mississippi Department of Environmental Quality (MDEQ). National Pollutant Discharge Elimination System Facility Permit Rationale for Reissuance for NPDES MS0026140 – Tyson Foods, Inc., Carthage, MS - DCN 08156	NPDES Facility Permit Rationale for Reissuance for Tyson Foods, Inc., Carthage, MS - MS0026140.	Permit, Registration	MDEQ	09/29/2010	MDEQ. 2010. MS Department of Environmental Quality. NPDES Permit Rationale for Reissuance: Tyson Foods, Inc., Carthage, MS (MS0026140). (Sept 29).	Meat and Poultry Products, Part 432	4	No	No	08156

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10.30	EPA-HQ-OW-2015-0665-0032	Mississippi Department of Environmental Quality (MDEQ). National Pollutant Discharge Elimination System Facility Permit for NPDES MS0026140 – Tyson Foods, Inc., Carthage, MS - DCN 08157	NPDES Facility Permit for Tyson Foods, Inc., Carthage, MS - MS0026140.	Permit, Registration	MDEQ	12/06/2010	MDEQ. 2010. Mississippi Department of Environmental Quality. NPDES Permit: Tyson Foods, Inc., Carthage, MS (MS0026140). (December 6).	Meat and Poultry Products, Part 432	24	No	No	08157
10.30	EPA-HQ-OW-2015-0665-0033	Telephone Communication with Charles Schulz, John Morrell & Co., and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 TRI Hydrogen Sulfide Discharges for John Morrell & Co - DCN 08158	Telephone conversation between Charles Schulz, John Morrell & Co., and Kimberly Bartell, Eastern Research Group, Inc., about 2013 TRI Hydrogen Sulfide Discharges for John Morrell & Co.	Meeting Materials	Schultz, Charles	12/22/2014	Schultz, C. 2014. Correspondence between Charles Schultz, John Morrell, and Kim Bartell, ERG. Re: 2013 TRI H2S Discharges. (December 22).	Meat and Poultry Products, Part 432	2	No	No	08158
10.30	EPA-HQ-OW-2015-0665-0034	South Dakota Department of Environment and Natural Resources (SD DENR). National Pollutant Discharge Elimination System Facility Permit for NPDES SD0000078 – John Morell and Company, Sioux Falls, SD - DCN 08159	NPDES Facility Permit for John Morell and Company, Sioux Falls, SD - SD0000078.	Permit, Registration	SD DENR	04/01/2000	SD DENR. 2000. SD Department of Environment and Natural Resources. Facility Permit for John Morell, Sioux Falls, SD (SD0000078). (April 1).	Meat and Poultry Products, Part 432	20	No	No	08159

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10.30	EPA-HQ-OW-2015-0665-0035	South Dakota Department of Environment and Natural Resources (SD DENR). Addendum for National Pollutant Discharge Elimination System Facility Permit for NPDES SD0000078 – John Morell and Company, Sioux Falls, SD - DCN 08160	Addendum for NPDES Facility Permit for John Morell and Company, Sioux Falls, SD - SD0000078.	Permit, Registration	SD DENR	07/05/2000	SD DENR. 2000. SD Department of Environment and Natural Resources. Addendum for Facility Permit for John Morell (SD0000078). (July 5).	Meat and Poultry Products, Part 432	17	No	No	08160
10.30	EPA-HQ-OW-2015-0665-0036	Texas Commission on Environmental Quality (TCEQ). Notice of Application and Preliminary Decision for Water Quality Texas Pollutant Discharge Elimination System Permit Amendment for Industrial Wastewater for NPDES TX0062936 - Pilgrim's Pride Corp., Mount - DCN 08161	Notice of Application and Preliminary Decision for Water Quality TPDES Permit Amendment for Industrial Wastewater for Pilgrim's Pride Corp., Mount Pleasant, TX - TX0062936.	Permit, Registration	TCEQ	06/01/2015	TCEQ. 2015. Texas Commission on Environmental Quality. Notice of Application for TPDES Permit Amendment: Pilgrim's Pride Corp. (TX0062936). (June).	Meat and Poultry Products, Part 432	70	No	No	08161
10.31	EPA-HQ-OW-2015-0665-0093	Telephone and Email Communication with Bill Williams, Graftech International and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Arsenic Discharges - DCN 08232	Telephone and email conversation between Bill Williams, Graftech International and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Arsenic Discharges.	Meeting Materials	Williams, Bill	12/17/2014	Williams, B. 2014. Correspondence between Bill Williams, Graftech International, and Kim Bartell, ERG. Re: 2013 DMR Arsenic Discharges. (Dec 17).	Metal Finishing, Part 433	6	No	No	08232

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10.31	EPA-HQ-OW-2015-0665-0303	Preliminary Study of the Metal Finishing Category: 2015 Status Report - DCN MF00001	The report summarizes the analyses completed in 2015 supporting the preliminary study of the Metal Finishing Category.	Publication; USEPA	U.S. EPA	06/17/2016	U.S. EPA. 2016. Preliminary Study of the Metal Finishing Category: 2015 Status Report.	Metal Finishing, Part 433	118	No	No	MF00001
10.31	EPA-HQ-OW-2015-0665-0103	Electropolishing and Electroplating of Metals Using Ionic Liquids Based on Choline Chloride - DCN MF00002	Eutectic based ionic liquids containing choline chloride are shown to be useful for electrochemical applications that are currently use aqueous solutions. It is shown that an ionic liquid composed of ethylene glycol and choline chloride offers the first practical alternative to the use of phosphoric and sulphuric acid mixtures for the electropolishing of type 316 stainless steel.	Publication; Copyrighted Materials	A. Abbott, et al.	07/23/2007	Abbott, A 2007. Electropolishing and Electroplating of Metals Using Ionic Liquids Based on Choline Chloride. Ionic Liquids IV. Chapter 13: 186-197.	Metal Finishing, Part 433	12	No	Yes	MF00002
10.31	EPA-HQ-OW-2015-0665-0104	Removal of Heavy Metals from Their Aqueous Solutions through Adsorption onto Natural Polymers - DCN MF00003	Commercial sodium alginate was converted into water insoluble material through a very simple acidification treatment with alcoholic HCl solution. The so-obtained acidified sodium alginate (ASA) was found to exhibit complete water insolubility and to have a carboxyl content of 465 mequi/100 g sample. The ASA was used to remove Zn (II) ions from their aqueous solutions and different factors affecting the adsorption of Zn (II) ions onto ASA were extensively studied.	Publication; Copyrighted Materials	Abdel-Halima, E., et al.	02/01/2011	Abdel-Halima, E. 2011. Removal of Heavy Metals from Their Aqueous Solutions through Adsorption onto Natural Polymers. Carb. Polymers. 84(1): 454-58.	Metal Finishing, Part 433	5	No	Yes	MF00003

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10.31	EPA-HQ-OW-2015-0665-0105	New environmentally friendly noncyanide alkaline electrolyte for copper electroplating - DCN MF00004	This article presents a novel noncyanide alkaline bath for electroplating thin copper films on stainless steel substrate. A detailed study was made about the effect of the operating parameters (current density and temperature), concentration of complexing agent on cathodic current efficiency (CCE %) and the characteristics of the deposited layers.The addition of sorbitol as complexing agent to the plating bath assists in the formation of fine-grained and highly adherent copper film.	Publication; Copyrighted Materials	Abdel Hamid, Z., et al.	01/01/2009	Abdel Hamid, Z 2009 New Environmentally Friendly NonCN Alkaline Electrolyte for Cu Electroplating. Surface & Coatings Technology 203 (10-11) 1360-1365	Metal Finishing, Part 433	6	No	Yes	MF00004
10.31	EPA-HQ-OW-2015-0665-0106	Aluminum slurry coatings to replace cadmium for aeronautic applications - DCN MF00005	The use of cadmium has been banned in Europe for most industrial applications; however, the aerospace industry is still exempt due to the stringent technical and safety requirements associated with aeronautical applications, as an acceptable replacement is yet to be found. Al slurry coatings have been developed as an alternative to replace cadmium coatings. After several tests and analyses, the results indicate Al slurry coatings are an excellent alternative for Cd replacement.	Publication; Copyrighted Materials	Aguero, A., et al.	10/21/2012	Aguero, A.et al. 2012. Aluminum Slurry Coatings to Replace Cadmium for Aeronautic Applications. Surface & Coatings Technology. 213: 229-238.	Metal Finishing, Part 433	10	No	Yes	MF00005
10.31	EPA-HQ-OW-2015-0665-0107	Microbial and plant derived biomass for removal of heavy metals from wastewater - DCN MF00006	Biosorption of heavy metals by metabolically inactive non-living biomass of microbial or plant origin is an innovative and alternative technology for removal of these pollutants from aqueous solution.The purpose of this paper is to review the available information on various attributes of utilization of microbial and plant derived biomass and explores the possibility of exploiting them for heavy metal remediation.	Publication; Copyrighted Materials	Ahluwalia, S.S., et al.	10/01/2007	Ahluwalia, S.S. 2007. Microbial and Plant Derived Biomass for Removal of Heavy Metals from Wastewater. Bioresource Technology. 98(12): 2243-2257.	Metal Finishing, Part 433	15	No	Yes	MF00006

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10.31	EPA-HQ-OW-2015-0665-0108	Pilot-scale Removal of Chromium from Industrial Wastewater Using the ChromeBac System - DCN MF00007	The enzymatic reduction of Cr(VI) to Cr(III) by Cr(VI) resistant bacteria followed by chemical precipitation constitutes the ChromeBac™ system. A robust yet effective biotechnology to remove chromium from wastewater is demonstrated.	Publication; Copyrighted Materials	Ahmad, W.A., et al.	06/01/2010	Ahmad, 2010. Pilot-scale Removal of Chromium from Industrial Wastewater Using the ChromeBac System. Bioresource Technology. 101(12): 4371-4378. (June)	Metal Finishing, Part 433	8	No	Yes	MF00007
10.31	EPA-HQ-OW-2015-0665-0109	Rice Husk and Its Ash as Low-Cost Adsorbents in Water and Wastewater Treatment - DCN MF00008	Rice husk, which is a relatively abundant and inexpensive material, is currently being investigated as an adsorbent for the removal of various pollutants from water and wastewaters. This article presents a brief review on the role of rice husk and ash in the removal of various pollutants from wastewater. Studies on the adsorption of various pollutants by rice husk materials are reviewed and the adsorption mechanism, influencing factors, favorable conditions, etc., discussed in this article.	Publication; Copyrighted Materials	Ahmaruzzaman, M., et al.	10/28/2011	Ahmaruzzaman, M. 2011. Rice Husk and Ash Low-Cost Adsorbents in Water Treatment. Industrial & Engineering Chemistry Research. 50(24): 13589-13613.	Metal Finishing, Part 433	25	No	Yes	MF00008
10.31	EPA-HQ-OW-2015-0665-0110	Management of Chromium Plating Rinsewater Using Electrochemical Ion Exchange - DCN MF00009	The chrome plating industry effluent mainly contains Cr(VI) in dragout and rinsewater whose constituents reflect the plating bath characteristics As Cr(VI) is soluble in all pH ranges, an efficient treatment is required for recovery of chromium for the reuse of treated water. The present study endeavors to recover the chromium by an electrochemical ion exchange (EIX) method. The maximum chromium removal achieved is 98.82% in the batch recirculation mode of operation of EIX at voltage 12.5 V.	Publication; Copyrighted Materials	Ahmen-Basha, C., et al.	03/05/2008	Ahmen-Basha,C, 2008. Management of Chromium Plating Rinse Water Using Electrochemical Ion Exchange. Industrial & Eng. Chem. Research.47(7): 2279-2286.	Metal Finishing, Part 433	8	No	Yes	MF00009

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10.31	EPA-HQ-OW-2015-0665-0111	Adsorption studies on Citrus reticulata fruit peel of orange/ : removal and recovery of Ni II/ from electroplating wastewater - DCN MF00010	The ability of fruit peel of orange to remove Zn, Ni, Cu, Pb and Cr from aqueous solution by adsorption was studied. The extent of removal of Ni II. was found to be dependent on sorbent dose, initial concentration, pH and temperature. Desorption was possible with HCl and was found to be 95.83% in column and 76% in batch process, respectively. The spent adsorbent was regenerated and recycled. The removal and recovery was also done in wastewater and was found to be 89% and 93.33%, respectively.	Publication; Copyrighted Materials	Ajmal, M., et al.	11/01/2000	Ajmal, M.,2000.Adsorption Studies on Citrus reticulata: Removal & Recovery of Ni(II) from Electroplating WW. Journal of Haz. Materials.79(1-2):117-31.	Metal Finishing, Part 433	15	No	Yes	MF00010
10.31	EPA-HQ-OW-2015-0665-0112	Removal and recovery of heavy metals from electroplating wastewater by using Kyanite as an adsorbent - DCN MF00011	Kyanite, a commercial mineral has been utilized as an adsorbent for the removal of heavy metals, such as Ni(II), Zn(II), Cr(VI) and Cu(II) from electroplating wastewater. The adsorption of metal ions seems to be an ion exchange process. The adsorbed metals ions from electroplating wastewatwer were recovered by batch as well as column operation using dilute HCl solution. The column operation was found to be more effective compared to batch process.	Publication; Copyrighted Materials	Ajmal, M., et al.	10/01/2001	Ajmal, M., 2001.Removal and Recovery of Heavy Metals from Electroplating WW by using Kyanite as Adsorbent. Journal of Haz. Materials.87(1-3): 127-137.	Metal Finishing, Part 433	11	No	Yes	MF00011
10.31	EPA-HQ-OW-2015-0665-0113	Adsorption studies on rice husk: removal and recovery of Cd(II) from wastewater - DCN MF00012	Adsorption behaviour of Ni(II), Zn(II), Cd(II) and Cr(VI) on untreated and phosphate-treated rice husk (PRH) showed that adsorption of Ni(II) and Cd(II) was greater when PRH was used as an adsorbent. Sorption of Cd(II) was dependent on contact time, concentration, temperature, adsorbent doses and pH of the solution. It was found that recovery of Cd(II) from synthetic wastewater by column operation was better than a batch process.	Publication; Copyrighted Materials	Ajmal, M., et al.	01/01/2003	Ajmal, M., 2003. Adsorption Studies on Rice Husk: Removal and Recovery of Cd(II) from Wastewater. Bioresource Technology. 86(2): 147-149.	Metal Finishing, Part 433	3	No	Yes	MF00012

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10.31	EPA-HQ-OW-2015-0665-0114	Copper, chromium and nickel removal from metal plating wastewater by electrocoagulation - DCN MF00013	Removal of Cu, Cr and Ni from metal plating wastewater by electrocoagulation with Fe and Al electrodes with monopolar configurations was investigated. The results showed that metal removal increased with increasing current density, pH and conductivity. The results indicated that electrocoagulation with an Fe–Al electrode pair was very efficient and was able to achieve 100% Cu, 100% Cr and 100% Ni removal at an electrocoagulation time of 20 min, a current density of 10 mA/cm2 and a pH of 3.0.	Publication; Copyrighted Materials	Akbal, F., et al.	02/01/2011	Akbal, F. 2011. Copper, Chromium, and Nickel Removal from Metal Plating Wastewater by Electrocoagulatio n. Desalination. 269(1-3): 214-222.	Metal Finishing, Part 433	9	No	Yes	MF00013
10.31	EPA-HQ-OW-2015-0665-0115	Purification of metal electroplating waste waters using zeolites - DCN MF00014	The sorption behaviour of natural (clinoptilolite) and synthetic (NaP1) zeolites has been studied with respect to Cr(III), Ni(II), Zn(II), Cu(II) and Cd(II) in order to consider its application to purify metal finishing waste waters. Synthetic zeolite exhibited about 10 times greater sorption capacities, therefore, as most suitable to perform metal waste water purification processes. This mineral showed the same high sorption capacity values when used to purify metal electroplating waste waters.	Publication; Copyrighted Materials	Alvarez-Ayuso, E., et al.	12/01/2003	Alvarez-Ayuso, E., 2003. Purification of Metal Electroplating Waste Waters Using Zeolites. Water Research. 37(20): 4855-4862. (December).	Metal Finishing, Part 433	8	No	Yes	MF00014
10.31	EPA-HQ-OW-2015-0665-0116	Polymer-enhanced ultrafiltration process for heavy metals removal from industrial wastewater - DCN MF00015	The complexation–ultrafiltration technique has been shown to be a promising technique for removal of heavy metals in solution. In this study, a polymer-enhanced ultrafiltration process has been investigated for removal of toxic heavy metals such as Cu(II), Ni(II), and Cr(III) from synthetic wastewater solutions. Results obtained revealed that the maximum percentage of the metal rejection was achieved at pH≥7 with increasing of the CMC concentration.	Publication; Copyrighted Materials	Barakat, M.A., et al.	06/01/2010	Barakat, M.A.,2010. Polymer-enhanced Ultrafiltration Process for Heavy Metals Removal from Inudstrial Wastewaer. Desalination.256 (1-3): 90-93.(June)	Metal Finishing, Part 433	4	No	Yes	MF00015

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10.31	EPA-HQ-OW-2015-0665-0117	Evaluation of APCVD Aluminum Coatings as an Environmentally Acceptable Alternative to Electroplated Cadmium Coatings - DCN MF00016	A study was initiated at the Air Force Research Laboratory to investigate the atmospheric pressure, chemical vapor deposition (APCVD) method to deposit aluminum coatings on high-strength steels to meet U.S. Air Force requirements. The advantages of this "dry" method over the IVD and electrodeposition methods include: No vacuum chamber, pumps, or ancillary control equipment, less complicated equipment, little hazardous chemicals, great throwing power, and desirable morphology of deposits.	Publication; Copyrighted Materials	Berman, E. S., et al.	02/01/2009	Berman, E. S.,2009. Evaluation of APCVD Al Coatings as an Environ. Acceptable Alternative to Electroplated Cd Coatings. Metal Finishing.107 (2):35-43.	Metal Finishing, Part 433	9	No	Yes	MF00016
10.31	EPA-HQ-OW-2015-0665-0118	Self-Healing, Chromate-free Conversion Coating for Magnesium Alloys - DCN MF00017	This paper describes a viable alternative self-healing conversion coating that is chromate free. NEI has completed initial development and testing of a chromate-free, self-healing conversion coating that significantly enhances the corrosion resistance of magnesium alloys, along with enhanced adhesion with an overlaying paint layer (primer). This new conversion coating, which is only a few micrometers thick, easily forms on the surface of a magnesium part when immersed in a waterborne solution.	Publication; Copyrighted Materials	Bhargava, G., et al.	05/01/2012	Bhargava, G., and Allen, F. 2012. Self-Healing, Chromate-free Conversion Coating for Magnesium Alloys. Metal Finishing. 110 (4): 32-38. (May).	Metal Finishing, Part 433	7	No	Yes	MF00017
10.31	EPA-HQ-OW-2015-0665-0119	Trivalent Chromium for Enhanced Corrosion Protection on Aluminum Surfaces - DCN MF00018	This article outlines various chromate conversion techniques for aluminum. It addresses a new, environmentally friendly, cost-efficient, and performance- oriented chromate conversion coating with a unique and patented trivalent chromium pre and post-treatment chemistry for aluminum.	Publication; Copyrighted Materials	Bhatt, H., et al.	07/01/2009	Bhatt, H., 2009. Trivalent Chromium for Enhanced Corrosion Protection on Aluminum Surfaces. Metal Finishing. 107 (6): 39-47. (June).	Metal Finishing, Part 433	7	No	Yes	MF00018

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10.31	EPA-HQ-OW-2015-0665-0120	Non-chrome-containing Conversion Coatings for Zinc and Zinc Alloys: Environmentally Friendly Alternatives Provide Equal or Better Adhesion and Corrosion Resistance as Conventional Methods - DCN MF00019	Conversion coatings have been used on Zn and Zn alloys for more than 100 years, and there are many different processes used. The 4 primary conversion coatings available to the general public are: the production of a film of mixed Cr and Zn hydroxides and/or oxides; the generation of a film of heavy-metal phosphates; the use of various synthetic polymers with or without various heavy metal phosphates and/or oxides; and the formation of various Mn oxide/Zn oxide films by the use of permanganates.	Publication; Copyrighted Materials	Bibber, J.	04/01/2008	Bibber, J. 2008. Non-chrome-containing Conversion Coatings for Zn and Zn Alloys. Metal Finishing. 106 (4): 41-46. (April).	Metal Finishing, Part 433	6	No	Yes	MF00019
10.31	EPA-HQ-OW-2015-0665-0121	Active metal-based corrosion protective coating systems for aircraft requiring no-chromate pretreatment - DCN MF00020	All data indicate that the Mg-rich (or Mg-alloy pigment-rich) primer + aircraft topcoat system gives excellent corrosion protection by mechanisms entirely different from the modes of protection for aircraft alloys given by the toxic, carcinogenic chromate compounds now in use in all corrosion protection systems for aircraft.	Publication; Copyrighted Materials	Bierwagen, G.,et al.	05/01/2010	Bierwagen, G., 2010. Active Metal-based Corrosion Protective Coating Systems for Aircraft. Progress in Organic Coatings. 68 (1-2): 48-61. (May).	Metal Finishing, Part 433	14	No	Yes	MF00020
10.31	EPA-HQ-OW-2015-0665-0122	Ecologically green conversion coating for zinc–cobalt alloy - DCN MF00021	A phytic acid based conversion coating designed for Zn–Co alloys. The morphology of this coating was studied by SEM and showed that immersion of coatings for 15 min is smooth and compact. The composition of conversion coatings was analysed by X-ray photoelectron spectroscopy. The analysis data showed the coating is composed of Zn, C, P, N and O. Electrochemical corrosion measurement showed that corrosion resistance of the Zn–Co alloy has been improved by conversion treatment with phytic acid.	Publication; Copyrighted Materials	Bikulcius, G., et al.	05/01/2010	Bikulcius, G., 2010. Ecologically Green Conversion Coating for Zinc-Cobalt Alloy. Transactions of the Institute of Metal Finishing. 88 (3):163-165.	Metal Finishing, Part 433	4	No	Yes	MF00021

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10.31	EPA-HQ-OW-2015-0665-0123	Thinking Outside the Bucket with Non-Drip Electrochemical Processing - DCN MF00022	Presentation discussing how a non-drip stylus continuously recirculates electrolytes from a holding tank through the head cleaning, anodizing and plating in any orientation, including overhead, eliminates drips and splashes, eliminates most of the fumes, and can treat in-place.	Report	Chaix, J-P., et al.	06/01/2013	Chaix, J-P., Rose, A., and Legg, K. 2013. Thinking Outside the Bucket with Non-Drip Electrochemical Processing. (June).	Metal Finishing, Part 433	37	No	No	MF00022
10.31	EPA-HQ-OW-2015-0665-0124	Characterization and Application of Dried Plants to Remove Heavy Metals, Nitrate, and Phosphate Ions from Industrial Wastewaters - DCN MF00023	Low cost adsorbents were prepared from dried plants for the removal of heavy metals, nitrate, and phosphate ions from industrial wastewaters. The efficiency of these adsorbents was investigated using batch adsorption technique at room temperature. It is proved that dried plants can be one alternative source for low cost absorbents to remove heavy metals, nitrate, and phosphate ions from municipal and industrial wastewaters.	Publication; Copyrighted Materials	Chiban, M., et al	04/01/2011	Chiban, M., 2011. Characterization and Application of Dried Plants to Remove Heavy Metals, Nitrate, and Phosphate Ions from Industrial Wastewaters…	Metal Finishing, Part 433	8	No	Yes	MF00023
10.31	EPA-HQ-OW-2015-0665-0125	Biosorption and Recovery of Chromium from Industrial Wastewaters By Using Saccharomyces cerevisiae in a Flow-Through System - DCN MF00024	This study investigated the possibility to adsorb and recycle Cr(VI) from the wastewater of a Cr-electroplating process using Saccharomyces cerevisiae in a flow-through system at a pilot scale. The results obtained at pilot scale with chromium-containing wastewaters demonstrated the good metal sorption capability of the acid pretreated S. cerevisiae biomass and the possibility to recover, at a high purity, the metal from the biomass at the end of the treatment process	Publication; Copyrighted Materials	Colica, G., et al.	01/01/2012	Colica,G.,2012.Biosorption & Recovery of Cr from Ind.WWs By Using S. cerevisiae in a Flow-Through System. Ind. & Eng. Chem. Research.51(11): 4452-4457.	Metal Finishing, Part 433	6	No	Yes	MF00024

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10.31	EPA-HQ-OW-2015-0665-0126	Alternative Plating Processes for Metal Electroplating Based on Ionic Liquids - DCN MF00025	The objective of this project is to accelerate the application of ionic liquids and other neoteric solvents in nonaqueous electroplating that addresses the Department of Defense (DoD) lifecycle cost and environmental issues related to weapon systems.	Publication Other Government	Dai, S.	01/01/2014	Dai, S. 2014. U.S. DOE Strategic Environmental R&D Program (SERDP). Alternative Plating for Metal Electorplating using Ionic Liquids.	Metal Finishing, Part 433	2	No	No	MF00025
10.31	EPA-HQ-OW-2015-0665-0127	Electrodeposition, characterization and corrosion behaviour of tin–20 wt.% zinc coatings electroplated from a non-cyanide alkaline bath - DCN MF00026	Tin–zinc alloy electroplated coatings are recognized as a potential alternative to toxic cadmium as corrosion resistant deposits because they combine the barrier protection of tin with the cathodic protection afforded by zinc. The results show that the corrosion resistance of tin–20 wt.% zinc alloy coating is superior to that of cadmium and zinc–12 wt.% nickel coatings. Finally, sliding friction tests were conducted.	Publication; Copyrighted Materials	Dubent, S., et al.	04/01/2010	Dubent, S.,2010. Electrodeposition, Characterization and Corrosion Behavior of Sn-Zn Coatings Electroplated from a Non-CN Alkaline Bath	Metal Finishing, Part 433	10	No	Yes	MF00026
10.31	EPA-HQ-OW-2015-0665-0128	Zirconium Pretreatments: Not Just for Early Adopters Anymore - DCN MF00027	Zirconium oxide conversion coatings have proven to be excellentreplacements for iron phosphate pretreatments in recent years. The substantial performance, operational, and environmental benefits have been well documented.This article addresses some frequently asked questions regarding zirconium pretreatments and shares some benefits of the most recent generation of the technology.	Publication; Copyrighted Materials	Dunham, B.	07/30/2012	Dunham, B. 2012. Zirconium Pretreatments: Not Just for Early Adopters Anymore. Metal Finishing. 110 (6): 18-21. (July-August).	Metal Finishing, Part 433	4	No	Yes	MF00027

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10.31	EPA-HQ-OW-2015-0665-0129	Hexavalent Chromium Elimination: An Aerospace Industry Progress Report - DCN MF00028	Aerospace has come together on the issue of hexavalent chromium to work toward the objective of complete elimination. This cooperation in the aerospace industry during the past decade has led to numerous successes. The purpose of this article is to review some of these successes and to identify a few areas where additional hexavalent chromium elimination work is required.	Publication; Copyrighted Materials	Eichinger, E., et al.	03/01/1997	Eichinger, E., 1997. Hexavalent Chromium Elimination: An Aerospace Industry Progress Report. Metal Finishing. 95 (3): 36, 38, 40-41. (March).	Metal Finishing, Part 433	4	No	Yes	MF00028
10.31	EPA-HQ-OW-2015-0665-0296	Summary of Metal Finishing Facilities and Vendors Contacted During Preliminary Study Activities in 2015 - DCN MF00029	Memorandum from Dan-Tam Nguyen, ERG to the 304m Record EPA-HQ-OW-2015-0665 listing a summary of the metal finishing facilities and vendors contacted during preliminary study activities in 2015.	Memorandum	Eastern Research Group, Inc	02/01/2016	ERG. 2016. Summary of Metal Finishing Facilities and Vendors Contacted During Preliminary Study Activities in 2015. Chantilly, VA. (February).	Metal Finishing, Part 433	2	No	No	MF00029
10.31	EPA-HQ-OW-2015-0665-0300	Quality Evaluation Tracking Spreadsheet for the 2015 Literature Review - DCN MF00030	EPA collected over 130 documents from the literature search, recorded them on a quality evaluation tracking spreadsheet, and documented how each data source met (or did not meet) the quality criteria.	Data	Eastern Research Group, Inc	08/01/2015	ERG. 2015. Quality Evaluation Tracking Spreadsheet for the 2015 Literature Review. Chantilly, VA. (August).	Metal Finishing, Part 433	0	No	No	MF00030

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10.31	EPA-HQ-OW-2015-0665-0130	Reducing Operational Costs, Environmental Impact Via Rigorous Plating/Finishing Analysis - DCN MF00031	We will present the methodology used by the New York State Pollution Prevention Institute at Rochester Institute ofTechnology to determine the baseline costs of the finishing operation. Potential improvement methods or technologies will be presented for each area typically found in any finishing line.	Publication; Copyrighted Materials	Fister, D.	06/01/2010	Fister, D. 2010. Reducing Operational Costs, Environmental Impact Via Rigorous Plating/Finishing Analyses. Metal Finishing. 108(6): 39-46. (June).	Metal Finishing, Part 433	8	No	Yes	MF00031
10.31	EPA-HQ-OW-2015-0665-0131	Removal of heavy metal ions from wastewaters: A review - DCN MF00032	In recent years, various methods for heavy metal removal from wastewater have been extensively studied. This paper reviews the current methods that have been used to treat heavy metal wastewater and evaluates these techniques. These technologies include chemical precipitation, ion-exchange, adsorption, membrane filtration, coagulationeflocculation, flotation and electrochemical methods. About 185 published studies (1988e2010) are reviewed in this paper.	Publication; Copyrighted Materials	Fu, F., et al.	01/01/2011	Fu, F., and Wang, Q. 2011. Removal of heavy metal ions from wastewaters: A review. Journal of Environmental Management. 93(3): 407-418.	Metal Finishing, Part 433	12	No	Yes	MF00032
10.31	EPA-HQ-OW-2015-0665-0132	Effective removal of heavy metal ions Cd2+, Zn2+, Pb2+, Cu2+ from aqueous solution by polymer-modified magnetic nanoparticles - DCN MF00033	We investigated the adsorption capacity of Fe3O4@APS@AA-co-CA at different pH in solution and metal ion uptake capacity as a function of contact time and metal ion concentration. Fe3O4@APS@AA-co-CA MNPs are excellent for removal of heavy metal ions such as Cd2+, Zn2+, Pb2+ and Cu2+ from aqueous solution. Furthermore, the MNPs could efficiently remove the metal ions with high maximum adsorption capacity at pH 5.5 and could be used as a reusable adsorbent with convenient conditions.	Publication; Copyrighted Materials	Ge, F., et al.	04/15/2012	Ge, F.,2012.Effective removal of heavy metal ions...from aq solution by polymer-modified magnetic nanoparticles. J of Haz Materials. 211-212:366-372.	Metal Finishing, Part 433	7	No	Yes	MF00033

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10.31	EPA-HQ-OW-2015-0665-0133	Plaforization Process for Cleaning, Degreasing, and Phosphating - DCN MF00034	Several industrial magazines!" have previously focused their attention on the proprietary Plaforization process, a one-step system for cleaning, degreasing, and phosphating metal surfaces before painting. The Plaforization process is completely different from typical conventional water-based processes, and it offers several benefits and advantages to users.	Publication; Copyrighted Materials	Guidetti, G., et al.	03/01/2009	Guidetti, G., et al. 2009. Plaforization Process for Cleaning, Degreasing, and Phosphating. Metal Finishing. 107(3): 39-43 (March).	Metal Finishing, Part 433	5	No	Yes	MF00034
10.31	EPA-HQ-OW-2015-0665-0134	Use of Industrial Wastes as Media in Constructed Wetlands and Filter Beds – Prospects for Removal of Phosphate and Metals from Wastewater Streams - DCN MF00035	Removal of phosphate (P) and other metals have been demonstrated in pilot scale and/or full scale wetlands/filters. The extent to which these factors interact with, and affect, P and metal adsorption by active filter materials still requires quantification. Because P and metals are sequestered in the filter material, their possible remobilization under changed conditions (e.g. changes in pH and redox potential) is of environmental concern and also requires ongoing investigation.	Publication; Copyrighted Materials	Haynes, R.J.	05/21/2014	Haynes, R.J.2014.Use of Ind Wastes as Media in Constructed Wetlands and Filter Beds ...Critical Reviews in Env Science and Tech.45(10):1041 -1103.	Metal Finishing, Part 433	113	No	Yes	MF00035
10.31	EPA-HQ-OW-2015-0665-0135	Removal of heavy metals from wastewater using agricultural and industrial wastes as adsorbents - DCN MF00036	Agricultural and industrial waste by-products are used for the elimination of heavy metals from ww for the treatment of the EL-AHLIA Company ww for electroplating industries as an actual case study. Results showed that low cost adsorbents can be fruitfully used for the removal of heavy metals with a concentration range of 20–60 mg/l also, using real ww showed that rice husk was effective in the simultaneous removal of Fe, Pb and Ni, where fly ash was effective in the removal of Cd and Cu.	Publication; Copyrighted Materials	Hegazi, H.A.	12/01/2013	Hegazi, H.A. 2013. Removal of heavy metals from wastewater using agricultural and industrial wastes as absorbents. HBRC Journal. 9(3): 276-282. (Dec).	Metal Finishing, Part 433	7	No	Yes	MF00036

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10.31	EPA-HQ-OW-2015-0665-0136	Heavy metal removal from water/wastewater by nanosized metal oxides: A review - DCN MF00037	The present review mainly focuses on nanosized metal oxides' (NMOs') preparation, their physicochemical properties, adsorption characteristics and mechanism, as well as their application in heavy metal removal. In addition, porous host supported NMOs are particularly concerned because of their great advantages for practical application as compared to the original NMOs. Also, some magnetic NMOs were included due to their unique separation performance.	Publication; Copyrighted Materials	Hua, M., et al.	04/15/2012	Hua, M. 2012. Heavy metal removal from water/wastewater by nanosized metal oxides: A review. Journal of Hazardous Materials. 211-212: 317-331. (April)	Metal Finishing, Part 433	15	No	Yes	MF00037
10.31	EPA-HQ-OW-2015-0665-0137	Biologically produced sulphide for purification of process streams, effluent treatment and recovery of metals in the metal and mining industry - DCN MF00038	Metal removal by sulphide precipitation is a well-known process that is characterised by compact residues and very high removal efficiencies.This paper describes a novel biological process for safe and cost effective production of sulphide from elemental sulphur, waste sulphuric acid or sulphate present in effluents. With this technology, gaseous or dissolved H2S is produced on-site and on-demand in an engineered, high rate bioreactor.	Publication; Copyrighted Materials	Huisman, J., et al.	09/01/2006	Huisman,J.,2006. Biologically produced sulphide for purification of process streams...in the metal and mining industry.Hydrometallurgy.83(1-4):106-113.	Metal Finishing, Part 433	8	No	Yes	MF00038
10.31	EPA-HQ-OW-2015-0665-0138	Cadmium- and Chromate-Free Coating Schemes for Corrosion Protection of 15CDV6 Steel - DCN MF00039	Cadmium- and chromate-free scheme exhibited excellent performance in the long-term corrosion evaluation studies. The results obtained in accelerated tests show the possibility of replacement ofcadmium- and chromate-based schemes for corrosion protection of steels with an eco-friendly option.	Publication; Copyrighted Materials	Indumathi, S. N., et al.	04/01/2011	Indumathi, S. N. 2011. Cadmium- and Chromate-Free Coating Schemes for Corrosion Protection of 15CDV6 Steel. Metal Finishing. 109 (3): 15-21. (Apr/May)	Metal Finishing, Part 433	7	No	Yes	MF00039

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10.31	EPA-HQ-OW-2015-0665-0139	Development of a Precipitation Based Separation Scheme for Selective Removal and Recovery of Heavy Metals from Cadmium Rich Electroplating Industry Effluents - DCN MF00040	In this study, for selective removal and recovery of Cd from real electroplating bath wastewater (containing high amounts of Cd, medium amounts of Zn, Cu, Fe and small amounts of Ni, Co, Mn), a precipitation based separation scheme was developed.	Publication; Copyrighted Materials	Islamoglu, S., et al.	01/01/2006	Islamoglu, S., 2006. Development of a Precipitation...Cd Rich Electroplating Industry Effluents. Separation Science and Technology. 41(15): 3367-3385	Metal Finishing, Part 433	20	No	Yes	MF00040
10.31	EPA-HQ-OW-2015-0665-0140	Complexing agent and heavy metal removals from metal plating effluent by electrocoagulation with stainless steel electrodes - DCN MF00041	The study focused on the effect of important operation parameters on electrocoagulation process performance in terms of organic complex former, nickel and zinc removals as well as sludge production and specific energy consumption.	Publication; Copyrighted Materials	Kabdasli, I., et al.	06/15/2009	Kabdasli,I.,2009. Complexing agent and heavy metal removals...electro coagulation with stainless steel electrodes. J of Haz Materials. 165(1-3):838-845.	Metal Finishing, Part 433	8	No	Yes	MF00041
10.31	EPA-HQ-OW-2015-0665-0141	Roll With the Changes: Ensuring readiness for phosphate-free conversion coatings - DCN MF00042	Most everyone involved with metal finishing processes is aware of the new pretreatment technologies available. Several names have been used to identify these alternatives to phosphate-based treatments. Within this article I will use the acronym TMC, transitional metal conversion, as it describes what is on the substrate after treatmentsimilar to using the terms iron or zinc phosphate.	Publication; Copyrighted Materials	Kaluzny, K.	05/01/2012	Kaluzny, K. 2012. Roll with the Changes. Metal Finishing. 110 (4): 43-46. (May). DOI: 10.1016/S0026-0576(13)70130-2.	Metal Finishing, Part 433	4	No	Yes	MF00042

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10.31	EPA-HQ-OW-2015-0665-0142	Treatment of metal finishing effluents by the electroflotation technique - DCN MF00043	In the present work EF was used to reduce the concentrations of copper and nickel found in real wastewater. The effects of the following parameters were examined: current density, pH, heavy metal concentration, supporting electrolyte concentration, and the nature of the electrodes. By optimizing the operation, heavy metal removal reached 98-99%, and maintained final and global concentration to a value lower than the World Health Organization standard, which is 1 mg/L for nickel and copper.	Publication; Copyrighted Materials	Khelifa, A., et al.	09/05/2005	Khelifa, A., et al. 2005. Treatment of metal finishing effluents by the electroflotation technique. Desalination. 181(1-3): 27-33. (September).	Metal Finishing, Part 433	7	No	Yes	MF00043
10.31	EPA-HQ-OW-2015-0665-0143	Electroplating - DCN MF00044	Electroplating is a specific type of surface finishing; everyone has at one time seen and handled electroplated objects, even if they were not aware of it. Some typical examples include kitchen and bathroom faucets, inexpensive jewelry, and the trim on some automobiles. There are thousands of other examples. There are three basic reasons for surface finishing/electroplating: (1) To improve appearance, (2) To slow or prevent corrosion (rust), and (3) To increase strength and resistance to wear.	Publication; Copyrighted Materials	Kirk-Othmer.	12/01/2004	Kirk-Othmer. 2004. Electroplating. Krik-Othmer Encyclopedia of Chemical Technology, 5th Edition. 9: 759-838. (December).	Metal Finishing, Part 433	80	No	Yes	MF00044
10.31	EPA-HQ-OW-2015-0665-0144	Low-Temperature, Phosphate-Free Conversion Coatings - DCN MF00045	Energy costs are a major concern for metal finishing operations and tie into environmental compliance issues. Wastewater treatment facilities in certain areas of the country are tightening phosphate and heavy metal discharge limits on metal finishers. To address these concerns, zirconium- and zirconium-vanadium- based inorganic conversion coatings have been developed. They focus on temperature reduction and phosphate discharge elimination while improving corrosion resistance.	Publication; Copyrighted Materials	Klingenberg, C., et al.	09/01/2007	Klingenberg, C., and Jones, D. 2007. Low-Temperature, Phosphate-Free Conversion Coatings. Metal Finishing. 28-30. (September).	Metal Finishing, Part 433	2	No	Yes	MF00045

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10.31	EPA-HQ-OW-2015-0665-0145	Treatment of cadmium and nickel electroplating rinse water by electrocoagulation - DCN MF00046	Treatments of cadmium-cyanide and nickel-cyanide electroplating rinse water were investigated in an electrochemical reactor equipped with iron plate electrodes in a batch mode by electrocoagulation (EC). Effectsof the process variables such as pH, current density, and operating time were explored and the results indicated that EC was very effective treatment for the removals of cadmium, nickel, and cyanide ions from the electroplating rinse water.	Publication; Copyrighted Materials	Kobya, M., et al.	12/01/2010	Kobya, M., 2010. Treatment of cadmium and nickel electroplating rinse water by electrocoagulatio n. Environmental Technology. 31(13):1471-1481. (Dec)	Metal Finishing, Part 433	12	No	Yes	MF00046
10.31	EPA-HQ-OW-2015-0665-0146	Biosorption of chromium(VI) from aqueous solution and electroplating wastewater using fungal biomass - DCN MF00047	Removal of Cr(VI) from electroplating wastewater was observedless than from synthetic solution. Higher value of correlation coefficient (r2 > 0.90) indicates that adsorption data are best fitted in both Freundlichand Langmuir isotherms model. The high value of Freundlich constants Kf and n, i.e. 17.92 mg/g and 1.18 L/mg and Langmuir constants Q0 and b17.61 mg/g and 0.0026 L/mg for A. niger indicate its better adsorption capacity than A. sydoni and P. janthinellum.	Publication; Copyrighted Materials	Kumar, R., et al.	02/01/2008	Kumar, R., 2008. Biosorption of Cr(VI) from aqueous solution and electroplating wastewater using fungal biomass. ChemE Journal. 135(3): 202-208.	Metal Finishing, Part 433	7	No	Yes	MF00047
10.31	EPA-HQ-OW-2015-0665-0147	Comparisons of low-cost adsorbents for treating wastewater laden with heavey metals - DCN MF00048	Low-cost adsorbents can be viable alternatives to activated carbon for the treatment of metals-contaminated wastewater. Adsorption capacities presented in this paper vary, depending on the characteristics of the individual adsorbent, the extent of surface modification and the initial concentration of the adsorbate. In general, technical applicability and cost-effectiveness are the key factors that play major roles in the selection of the most suitable adsorbent to treat inorganic effluent.	Publication; Copyrighted Materials	Kurniawan, T.A., et al.	08/01/2006	Kurniawan, T.A., 2006. Comparisons of low-cost absorbents for treating ww laden with heavy metals. Science of The Total Environment. 366(2-3): 409-426	Metal Finishing, Part 433	18	No	Yes	MF00048

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10.31	EPA-HQ-OW-2015-0665-0148	Non-Chromate/No VOC Coating System for DoD Applications - DCN MF00049	This document reports the results of a three year program funded by the Strategic Environmental Research and Development Program (SERDP) to research, develop, and demonstrate military coatings systems that are hexavalent chromium free and use primers and topcoats with ultra low volatile organic compound (VOC) content while maintaining high protection against corrosion and the environment, high durability, high performance, and low cost.	Report	La Scala, J.	03/31/2009	La Scala, J. 2009. Army Research Laboratory. Non-Chromate/No VOC Coating System for DoD Applications. WP-1521. (March 31).	Metal Finishing, Part 433	211	No	No	MF00049
10.31	EPA-HQ-OW-2015-0665-0149	Greening DoD Surface Finishing Operations - DCN MF00050	Presentation about alternatives to coating applications that are more environmentally friendly coatings and processes. Presents changes and challenges to designing greener coating operations.	Report	Legg, Keith	04/01/2008	Legg, K. 2008. Rowan Technology Group. Greening DoD Surface Finishing Operations. Presentation at the Washington Forum, April 2008.	Metal Finishing, Part 433	21	No	No	MF00050
10.31	EPA-HQ-OW-2015-0665-0150	Hexavalent chrome issues and options - DCN MF00051	Presentation about alternatives to chromium coating applications, which are more sustainable processes. Presents the usage, typical coatings, challenges to more sustainable coatings, regulatory issues, and future options.	Report	Legg, Keith	08/01/2009	Legg, K. 2009. Rowan Technology Group. Hexavalent Chrome Issues and Options. Presentation at the DLA Shelf Life Symposium, August 2009.	Metal Finishing, Part 433	22	No	No	MF00051

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10.31	EPA-HQ-OW-2015-0665-0151	Eliminating Cr6+, Cd, and other hazardous materials without compromising performanceArmy Corrosion Summit, 2010 - DCN MF00052	Presentation about alternatives to chromium, cadmium, and other hazardous material coating applications. Presents options to comply with Restriction of Hazardous Substances (RoHS).	Report	Legg, Keith	02/01/2010	Legg, K. 2010. Rowan Technology Group. Eliminating Cr6+, Cd, and Other Hazardous Materials without Compromising Performance.	Metal Finishing, Part 433	47	No	No	MF00052
10.31	EPA-HQ-OW-2015-0665-0152	Overview of Development and Implementation of Non-Chromate Treatments for Aluminum in the US - DCN MF00053	Presents the non-chromate conversion coating processes, formulations, requirements, and computational methods.	Report	Legg, Keith	12/01/2011	Legg, K. 2011. Rowan Technology Group. Overview of Development and Implementation of Non-Chromate Treatments for Aluminum in the U.S.	Metal Finishing, Part 433	24	No	No	MF00053
10.31	EPA-HQ-OW-2015-0665-0153	Choosing a Cadmium Plate Alternative - DCN MF00054	Cadmium is a sacrificial coating – i.e. in a corrosive environment the cadmium corrodes preferentially, leaving the underlying steel intact. Even when scratched, the surrounding coating still protects the exposed steel. The only coating materials that have this property are the electronegative elements – Cd, Zn, Al (Mg and Be as well, but we do not use those as coatings). You can replace Cd with a barrier coating such as Ni or a polymer, but once it is scratched the protection is lost.	Guidance	Legg, Keith	01/01/2012	Legg, K. 2012. Rowan Technology Group. Choosing a Cadmium Plate Alternative	Metal Finishing, Part 433	4	No	No	MF00054

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10.31	EPA-HQ-OW-2015-0665-0154	Choosing a Chromate Alternative - DCN MF00055	Chromates (salts containing hexavalent chromium in the chemistry Metal-CrO3) have the unusual property of affording corrosion protection even when scratched or damaged. They do this by going into solution in the corrosive environment, migrating to the exposed bare metal surface, and forming complexes to inhibit further corrosion. There are so many uses of chromates that there are numerous alternatives, depending on the application and the substrate, its service conditions, and other factors.	Guidance	Legg, Keith	01/01/2012	Legg, K. 2012. Rowan Technology Group. Choosing a Chromate Alternative.	Metal Finishing, Part 433	2	No	No	MF00055
10.31	EPA-HQ-OW-2015-0665-0155	Choosing a Hard Chrome Alternative - DCN MF00056	Hard chrome is used throughout manufacturing industry for a very large number of wear resistant applications in industrial equipment and vehicles, and for almost all metal fabricating tooling except cutting tools (which are usually carbide tools with very hard CVD or PVD thin coatings). There are several hard chrome plating alternatives that are now used, depending on the application and on whether it is an OEM part or a component to be repaired.	Guidance	Legg, Keith	01/01/2012	Legg, K. 2012. Rowan Technology Group. Choosing a Hard Chrome Alternative.	Metal Finishing, Part 433	8	No	No	MF00056
10.31	EPA-HQ-OW-2015-0665-0156	Successful cyanide free plating protocols onmagnesium alloys - DCN MF00057	Three preplating processes of metal or alloy on magnesium alloys have been described. Ni–P alloy, Ni or Cu as the intermediate coating was fi rst deposited on magnesium alloys using three different pretreatments respectively. The composite layered coatings of Cu/Ni/Cr on magnesium alloy products were obtained using three intermediate cyanide free plating processes. Test results also showed that the compositecoatings had good adhesion and high corrosion resistance.	Publication; Copyrighted Materials	Lei, X. P., et al.	02/01/2010	Lei, X. P. 2010. Successful Cyanide Free Plating Protocols on Magnesium Alloys. Transactions of the Institute of Metal Finishing. 88 (2):75 – 80.(Feb)	Metal Finishing, Part 433	7	No	Yes	MF00057

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10.31	EPA-HQ-OW-2015-0665-0157	A study of chromium-free pickling process before electroless Ni–P plating on magnesium alloys - DCN MF00058	A chromium-free pickling process of magnesium alloys in H3PO4+Na2MoO4 solution for electroless Ni–P plating was described. The dosage of Na2MoO4 was established by detecting adhesion and corrosion resistance of chemical nickel coatings. This procedure of surface pretreatment before electroless nickel plating can replace the existing acid pickling containing chromium and HF activation.	Publication; Copyrighted Materials	Lei, X., et al.	05/15/2011	Lei, X.,2011.A Study of Cr-free Pickling Process before Elecroless Ni-P Plating on Magnesium Alloys. Surface and Coatings Technology.205(16):4058-63.	Metal Finishing, Part 433	6	No	Yes	MF00058
10.31	EPA-HQ-OW-2015-0665-0158	Studies on potential applications of biomass for the separation of heavy metals from water and wastewater - DCN MF00059	This paper attempts to present a brief summary of the role of biomass in heavy metal removal fromaqueous solutions. This paper also discusses the equilibria and kinetic aspects of biosorption. It was apparent from a literature survey that the Langmuir and Freundlich isotherms are by far the most widely used models for the biosorption equilibria representation, while pseudo-first and second order kinetic models have gained popularity among kinetic studies for their simplicity.	Publication; Copyrighted Materials	Lesmana, S.O., et al.	04/15/2009	Lesmana, S.O., 2009. Studies on potential applications of biomass...heavy metals from water and wastewater. Biochem Eng Journal. 44(1):19-41.(April)	Metal Finishing, Part 433	23	No	Yes	MF00059
10.31	EPA-HQ-OW-2015-0665-0159	Zeolite Thin Films: From Computer Chips toSpace Stations - DCN MF00060	These diverse applications of zeolites have the potential to initiate new industries while revolutionizing existing ones with a potentialeconomic impact that could extend into the hundreds of billions of dollars. We have licensed several of these inventions to companieswith millions of dollars invested in their commercial development. We expect that other related technologies will be licensed in thenear future.	Publication; Copyrighted Materials	Lew, C. M., et al.	02/01/2010	Lew, C. M., et al. 2010. Zeolite Thin Films: From Computer Chips to Space Stations. Accounts of Chemical Research. 43 (2): 210-219. (February).	Metal Finishing, Part 433	10	No	Yes	MF00060

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10.31	EPA-HQ-OW-2015-0665-0160	Study on the treatment of copper-electroplating wastewater bychemical trapping and flocculation - DCN MF00061	The results show that the dosage of DDTC depends only on the content of complex copper, but not on the total amount of copper in the wastewater. When the molar ratio of DDTC to Cu is between 0.8 and 1.2, Cu removal efficiency could be higher than 99.6%. Poly-ferric sulphate and PAM have little effects on the Cu removal, but they have significant effects on the flocculating volume, precipitation rate and nephelometric of the upper clean water.	Publication; Copyrighted Materials	Li, Y., et al.	04/01/2003	Li, Y.2003. Study on the treatment of Cu-electroplating ww by chemical trapping and flocculation. Separation and Purification Technology.31(1) :91-95.	Metal Finishing, Part 433	5	No	Yes	MF00061
10.31	EPA-HQ-OW-2015-0665-0161	Transitioning to Phosphorus-Free Paint Pretreatment Processes: A Comprehensive View - DCN MF00062	Metal degreasing, conversion coating and adhesion promoter processes are an essential for paint adhesion and corrosion resistance. However, these processes can impact the environment in a negative manner. Global regulations on effluent discharge and improper chemical disposal continue to progress and affect daily paint shop operations. Atotech developed paint pretreatment technologies that reduce paint applicators' environmental impact without sacrificing efficiency or performance.	Publication; Copyrighted Materials	List, B., et al.	07/01/2012	List, B., et al. 2012. Transitioning to Phosphorous-Free Paint Pretreatment Processes: A Comprehensive View. Metal Finishing. 110 (6): 12-16. (July).	Metal Finishing, Part 433	5	No	Yes	MF00062
10.31	EPA-HQ-OW-2015-0665-0162	Use of High-Pressure CO2 for Concentrating CrVI from Electroplating Wastewater by Mg−Al Layered Double Hydroxide - DCN MF00063	A pilot-scale experiment was carried out with 20 L CrVI-containing electroplating wastewater. The concentration of the desorbed CrVI solution could reach up to 10000 mg/L, which could be used in electroplating after appropriate adjustment. The main advantages of this method are high concentration of CrVI, direct reuse of enriched CrVI, and efficient regeneration of LDH adsorbent. This method showed promises in recycling CrVI and regenerating LDH in treating industrial wastewater.	Publication; Copyrighted Materials	Lv, X., et al.	11/13/2013	Lv, X., 2013. Use of high-pressure CO2 for concentrating CrVI...Mg-Al layered double hydroxide. ACS Applied Materials & Interfaces. 5(21):11271-75.	Metal Finishing, Part 433	5	No	Yes	MF00063

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10.31	EPA-HQ-OW-2015-0665-0163	New Pretreatments and Non-Chromated Chemfilm for Magnesium Alloys - DCN MF00064	A new environmentally friendly non-chromated chemfilm with differentpretreatments was studied as a replacement to conventional hexavalentchromium-based chemfilm technologies for magnesium alloys. The results of corrosion and paint adhesion studies revealed that the new non-chromated conversion coating technology could be a drop-in replacement to the conventional hexavalent chromium-based conversioncoatings.	Publication; Copyrighted Materials	Manavbasi, A., et al.	10/01/2012	Manavbasi, A., et al. 2012. New Pretreatments and Non-Chromated Chemfilm for Magnesium Alloys. Metal Finishing. 110 (8): 17-22. (October).	Metal Finishing, Part 433	6	No	Yes	MF00064
10.31	EPA-HQ-OW-2015-0665-0164	Update on Alternatives for Cadmium Coatings on Military Electrical Connectors - DCN MF00065	The metal finishing industry has been impacted by numerous regulatory actions related to the hazardous materials that are used in decorative and functional coating processes. Recent excecutive orders require government agencies to reduce the quantity of toxic and hazardous chemicals and materials acquired, used, or disposed.	Publication; Copyrighted Materials	Mason, R., et al.	03/01/2010	Mason, R., et al. 2010. Update on Alternatives for Cadmium Coatings on Military Electrical Connectors. Metal Finishing. 108 (3): 12-20. (March).	Metal Finishing, Part 433	9	No	Yes	MF00065
10.31	EPA-HQ-OW-2015-0665-0165	Alternatives to Dichromate Sealer in Anodizing Operations - DCN MF00066	Ogden Air Logistics Center (OO-ALC) is the primary facility within the United States Air Force for maintaining and overhauling aircraft landing gear since it provides enhanced corrosion resistance, paint adhesion, and wear resistance. This paper describes requirements for anodizing and sealing operations within OO-ALC, as well as the sealing technologies that are available and a path forward to demonstrate/validate the most promising alternatives for the specific needs and applications of OO-ALC.	Publication; Copyrighted Materials	Mason, R., et al.	06/01/2011	Mason, R., et al. 2011. Alternatives to dichromate sealer in anodizing operations. Metal Finishing. 109 (4-5): 25-32. (June).	Metal Finishing, Part 433	8	No	Yes	MF00066

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10.31	EPA-HQ-OW-2015-0665-0166	Removal turbidity and separation of heavy metals usingelectrocoagulation–electroflotation technique A case study - DCN MF00067	The electrocoagulation (EC) process was developed to overcome the drawbacks of conventionalwastewater treatment technologies. The purposes of this study were to investigate the effects of the operating parameters, such as pH, initial concentration, duration of treatment, current density, interelectrode distance and conductivity on a synthetic wastewater in the batch electrocoagulation–electroflotation (EF) process.	Publication; Copyrighted Materials	Merzouk, B., et al.	05/15/2009	Merzouk, B., 2009. Removal turbidity and separation...electrocoagulation-electroflotation technique: A case study. J of Haz Materials. 164(1): 215-222	Metal Finishing, Part 433	8	No	Yes	MF00067
10.31	EPA-HQ-OW-2015-0665-0167	Zicronization™: The Future of Coating Pretreatment Processes: Alternative, phosphate-free, eco-friendly pretreatment procedure addresses energy and chemical consumption while improving product quality - DCN MF00068	Recent technological advances have resulted in a new chemistry that addresses these drawbacks, while providing an effective replacement for phosphate chemistries in many pretreatment operations. This chemical process, known as Zirconization, not only matches or exceeds the ease of use paint adhesion, and corrosion resistance provided by typical phosphatebased chemistries, but it also provides additional benefits such as less chemical usage and lower operating temperatures.	Publication; Copyrighted Materials	Moore, R., et al.	07/01/2008	Moore, R., and Dunham, B. 2008. Zicronization™: ... improving product quality. Metal Finishing. 106 (7-8): 46-55. (July – August).	Metal Finishing, Part 433	10	No	Yes	MF00068
10.31	EPA-HQ-OW-2015-0665-0168	Evaluation for Alternatives to Hexavalent Chromium Sealants - DCN MF00069	Polysulfide sealants containing soluble hexavalent Cr compounds are currently being used in a variety of applications in aerospace/ defense manufacturing. The applications mostly involve the filling of gaps and recesses to prevent water intrusion and collection in an attempt to prevent corrosion of the base metal. These sealants are most commonly used on aluminum assemblies and are often over coated with a variety of common coating systems with hexavalent chromium-based corrosion inhibitors.	Publication; Copyrighted Materials	Morose, G.	05/01/2013	Morose, G. 2013. Evaluation for Alternatives to Hexavalent Chromium Sealants. Metal Finishing. 111 (3): 32 – 37, 63. (May/June).	Metal Finishing, Part 433	7	No	Yes	MF00069

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10.31	EPA-HQ-OW-2015-0665-0169	A novel study of hexavalent chromium detoxification by selected seaweed species using SEM-EDX and XPS analysis - DCN MF00070	The potential of these seaweeds to bio-reduce and detoxify elevated Cr(VI) concentrations over relatively short time periods has been demonstrated. Cr(VI) binding altered the quantities of carboxyl and alcohol groups in biomass polysaccharides, thus indicating reduction of Cr(VI) to Cr(III). This work, coupled with existing capacity data points towards the viability of these environmentally friendly biosorbents for use in packed columns in many industries including electroplating and tanning.	Publication; Copyrighted Materials	Murphy, V., et al	05/15/2009	Murphy, V., 2009. A novel study of hexavalent chromium... using SEM-EDX and XPS analysis. Chemical Engineering Journal. 148(2-3): 425-433. (May).	Metal Finishing, Part 433	9	No	Yes	MF00070
10.31	EPA-HQ-OW-2015-0665-0170	Isolation and characterization of Bacillus cereus IST105 from electroplating effluent for detoxification of hexavalent chromium - DCN MF00071	Electroplating industries are the main sources of heavy metals, chromium, nickel, lead, zinc, cadmium and copper. The highest concentrations of chromium (VI) in the effluent cause a direct hazards to human and animals. Therefore, there is a need of an effective and affordable biotechnological solution for removal of chromium from electroplating effluent.	Publication; Copyrighted Materials	Naik, U.C., et al.	07/04/2012	Naik, U.C.,2012.Isolation and characterization of Bacillus cereus IST105...of hexavalent chromium. Envir Science and Pollution Research.19(7):3005-14	Metal Finishing, Part 433	11	No	Yes	MF00071
10.31	EPA-HQ-OW-2015-0665-0171	Removal of chromium(VI) from water and wastewater usingsurfactant modified coconut coir pith as a biosorbent - DCN MF00072	Coconut coir pith, an agricultural solid waste was used as biosorbent for the removal of chromium(VI) after modification with a cationicsurfactant, hexadecyltrimethylammonium bromide.Optimum pH for Cr(VI) adsorption was found to be 2.0. Reduction of Cr(VI) to Cr(III) occurred to a slight extent during the removal. The adsorbent was also tested for the removal of Cr(VI) from electroplating effluent.	Publication; Copyrighted Materials	Namasivayam, C., et al.	05/01/2008	Namasivayam, C.,2008.Removal of Cr(VI) from water and ww using surfactant modified coconut coir pith as a biosorbent. Bioresource Tech.99(7):2218-25.	Metal Finishing, Part 433	8	No	Yes	MF00072

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10.31	EPA-HQ-OW-2015-0665-0172	NANOMYTE® PT-60 Chromate-Free Self-Healing Pretreatment for Magnesium - DCN MF00073	Magnesium is of increasing interest to industries such as automotive,construction, medical devices and electronics, as well as the military. The light weight and high strength of magnesium are attractive features, but Mg alloys also have the tendency to rapidly corrode. Traditional coatings made with chromate (hexavalent chromium) provide sufficient corrosion resistance, but are no longer acceptable due to their adverse environmental, health, and safety affects.	Fact/Data Sheet	NEI Corporation	01/01/2014	NEI Corporation. 2014. Nanomyte® PT-60, Chromate-Free Self-Healing Pretreatment for Magnesium.	Metal Finishing, Part 433	1	No	No	MF00073
10.31	EPA-HQ-OW-2015-0665-0173	Non-Chromate Aluminum Pretreatments. ESTCP Project WP-200025 - DCN MF00074	Aluminum finishing in Department of Defense applications utilizes chromate chemistries for anodizing, anodic sealing, and pretreatment. However, chromate conversion coatings contain hexavalent chromium, a known carcinogen. National and international regulations are restricting the use of this material. This report presents the results of laboratory and field tests to demonstrate and validate several non-chromate aluminum pretreatments.	Publication Other Government	Nickerson, W., et al.	03/28/2012	Nickerson, W., and Matzdorf, C. 2012. Non-Chromate Aluminum Pretreatments. ESTCP Project WP-200025. (March 28).	Metal Finishing, Part 433	276	No	No	MF00074
10.31	EPA-HQ-OW-2015-0665-0174	Corrosion Finishing/Coating Systems for DoD Metallic Substrates Based on Non-Chromate Inhibitors and UV Curable, Zero Valent Materials. SERDP Project WP-1519 - DCN MF00075	Corrosion resistant coatings containing non-chromate inhibitors and no volatile organic compounds were developed and evaluated for DoD applications. Two layer multifunctional UV coating properties such as flexibility and fluid resistance were improved throughout the project and demonstrated the potential to meet aerospace requirements. Results indicate that the technology holds promise for replacing existing environmentally hazardous corrosion coatings for military applications.	Publication Other Government	O'Keefe, M.	08/01/2010	O'Keefe, M. 2010. Corrosion Finishing Systems for DoD Metallic Substrates Based on Non-Chromate Inhibitors and UV Curable, Zero Valent Materials.	Metal Finishing, Part 433	78	No	No	MF00075

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10.31	EPA-HQ-OW-2015-0665-0175	The optimization of Cr(VI) reduction and removal by electrocoagulation using response surface methodology - DCN MF00076	In this study Response Surface Methodology (RSM) was employed to investigate the effects of different operating conditions on the removal of hexavalent chromium (Cr(VI)) by the electrocoagulation with stainless steel electrodes. Central Composite Design (CCD) was used for the optimization of the electrocoagulation process and to evaluate the effects and interactions of process variables: applied electric current, electrolyte concentration and application time on the removal of Cr(VI).	Publication; Copyrighted Materials	Olmez, T.	03/15/2009	Olmez, T. 2009. The optimization of Cr(VI) reduction...electro coagulation using response surface methodology. J of Haz Materials. 162(2-3): 1371-1378.	Metal Finishing, Part 433	8	No	Yes	MF00076
10.31	EPA-HQ-OW-2015-0665-0176	High-Performance Characteristics of Lead- and Cadmium-Free Electroless Nickel - DCN MF00077	Electroless nickel stands out as a coating that has evolved through many generations. Within the last 25 years, the costing demand has created an increase in both opportunities and challenges for suppliers continuously improving product corrosion resistance, brightness, hardness, adhesion, plating rate, bath stability, and bath life.Based on this continued trend, the need for an electroless nickel that is lead- and cadmium-free with equivalent or better properties and bath stability is necessary.	Publication; Copyrighted Materials	Orduz, M.	01/01/2008	Orduz, M. 2008. High-Performance Characteristics of Lead- and Cadmium-Free Electroless Nickel. Metal Finishing. 106 (1): 22-26. (January).	Metal Finishing, Part 433	5	No	Yes	MF00077
10.31	EPA-HQ-OW-2015-0665-0177	Removal of Hexavalent Chromium-Contaminated Waterand Wastewater: A Review - DCN MF00078	Cr(VI) is a well-known highly toxic metal, considered a priority pollutant. Industrial sources of Cr(VI) include leather tanning, cooling tower blowdown, plating, electroplating, anodizing baths, rinse waters, etc. This article includes a survey of removal techniques for Cr(VI)-contaminated aqueous solutions. The primary objective of this article is to provide recent information about the most widely used techniques for Cr(VI) removal.	Publication; Copyrighted Materials	Owlad, M.,et al.	06/01/2009	Owlad, M.,etal.2009. Removal of Hexavalent Chromium-Contaminated Water and Wastewater: A Review. Water, Air, & Soil Pollution. 200(1): 59-77. (June).	Metal Finishing, Part 433	20	No	Yes	MF00078

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10.31	EPA-HQ-OW-2015-0665-0178	Metal Recovery from Electroplating Wastewater Using AcidophilicIron Oxidizing Bacteria: Pilot-Scale Feasibility Test - DCN MF00079	The iron could be separated from the mixture of metal ions in ww by using biological oxidation of ferrous ion into ferric ion followed by stepwise CP with hydroxide ion. To improve the biological oxidation, an immobilized bioreactor using polyurethane foam as support media was developed. The bioreactor system showed a very good performance and worked stably over a long period of time.	Publication; Copyrighted Materials	Park, D., et al.	02/01/2005	Park, D., 2005. Metal Recovery from Electroplating WW Using Acidophilic Iron Oxidizing Bacteria:... Ind & Eng Chem Research. 44(6): 1854-1859.	Metal Finishing, Part 433	6	No	Yes	MF00079
10.31	EPA-HQ-OW-2015-0665-0179	Biosorption Process for Treatment of Electroplating Wastewater Containing Cr(VI): Laboratory-Scale Feasibility Test - DCN MF00080	Brown seaweed Ecklonia biomass was used for the treatment of electroplating wastewater that contains chromium and zinc ions. In conclusion, the abundant and inexpensive Ecklonia biomass can be used in the two-stage biosorption process for the treatment of electroplating wastewater that contains Cr(VI) and other metal ions, because it shows the promise of being environmentally friendlier than any existing chemical treatment process.	Publication; Copyrighted Materials	Park, D., et al.	06/01/2006	Park, D., 2006. Biosorption Process for Treatment for Electroplating Wastewater Containing Cr(VI):... Ind & Eng Chem Research. 45(14): 5059-65.	Metal Finishing, Part 433	7	No	Yes	MF00080
10.31	EPA-HQ-OW-2015-0665-0180	UV Curable Non-Chrome Primer and Advanced Topcoat System - DCN MF00081	The objective of this project is to develop sprayable ultraviolet (UV)-curable, corrosion-inhibiting primers and high-performance topcoats that will provide superior protection to aluminum substrates even when nonchromated surface pretreatments are employed. Further, a one-coatformulation will be developed in an attempt to combine the corrosion-inhibiting properties of the primer and superior durability of the topcoat into a single coating.	Publication Other Government	Phely-Bobin, T.	08/01/2010	Phely-Bobin, T. 2010. U.S. DOE Strategic Environmental Research and Development Program. UV Curable Non-Chrome Primer and Advanced Topcoat System.	Metal Finishing, Part 433	7	No	No	MF00081

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10.31	EPA-HQ-OW-2015-0665-0181	Alternative conversion coatings to chromate for the protectionof magnesium alloys - DCN MF00082	Chromium Conversion Coatings (CCCs) are widely used for the protection of magnesium alloys against the corrosion but this approach is limited due to the toxicity of hexavalent chromium. This review details the deposition and protection mechanisms of CCC technology and other promising processes.The development of new non-toxic conversion coatings remains a priority.	Publication; Copyrighted Materials	Pommiers, S., et al.	07/01/2014	Pommiers, S., 2014. Alternative Conversion Coatings to Chromate for the Protection of Magnesium Alloys. Corrosion Science. 84: 135-146. (July).	Metal Finishing, Part 433	12	No	Yes	MF00082
10.31	EPA-HQ-OW-2015-0665-0182	Optimized Deposition Parameters & Coating Properties of Cobalt Phosphorus Alloy Electroplating for Technology Insertion Risk Reduction - DCN MF00083	Optimized plating deposition parameters were obtained using a Design of Experiment (DOE) approach. These parameters were validated through supplemental testing and found to be non-embrittling with improved fatigue and neutral salt fog corrosion performance as compared to hard chromium electroplate. The nCoP deposit did exhibit reduced hardness (560 VHN) and reduced taber wear abrasion performance as compared to hard chromium electroplate.	Publication Other Government	Prado , R., et al.	10/01/2010	Prado, R. 2010. Optimized Deposition Parameters & Coating Properties of Cobalt Phosphorus Alloy Electroplating. (October).	Metal Finishing, Part 433	50	No	No	MF00083
10.31	EPA-HQ-OW-2015-0665-0183	The transition to a clean, dry, and energy efficient polishing process: an innovative upgrade of abrasive flow machining for simultaneous generation of micro-geometry and polishing in the tooling industry - DCN MF00084	On account of the current different requirements in the field of finishing/polishing, e.g., reducing the finishing time, process control, ensuring a clean process, and energy efficiency, hand polishing needs tobe replaced with a superior process.As a contribution, a novel clean andenergy efficient AFMmm is presented, capable of synergistically shaping and polishing the geometry of the final product on a micro level and under dry conditions.	Publication; Copyrighted Materials	Pusavec, F., et al.	08/01/2010	Pusavec, F., 2014. The Transition to a Clean, Dry, and Energy Efficient Polishing Process: An...Industry. Journal of Cleaner Production. 76: 180-189.	Metal Finishing, Part 433	10	No	Yes	MF00084

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10.31	EPA-HQ-OW-2015-0665-0184	A feasibility study on the treatment and recycling of a wastewater from metal plating - DCN MF00085	A program of researchwas initiated to study the treatment of spent rinsewater from metal plating using reverse osmosis (RO) to meet the requirements for reuse as an alkaline rinsewater. categories of spent rinses were treated in the laboratory using flat sheet membranes from different manufacturers.A mechanism for the solvent to attack the composite RO membranes was proposed.The results also showed that the feed pH had a significant effect on the rejection of nickel.	Publication; Copyrighted Materials	Qin, J.J., et al.	10/01/2002	Qin, J.J., 2002. A feasibility study on the treatment and recycling of a wastewater from metal plating. J of Memb Science. 208(1-2): 213-221. (Oct)	Metal Finishing, Part 433	9	No	Yes	MF00085
10.31	EPA-HQ-OW-2015-0665-0185	Heavy metal removal from industrial effluents by sorption on cross-linked starch: Chemical study and impact on water toxicity - DCN MF00086	Batch sorption experiments using a starch-based sorbent were carried out for the removal of heavy metals present in industrial water discharges. The influence of contact time, mass of sorbent and pollutant load was investigated. Pollutant removal was dependent on the mass of sorbent and contact time, but independent of the contaminant load. The results show that the sorption using a starch-based sorbent as non-conventional material, is a viable alternative for treating industrial wastewaters.	Publication; Copyrighted Materials	Sancey, B., et al.	03/01/2011	Sancey, B., 2011. Heavy metal removal from industrial effluents by sorption on cross-linked starch:.. Journal of Env Mgmt. 92(3): 765-772. (March).	Metal Finishing, Part 433	8	No	Yes	MF00086
10.31	EPA-HQ-OW-2015-0665-0186	Removal of chromium from industrial waste by using eucalyptus bark - DCN MF00087	Several low cost biomaterials such as baggase, charred rice husk, activated charcoal and eucalyptus bark (EB) were tested forremoval of chromium. All the experiments were carried out in batch process with laboratory prepared samples and wastewaterobtained from metal finishing section of auto ancillary unit. The adsorbent, which had highest chromium(VI) removal was EB. The results indicate that eucalyptus bark can be used for the removal of chromium.	Publication; Copyrighted Materials	Sarin, V., et al.	01/01/2006	Sarin, V., and Pant, K.K. 2006. Removal of chromium from industrial waste by using eucalyptus bark. Bioresource Technology. 97(1):15-20. (January).	Metal Finishing, Part 433	6	No	Yes	MF00087

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10.31	EPA-HQ-OW-2015-0665-0187	Validation of HVOF WC/Co Thermal Spray Coatings as a Replacement for Hard Chrome Plating on Aircraft Landing Gear - DCN MF00088	The replacement of hard chrome plating in aircraft manufacturing activities and maintenance depots is a high priority for the U.S. DoD and the Canadian DoND. Hard chrome plating is a technique that has been in commercial production for over 50 years and is a critical process that is used both for applying hard coatings to a variety of aircraft components in manufacturing operations and for general rebuild of worn or corroded components that have been removed from aircraft during overhaul.	Publication Other Government	Sartwell, B., et al.	03/31/2004	Sartwell, B. 2004. Validation of HVOF WC/Co Thermal Spray Coatings as a Replacement for Hard Chrome Plating on Aircraft Landing Gear.	Metal Finishing, Part 433	281	No	No	MF00088
10.31	EPA-HQ-OW-2015-0665-0188	PPG Industries Inc. Environmentally Friendly Fastener Coating Demonstartion - DCN MF00089	Traditionally, steel fasteners have been used with cadmium electroplated coatings followed by a hexavalent chrome rinse. The objective of this project is to demonstrate for the Department of Defense (DoD) high performance coating technologies which eliminate the need for cadmium or hexavalent chromate coatings on high-strength fasteners. This will provide high-strength, corrosion resistant fasteners for use on legacy weapon systems and new weapon platforms.	Publication Other Government	Scott, M.	01/01/2013	Scott, M. 2013. PPG Industries Inc. Environmentally Friendly Fastener Coating Demonstartion. ESTCP Project WP-201315. (January).	Metal Finishing, Part 433	2	No	No	MF00089
10.31	EPA-HQ-OW-2015-0665-0189	The treatment of zinc-cyanide electroplating rinse water using an electrocoagulation process - DCN MF00090	This paper investigates the treatment of zinc-cyanide electroplating rinse water using an electrocoagulation process (ECP). The optimum operating conditions were found to be 30 A/m2 and 40 min, for the Fe electrode at the original pH (9.5) of the rinse water. Considering efficiency and economy, the MP-P connection mode was determined as the optimum connection mode.	Publication; Copyrighted Materials	Senturk, E.	01/01/2013	Senturk, E. 2013. The treatment of Zn-CN electroplating rinse water using an electrocoagulation process. Water Science and Tech. 68(10): 2220-27.	Metal Finishing, Part 433	9	No	Yes	MF00090

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10.31	EPA-HQ-OW-2015-0665-0190	Air Force Materiel Command. Cadmium-Free Alternatives for Brush Plating Repair Operations - DCN MF00091	This project focuses on elimination of toxic and carcinogenic cadmium (Cd) material for brush plating repair operations, and reduction of solid waste associated with adsorbents used to contain solution leakage attributed with traditional brush plating repair processes.	Publication Other Government	Slife, R.	01/01/2014	Slife, R. 2014. Air Force Materiel Command. Cadmium-Free Alternatives for Brush Plating Repair Operations. ESTCP Project WP-201412. (January).	Metal Finishing, Part 433	2	No	No	MF00091
10.31	EPA-HQ-OW-2015-0665-0191	Metal Finishing with Ionic Liquids: Scale-up and Pilot Plants from IONMET Consortium - DCN MF00092	The authors describe the successful scale-up of five ionic liquid processes by the IONMET consortium. MF demonstrator technologies have been developed based on ionic liquid systems for the electropolishing of stainless steels and other alloys, galvanic immersion (dip coating) deposition of silver for finishing of printed circuit boards as well as electrolytic deposition of hard chrome coatings, aluminium coatings and barrel plating of Zn–Sn alloys.	Publication; Copyrighted Materials	Smith, E.L., et al.	10/01/2010	Smith, E.L., 2010. MF with Ionic Liquids: Scale-up and Pilot Plants from IONMET Consortium. Transactions of the Inst. of MF. 88(6): 285-293.	Metal Finishing, Part 433	10	No	Yes	MF00092
10.31	EPA-HQ-OW-2015-0665-0192	Utilization of pulp and paper industrial wastes to remove heavy metals from metal finishing wastewater - DCN MF00093	Two pulp and paper industrial wastes, lime mud (LM) and recovery boiler ash (RB), have low moisture contents, low heavy metal contaminations and contain various carbonate compounds which contributeto a high pH. Treatment with LM gives a higher sludge volume than with RB. However, the leachability of heavy metals from LM is lower. Leachability of heavy metals in the sediment for all selected treatment conditions is within government standards.	Publication; Copyrighted Materials	Sthiannopkao, S., et al.	08/01/2009	Sthiannopkao, S., 2009. Utilization of pulp and paper industrial wastes to remove heavy metals from MF wastewater. J of Env Mgmt. 90(11): 3283-3289.	Metal Finishing, Part 433	7	No	Yes	MF00093

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10.31	EPA-HQ-OW-2015-0665-0193	Evaluation of pre-treatment processes for HRS (hot rolled steel) in powder coating - DCN MF00094	Hot rolled steel (HRS) is used extensively in the automotive, agricultural and appliance industries. The corrosive response ofHRSwas investigatedafter it had been exposed to various surface treatments, prior to powder coating. Good correlations were recorded showing that zincphosphate conversion coating gave the best performance, and zirconium-based nano-structured conversion coating, was superior to that of ironphosphate conversion coatings on HRS.	Publication; Copyrighted Materials	Tepe, B., et al.	04/01/2008	Tepe, B. 2008. Evaluation of Pre-Treatment Processes for Hot Rolled Steel in Powder Coating. Progress in Organic Coatings. 62(2): 134-144. (April).	Metal Finishing, Part 433	11	No	Yes	MF00094
10.31	EPA-HQ-OW-2015-0665-0194	One Step, Zero Discharge: Bri-Mar Manufacturing goes ‘greener’ with CPR’s phosphate treatment system - DCN MF00095	The maintenance manager at Chambersburg, Pa. based Bri-Mar Manufacturing was faced with a daunting challenge: continue to efficiently and effectively clean and pretreat the high volume of large hydraulic dump trailers produced at the company’s plant, while striving for a much more environmentally friendly parts washing process. The solution came in the form of the CPR System, a modular phosphate treatment system that provides the metal cleaning power of a 5-stage washer in one step.	Publication; Copyrighted Materials	Tucker, R.	07/01/2013	Tucker, R. 2013. One Step, Zero Discharge. Metal Finishing. 111(4): 16-17. (July/August).	Metal Finishing, Part 433	2	No	Yes	MF00095
10.31	EPA-HQ-OW-2015-0665-0301	Industrial Wastewater Management, Treatment, and Disposal, Manual of Practice No. FD-3 - DCN MF00096	Information on the chemicals, significant treatment studies, efficient control processes, and instrumentation for industrial wastewater treatment.	Publication; Copyrighted Materials	WEF	01/01/2008	WEF. 2008. Industrial Wastewater Management, Treatment, and Disposal, Manual of Practice No. FD-3 (Third ed.). Alexandria, VA: McGraw-Hill.	Metal Finishing, Part 433	15	No	Yes	MF00096

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10.31	EPA-HQ-OW-2015-0665-0195	Chromium-free Corrosion Solutions: Silica-based Electrolytic Method Offers Viable Alternative to Both Hex- and Trivalent-Chromate Passivates - DCN MF00097	Few would disagree with the notion that hexavalent chromate passivates do an exceptional job in protecting against corrosion in most circumstances. Not only does hexavalent chromium perform favorably, but it also offers a robust manufacturing process that has been proven in shops around the world for decades.	Publication; Copyrighted Materials	Winn, D., et al.	06/01/2008	Winn, D., 2008. Cr-free Corrosion Solutions: Silica-based Electrolytic Method…Chromate Passivates. Metal Finishing. 106 (6): 70-74. (June).	Metal Finishing, Part 433	5	No	Yes	MF00097
10.31	EPA-HQ-OW-2015-0665-0196	Removal of Cu and Pb from electroplating wastewater using tartaric acid modified rice husk - DCN MF00098	The potential of using tartaric acid modified rice husk (TARH) as a sorbent for the removal of Cu and Pb from semiconductor electroplating wastewater was investigated. Application of Langmuir isotherm indicated that there was no difference in the sorption capacity of TARH for Cu and Pb in synthetic solution and wastewater. Cu and Pb could be recovered almost quantitatively by eluting the column with 0.1 M HCl and the column could be used repeatedly for at least 5 cycles.	Publication; Copyrighted Materials	Wong, K. K., et al.	12/01/2003	Wong, K. K., 2003. Removal of Cu and Pb from electroplating ww using tartaric acid modified rice husk. Process Biochemistry.39(4):437-45. (December).	Metal Finishing, Part 433	9	No	Yes	MF00098
10.31	EPA-HQ-OW-2015-0665-0197	Managing the Transition to Hexavalent Chromium Free Anti-Corrosion Coatings - DCN MF00099	Suppliers are ideally placed to establish best practice techniques atthe applicator, and can work in partnership to achieve lowest operatingcost with maximum performance. Developments in trivalent passivates forblue and iridescent colour films will be described, followed by discussion of the use of an audit approval programme to manage the transition to hexavalent chromium free products.	Publication; Copyrighted Materials	Wynn, P.	11/01/2006	Wynn, P. 2006. Managing the Transition to Hex Chromium Free Anti-Corrosion Coatings. Transactions of the Institute of MF. 84 (6): 280-85. (November).	Metal Finishing, Part 433	7	No	Yes	MF00099

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10.31	EPA-HQ-OW-2015-0665-0198	Technology Integration for Sustainable Manufacturing: An Applied Study on Integrated Profitable Pollution Prevention in Surface Finishing Systems - DCN MF00100	Technology improvement and innovation are of utmost importance in achieving greenness while ensuring economic incentives in manufacturing. This paper explores opportunities for an effective integration of P3-oriented technologies in a systematic way. A successful application of an IP3 technology in an electroplating process, a main type of surface finishing system, demonstrates the methodological efficacy.	Publication; Copyrighted Materials	Xiao, J., et al.	08/09/2012	Xiao, J., 2012. Technology Integration for Sustainable Manufacturing: .... Industrial & Engineering Chemistry Research. 51 (35): 11434-44. (August 9)	Metal Finishing, Part 433	11	No	Yes	MF00100
10.31	EPA-HQ-OW-2015-0665-0199	Zerolite Coating System for Corrosion Control to Eliminate Hexavalent Chromium from DoD Applications - DCN MF00101	Corrosion costs associated with corrosion prevention and correction of corrosion-generated failures account for more than $1 billion a year. A majority of these costs is associated with compliance with new environmental regulations regarding worker safety and hazardous waste disposal. This increase is responsible for a significant portion of noncompliance with new environmental regulations, systems downtime, and failure of mission readiness.	Publication Other Government	Yan, Y.	08/01/2009	Yan, Y. 2009. Zerolite Coating System for Corrosion Control to Eliminate Hexavalent Chromium from DoD Applications. SERDP Project WP-1342. (August).	Metal Finishing, Part 433	88	No	No	MF00101
10.31	EPA-HQ-OW-2015-0665-0298	NASF Preliminary Response to EPA's Metal Finishing Study Questions – November 2015 - DCN MF00102	Questions developed by EPA for the National Association of Surface Finishers (NASF) about the metal finishing preliminary study. NASF provide their responses to these questions in list form in this document.	Report	NASF	11/01/2015	NASF. 2015. Preliminary Response to EPA's Metal Finishing Study Questions. (November).	Metal Finishing, Part 433	13	No	No	MF00102

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10.31	EPA-HQ-OW-2015-0665-0297	Memorandum to Metal Finishing Category Review Record: Meeting Notes 11/23/2015 - DCN MF00103	EPA drafted meeting notes from the meeting with the the National Association of Surface Finishers (NASF) on November 23, 2015. Provides a summary of the items discussed during the meeting.	Meeting Materials	Flanders, Phillip, EPA.	12/21/2015	U.S. EPA. 2015. Meeting Notes with the National Assocoation of Surface Finishers (NASF) on November 23, 2015.	Metal Finishing, Part 433	1	No	No	MF00103
10.31	EPA-HQ-OW-2015-0665-0277	Memorandum to Metal Finishing Category Review Record: Meeting Notes 08/19/2015 - DCN MF00104	EPA drafted meeting notes from the meeting with the the National Association of Surface Finishers (NASF) on August 19, 2015. Provides a summary of the items discussed during the meeting.	Meeting Materials	Flanders, Phillip, EPA.	01/05/2016	U.S. EPA 2015. Meeting Notes with the National Association of Surface Finishers (NASF) on August 19, 2015. (August).	Metal Finishing, Part 433	2	No	No	MF00104
10.31	EPA-HQ-OW-2015-0665-0278	Memorandum to Metal Finishing Category Review Record: AWCA Meeting Notes 11/09/2015 - DCN MF00105	EPA drafted meeting notes from the meeting with the the Association of Clean Water Administrators (ACWA) on November 9, 2015. Provides a summary of the items discussed during the meeting.	Meeting Materials	Flanders, Phillip, EPA.	01/05/2016	U.S. EPA. 2015. Meeting notes with the Association of Clean Water Administrators (ACWA) on November 9, 2015. (November).	Metal Finishing, Part 433	3	No	No	MF00105

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10.31	EPA-HQ-OW-2015-0665-0272	Memorandum to James J. Dragna, Bingham McCutchen LLP from Alexis Strauss, EPA Water Division. RE: "Chemical Etching" Metal Finishing Option - DCN MF00106	Response to Air Products Electronic Chemicals facility in Carlsbad, CA about industrial pretreatment water pollution requirements. The memo describes EPA's stance on acid washes and chemical etching pertaining to the Metal Finishing ELGs.	Memorandum	Alexis Strauss, US EPA	06/04/2004	U.S. EPA. 2004. Memorandum to J. Dranga, Bingham McCutchen LLP from A. Strauss, EPA. RE: “Chemical Etching” Metal Finishing Option. (June).	Metal Finishing, Part 433	8	No	No	MF00106
10.31	EPA-HQ-OW-2015-0665-0286	Guidance Manual for Implementing Total Toxic Organics (TTO) Pretreatment Standards - DCN MF00107	Categorical Pretreatment Standards have been established for different categories of industries. Six of the industrial categories have a pretreatment standard established for total toxic organics (TTO).	Publication USEPA	U.S. EPA	09/01/1985	U.S. EPA. 1985. Guidance Manual for Implementing Total Toxic Organics (TTO) Pretreatment Standards. Washington, D.C. (September).	Metal Finishing, Part 433	86	No	No	MF00107
10.31	EPA-HQ-OW-2015-0665-0287	Capsule Report: Managing Cyanide in Metal Finishing - DCN MF00108	The purpose of the document is to provide guidance to surface finishing manufacturers, metal fishing decision makers and regulators on management practices and control technologies for managing cyanide in the workplace.	Publication USEPA	U.S. EPA	12/01/2000	U.S. EPA. 2000. Capsule Report: Managing Cyanide in Metal Finishing. Washington, D.C. (December).	Metal Finishing, Part 433	36	No	No	MF00108

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10.31	EPA-HQ-OW-2015-0665-0288	5.6 Phosphorous. Water: Monitoring & Assessment - DCN MF00109	Summary of phosphorus monitoring and assessment.	Publication USEPA	U.S. EPA	03/06/2012	U.S. EPA. 2012. 5.6 Phosphorous. Water: Monitoring & Assessment.	Metal Finishing, Part 433	5	No	No	MF00109
10.31	EPA-HQ-OW-2015-0665-0289	The USGS Water Science School: Water Questions & Answers, What Causes Fish Kills? - DCN MF00110	Summary of information on what can cause a fish kill.	Report	USGS	08/07/2015	USGS. 2015. The USGS Water Science School: Water Questions & Answers, What Causes Fish Kills?	Metal Finishing, Part 433	1	No	No	MF00110
10.34	EPA-HQ-OW-2015-0665-0282	Preliminary Category Review – Facility Data Review for Point Source Category 436 – Mineral Mining and Processing - DCN 08162	Underlying data analysis and calculations for facilities reviewed as part of the 2015 preliminary category review for PSC 436 – Mineral Mining and Processing.	Data	Eastern Research Group, Inc	09/01/2015	ERG. 2015. Prelim Category Review – Facility Data Review for PSC 436 – Mineral Mining. (Sept).	Mineral Mining and Processing	0	No	No	08162

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10.34	EPA-HQ-OW-2015-0665-0037	Florida Department of Environmental Protection (FL DEP). National Pollutant Discharge Elimination System Facility Permit for NPDES FL0000655 – PCS Phosphates White Springs, White Springs, FL - DCN 08163	NPDES Facility Permit for PCS Phosphates White Springs, White Springs, FL - FL0000655.	Permit, Registration	FL DEP	03/18/2013	FL DEP. 2013. Florida Department of Environmental Protection. NPDES Permit: PCS Phosphates White Springs, White Springs, FL (FL0000655). (March 18).	Mineral Mining and Processing	138	No	No	08163
10.34	EPA-HQ-OW-2015-0665-0038	Telephone and Email Communication with Tom Kallemeyn, Florida Department of Environmental Protection, and Kara Edquist, Eastern Research Group, Inc., Re: 2013 DMR Fluoride Discharges for PCS Phosphates White Springs - DCN 08164	Telephone and email conversation between Tom Kallemeyn, Florida Department of Environmental Protection, and Kara Edquist, Eastern Research Group, Inc., about 2013 DMR Fluoride Discharges for PCS Phosphates White Springs.	Meeting Materials	FL DEP	05/06/2015	FL DEP. 2015 . Correspondence between Tom Kallemeyn, FL DEP, and Kara Edquist, ERG. Re: 2013 DMR Fluoride Discharges. (May 6).	Mineral Mining and Processing	3	No	No	08164
10.34	EPA-HQ-OW-2015-0665-0039	Telephone and Email Communication with Billey Goble, SES Services, and Diane Perkins, Cirrus Associates, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Aluminum, Chloride Discharges - DCN 08165	Telephone and email conversation between Billey Goble, SES Services, and Diane Perkins, Cirrus Associates, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 DMR Aluminum and Chloride Discharges at SES Services (previously Lambert Dock).	Meeting Materials	Goble, Billey	12/18/2014	Goble, B. 2014. Correspondence between B. Goble, SES Services, D. Perkins, Cirrus Associates, and K. Bartell, ERG. Re: 2013 DMR Discharges. (Dec 18).	Mineral Mining and Processing	5	No	No	08165

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10.34	EPA-HQ-OW-2015-0665-0040	Texas Commission on Environmental Quality (TCEQ). 2009 National Pollutant Discharge Elimination System Facility Permit Statement of Basis/Technical Summary for NPDES TX0112038 – Cooper Natural Resources, Cedar Lake Plant, Seagraves, TX - DCN 08166	2009 NPDES Facility Permit Statement of Basis/Technical Summary for Cooper Natural Resources, Cedar Lake Plant, Seagraves, TX - TX0112038.	Permit, Registration	TCEQ	12/19/2009	TCEQ. 2009. Texas Commission on Environmental Quality. NPDES Permit Statement of Basis: Cooper Natural Res, Seagraves, TX (TX0112038). (Dec 19).	Mineral Mining and Processing	8	No	No	08166
10.34	EPA-HQ-OW-2015-0665-0041	Texas Commission on Environmental Quality (TCEQ). 2015 National Pollutant Discharge Elimination System Facility Permit Statement of Basis/Technical Summary for NPDES ID TX0112038 – Cooper Natural Resources, Cedar Lake Plant, Seagraves, TX - DCN 08167	2015 NPDES Facility Permit Statement of Basis/Technical Summary for Cooper Natural Resources, Cedar Lake Plant, Seagraves, TX - TX0112038.	Permit, Registration	TCEQ	03/31/2015	TCEQ. 2015. Texas Commission on Environmental Quality. NPDES Permit Statement of Basis: Cooper Natural Res, Seagraves, TX (TX0112038). (March 31).	Mineral Mining and Processing	11	No	No	08167
10.36	EPA-HQ-OW-2015-0665-0042	Telephone and Email Communication with William Crocker, Nyrstar, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Fluoride Discharges - DCN 08168	Telephone and email conversation between William Crocker, Nyrstar, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 DMR Fluoride Discharges.	Meeting Materials	Crocker, William	12/11/2014	Crocker, William. 2014. Correspondence between William Crocker, Nyrstar, and Kim Bartell, ERG. Re: 2013 DMR Fluoride Discharges. (Dec 11).	Nonferrous Metals Forming and Metal Powders	3	No	No	08168

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10.36	EPA-HQ-OW-2015-0665-0293	Preliminary Category Review – Facility Data Review for Point Source Category 421 – Nonferrous Metals Manufacturing - DCN 08169	Underlying data analysis and calculations for facilities reviewed as part of the 2015 preliminary category review for PSC 421 – Nonferrous Metals Manufacturing.	Data	Eastern Research Group, Inc	09/01/2015	ERG. 2015. Prelim Category Review – Facility Data Review for PSC 421 – NFMM. (Sept).	Nonferrous Metals Forming and Metal Powders	0	No	No	08169
10.36	EPA-HQ-OW-2015-0665-0043	Horsehead Corporation End Operations at Monaca, PA Facility - DCN 08170	Facility profile for Horsehead Corporation End Operations at Monaca, PA.	Fact/Data Sheet	Horsehead Corporation	05/05/2014	Horsehead Corporation. 2014. Horsehead Corporation End Operations at Monaca, PA Facility. (May 5).	Nonferrous Metals Forming and Metal Powders	2	No	No	08170
10.36	EPA-HQ-OW-2015-0665-0075	Telephone and Email Communication with Marcia Allocco, North Carolina Department of Environmental and Natural Resources and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Cyanide Discharges for ALCOA in Badin, NC - DCN 08214	Telephone and email conversation between Marcia Allocco, North Carolina Department of Environmental and Natural Resources and Kimberly Bartell, Eastern Research Group, Inc., about 2013 DMR Cyanide Discharges for ALCOA in Badin, NC.	Meeting Materials	Allocco, Marcia	11/14/2014	Allocco, M. 2014. Correspondence between Marcia Allocco, NC DENR and Kim Bartell, ERG. Re: 2013 DMR Cyanide Discharges for ALCOA. (Nov 14).	Nonferrous Metals Manufacturing	1	No	No	08214

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10.37	EPA-HQ-OW-2015-0665-0102	Telephone and Email Communication between VelRey Lozano, EPA Region 8, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Sulfide Discharges for Maverick Spring in Cody WY - DCN 08241	Telephone and email conversation between VelRey Lozano, EPA Region 8, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Sulfide Discharges for Maverick Spring in Cody WY.	Meeting Materials	Lozano, VelRey	12/18/2014	Lozano, V. 2014. Telephone Communication between VelRey Lozano, EPA Region 8, and Kim Bartell, ERG. Re: 2013 DMR Sulfide Data. (Dec 18).	Oil & Gas Extraction	29	No	No	08241
10.38	EPA-HQ-OW-2015-0665-0055	Colorado Department of Public Health and Environment (CDPHE). National Pollutant Discharge Elimination System Facility Permit and Fact Sheet for NPDES CO0036251 - Cotter Corporation – JD-7 and JD-9 Mines, Naturita, CO. - DCN 08186	NPDES Facility Permit and Fact Sheet for Cotter Corporation – JD-7 and JD-9 Mines, Naturita, CO - CO0036251.	Permit, Registration	CDPHE	06/01/2011	CDPHE. 2011. Colorado Department of Public Health and Environment. NPDES Permit: Cotter Corporation, Naturita, CO (CO0036251). (June 1).	Ore Mining and Dressing	52	No	No	08186
10.38	EPA-HQ-OW-2015-0665-0056	Telephone and Email Communication with Randy Conroy, Michigan Department of Environmental Quality (MI DEQ), and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Copper Discharges for Copper Range Co. - DCN 08187	Telephone and email conversation between Randy Conroy, Michigan Department of Environmental Quality (MI DEQ), and Kimberly Bartell, Eastern Research Group, Inc., about 2013 DMR copper discharges for Copper Range Co. (MI0006114).	Meeting Materials	Conroy, Randy	06/10/2015	Conroy, R. 2015. Correspondence between Randy Conroy, MI DEQ, and Kim Bartell, ERG. Re: 2013 DMR Copper Discharges for Copper Range Co. (June 10).	Ore Mining and Dressing	3	No	No	08187

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10.38	EPA-HQ-OW-2015-0665-0294	Preliminary Category Review – Facility Data Review for Point Source Category 440 – Ore Mining and Dressing. - DCN 08188	Underlying data analysis and calculations for facilities reviewed as part of the 2015 preliminary category review for PSC 440 – Ore Mining and Dressing.	Data	Eastern Research Group, Inc	09/01/2015	ERG. 2015. Prelim Category Review – Facility Data Review for PSC 440 – Ore Mining and Dressing. (Sept).	Ore Mining and Dressing	0	No	No	08188
10.38	EPA-HQ-OW-2015-0665-0057	Telephone and Email Communication with Andrea Hayden, Cliffs Natural Resources, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Copper Discharges for Northshore Mining - DCN 08189	Telephone and email conversation between Andrea Hayden, Cliffs Natural Resources, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 DMR copper discharges for Northshore Mining (MN0055301).	Meeting Materials	Hayden, Andrea	06/09/2015	Hayden, A. 2015. Correspondence between Andrea Hayden, Cliffs Natural Resources, and Kim Bartell, ERG. Re: 2013 DMR Copper Discharges. (June 9).	Ore Mining and Dressing	4	No	No	08189
10.38	EPA-HQ-OW-2015-0665-0058	Telephone and Email Communication with Brent Ketzenberger, Cliffs Natural Resources, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Selenium Discharges for Tilden Mine, Ishpeming, MI - DCN 08190	Telephone and email conversation between Brent Ketzenberger, Cliffs Natural Resources, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 DMR selenium discharges for Tilden Mine, Ishpeming, MI.	Meeting Materials	Ketzenberger, Brent	06/09/2015	Ketzenberger, B. 2015. Correspondence between Brent Ketzenberger, Cliffs N.R., and Kim Bartell, ERG. Re: 2013 DMR Selenium Discharges. (June 9).	Ore Mining and Dressing	4	No	No	08190

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10.38	EPA-HQ-OW-2015-0665-0059	Copper Range Company Records, MS-080 - DCN 08191	Michigan Technological University: Copper Range Company Records and historical collections. The Copper Range Company (1899-1977) operated copper mines in Houghton County's South Range and in Ontonagon County. The second largest mining company in the Copper Country (after Calumet & Hecla), the Copper Range Company was the only one to survive the 1960s. The Copper Range Company Records document the history of the Copper Range Company, its subsidiaries, and the companies it acquired.	Fact/Data Sheet	Michelson, Daniel	06/25/2014	Michelson, D. 2014. Michigan Technological University. Copper Range Company Records, MS-080. (June 25).	Ore Mining and Dressing	1219	No	No	08191
10.38	EPA-HQ-OW-2015-0665-0060	Michigan Department of Environmental Quality (MI DEQ). National Pollutant Discharge Elimination System Facility Permit for NPDES MI0006114 - Copper Range Company, White Pine, MI - DCN 08192	NPDES Facility Permit for Copper Range Company, White Pine, MI - MI0006114.	Permit, Registration	MI DEQ	11/01/2010	MI DEQ. 2010. Michigan Department of Environmental Quality. NPDES Permit: Copper Range Company, White Pine, MI (MI0006114). (November 1).	Ore Mining and Dressing	25	No	No	08192
10.38	EPA-HQ-OW-2015-0665-0061	Telephone and Email Communication with Kelly Morgan, Colorado Department of Public Health & Environment, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Radium-226 Discharges for JD-7 and JD-9 Mines (CO0036251) - DCN 08193	Telephone and email conversation between Kelly Morgan, Colorado Department of Public Health & Environment, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 DMR Radium-226 Discharges for JD-7 and JD-9 Mines (CO0036251).	Meeting Materials	Morgan, Kelly	06/09/2015	Morgan, K. 2015. Correspondence between Kelly Morgan, CDPHE, and Kim Bartell, ERG. Re: 2013 DMR Radium-226 Discharges for JD-7 and JD-9. (June 9).	Ore Mining and Dressing	3	No	No	08193

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10.38	EPA-HQ-OW-2015-0665-0062	Telephone and Email Communication with Tom Nannini, Rio Tinto Kennecott, and Eva Knoth, Eastern Research Group, Inc., Re: 2013 TRI Water Releases for Kennecott Utah Copper - DCN 08194	Telephone and email conversation between Tom Nannini, Rio Tinto Kennecott, and Eva Knoth, Eastern Research Group, Inc., about 2013 TRI Water Releases for Kennecott Utah Copper.	Meeting Materials	Nannini, Tom	12/16/2014	Nannini, T. 2014. Correspondence between Tom Nannini, Rio Tinto, and Eva Knoth, ERG. Re: 2013 TRI Water Releases for Kennecott Utah. (Dec 16).	Ore Mining and Dressing	2	No	No	08194
10.38	EPA-HQ-OW-2015-0665-0063	Telephone and Email Communication with Amanda Sappington, Missouri Department of Natural Resources (MO DNR), and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 TRI Lead Discharges for Fletcher Mine and Buick Mine - DCN 08195	Telephone and email conversation between Amanda Sappington, Missouri Department of Natural Resources, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 TRI Lead Discharges for Fletcher Mine and Buick Mine.	Meeting Materials	Sappington, Amanda	12/23/2014	Sappington, A. 2014. Correspondence between Amanda Sappington, MO DNR, and Kim Bartell, ERG. Re: 2013 TRI Lead Discharges. (De 23).	Ore Mining and Dressing	2	No	No	08195
10.38	EPA-HQ-OW-2015-0665-0064	Doe Run Resources Corporation Settlement - DCN 08196	Consent Decree for Doe Run Resources Corp. of St. Louis, Missouri. Doe Run, North America's largest lead producer, has agreed to spend approximately $65 million to correct violations of several environmental laws at ten of its lead mining, milling and smelting facilities in southeast Missouri.	Decree	U.S. EPA	10/08/2010	U.S. EPA. 2010. Doe Run Resources Corporation Settlement. (October 8).	Ore Mining and Dressing	174	No	No	08196

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10.38	EPA-HQ-OW-2015-0665-0065	Utah Department of Environmental Quality (UT DEQ). National Pollutant Discharge Elimination System Facility Permit for NPDES UT0000051 - Kennecott Utah Copper LLC, Magna, UT - DCN 08197	NPDES Facility Permit for Kennecott Utah Copper LLC, Magna, UT - UT0000051.	Permit, Registration	UT DEQ	11/12/2009	UT DEQ. 2009. Utah Department of Environmental Quality. NPDES Permit: Kennecott Utah Copper LLC, Magna, UT (UT0000051). (November 12).	Ore Mining and Dressing	65	No	No	08197
10.38	EPA-HQ-OW-2015-0665-0089	Telephone and Email Communication with Rhonda Thiele, Utah Department of Environmental Quality and Kara Edquist, Eastern Research Group, Inc. Re: 2013 DMR Discharges for United Park City Mines Co., Park City, UT - DCN 08228	Telephone and email conversation between Rhonda Thiele, Utah Department of Environmental Quality and Kara Edquist, Eastern Research Group, Inc. about 2013 DMR Discharges for United Park City Mines Co., Park City, UT.	Meeting Materials	Thiele, Rhonda.	02/13/2015	Thiele, R. 2015. Correspondence between Rhonda Thiele, Utah DEQ and Kim Bartell, ERG. Re: DMR Discharges for United Park City Mines. (Feb 13).	Ore Mining and Dressing	1	No	No	08228
10.39	EPA-HQ-OW-2015-0665-0044	Telephone and Email Communication with Kevin Brewer, ExxonMobil Chemical Co., and Eva Knoth, Eastern Research Group, Inc., Re: 2013 TRI PACs Releases from ExxonMobil Chemical Co. in Baytown, TX - DCN 08171	Telephone and email conversation between Kevin Brewer, ExxonMobil Chemical Co., and Eva Knoth, Eastern Research Group, Inc., about 2013 TRI PACs releases from ExxonMobil Chemical Co. in Baytown, TX.	Meeting Materials	Brewer, Kevin	05/07/2015	Brewer, K. 2015. Correspondence between Kevin Brewer, ExxonMobil Chemical Co., and Eva Knoth, ERG. Re: 2013 TRI PACs Releases. (May 7).	OCPSF (Organic Chemicals, Plastics and Synthetic Fibers)	4	No	No	08171

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10.39	EPA-HQ-OW-2015-0665-0045	Telephone and Email Communication with Elizabeth Connell, DSM Chemicals NA, Inc., and Eva Knoth, Eastern Research Group, Inc., Re: 2013 TRI Nitrate Releases from DSM Chemicals NA, Inc., Augusta, GA - DCN 08172	Telephone and email conversation between Elizabeth Connell, DSM Chemicals NA, Inc., and Eva Knoth, Eastern Research Group, Inc., about 2013 TRI nitrate releases from DSM Chemicals NA, Inc., Augusta, GA.	Meeting Materials	Connell, Elizabeth	05/07/2015	Connell, E. 2015. Correspondence between Elizabeth Connell, DSM Chemicals, and Eva Knoth, ERG. Re: 2013 TRI Nitrate Releases. (May 7).	OCPSF (Organic Chemicals, Plastics and Synthetic Fibers)	1	No	No	08172
10.39	EPA-HQ-OW-2015-0665-0292	Preliminary Category Review – Facility Data Review for Point Source Category - 414 – Organic Chemicals, Plastics, and Synthetic Fibers - DCN 08173	Underlying data analysis and calculations for facilities reviewed as part of the 2015 preliminary category review for Point Source Category – 414 – Organic Chemicals, Plastics, and Synthetic Fibers.	Data	Eastern Research Group, Inc	09/01/2015	ERG. 2015. Prelim Category Review – Facility Data Review for PSC 414 – Organic Chemicals, Plastics, and Synthetic Fibers. (Sept).	OCPSF (Organic Chemicals, Plastics and Synthetic Fibers)	0	No	No	08173
10.39	EPA-HQ-OW-2015-0665-0046	Telephone and Email Communication with Michael House, A.K.A Solutia, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR 2,3,7,8-TCDD Discharges for A.K.A Solutia Nitro Site, WV - DCN 08174	Telephone and email conversation between Michael House, A.K.A Solutia, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 DMR 2,3,7,8-TCDD discharges for A.K.A Solutia Nitro Site in WV.	Meeting Materials	House, Michael	12/18/2014	House, M. 2014. Correspondence between Michael House, A.K.A Solutia, and Kim Bartell, ERG. Re: 2013 DMR 2,3,7,8-TCDD Discharges. (December 18).	OCPSF (Organic Chemicals, Plastics and Synthetic Fibers)	4	No	No	08174

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10.39	EPA-HQ-OW-2015-0665-0275	Telephone and Email Communication with Shari Kennett, Dow Chemical, and Eva Knoth, Eastern Research Group, Inc., Re: 2013 TRI Dioxin Releases from Dow Chemical Co., Midland, MI - DCN 08175	Telephone and email conversation between Shari Kennett, Dow Chemical, and Eva Knoth, Eastern Research Group, Inc., about 2013 TRI dioxin releases from Dow Chemical Co., Midland, MI.	Meeting Materials	Kennett, Shari	05/08/2015	Kennett, S. 2015. Correspondence between Shari Kennett, Dow Chemical, and Eva Knoth, ERG. Re: 2013 TRI Dioxin Releases. (May 8).	OCPSF (Organic Chemicals, Plastics and Synthetic Fibers)	5	No	No	08175
10.39	EPA-HQ-OW-2015-0665-0047	Louisiana Department of Environmental Quality (LA DEQ). 2009 National Pollutant Discharge Elimination System Facility Permit for NPDES LA0003336 - Sasol North America, Westlake, LA - DCN 08176	2009 NPDES Facility Permit for Sasol North America, Westlake, LA - LA0003336.	Permit, Registration	LA DEQ	11/13/2009	LA DEQ. 2009. Louisiana Department of Environmental Quality. NPDES Permit: Sasol North America, Westlake, LA (LA0003336). (November 13).	OCPSF (Organic Chemicals, Plastics and Synthetic Fibers)	157	No	No	08176
10.39	EPA-HQ-OW-2015-0665-0048	Louisiana Department of Environmental Quality (LA DEQ). 2009 National Pollutant Discharge Elimination System Facility Permit for NPDES LA0038890 - Nalco Company, Garyville, LA - DCN 08177	2009 NPDES Facility Permit for Nalco Company, Garyville, LA - LA0038890.	Permit, Registration	LA DEQ	03/10/2009	LA DEQ. 2009. Louisiana Department of Environmental Quality. NPDES Permit: Nalco Company, Garyville, LA (LA0038890). (March 10).	OCPSF (Organic Chemicals, Plastics and Synthetic Fibers)	58	No	No	08177

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10.39	EPA-HQ-OW-2015-0665-0049	Louisiana Department of Environmental Quality (LA DEQ). 2014 Amended National Pollutant Discharge Elimination System Facility Permit Fact Sheet and Rationale for NPDES LA0003336 - Sasol North America, Westlake, LA - DCN 08178	2014 Amended NPDES Facility Permit Fact Sheet and Rationale for Sasol North America, Westlake, LA - LA0003336.	Permit, Registration	LA DEQ	04/29/2014	LA DEQ. 2014. Louisiana Department of Environmental Quality. Amended NPDES Fact Sheet: Sasol North America, Westlake, LA (LA0003336). (April 29).	OCPSF (Organic Chemicals, Plastics and Synthetic Fibers)	191	No	No	08178
10.39	EPA-HQ-OW-2015-0665-0050	Telephone and Email Communication with Scott Northey, DuPont Chambers Works, and Eva Knoth, Eastern Research Group, Inc., Re: 2013 TRI Nitrate Releases from DuPont Chamber Works, Deepwater, NJ - DCN 08179	Telephone and email conversation between Scott Northey, DuPont Chambers Works, and Eva Knoth, Eastern Research Group, Inc., about 2013 TRI nitrate releases from DuPont Chamber Works, Deepwater, NJ.	Meeting Materials	Northey, Scott	05/07/2015	Northey, S. 2015. Correspondence between Scott Northey, DuPont Chambers, and Eva Knoth, ERG. Re: 2013 TRI Nitrate Releases. (May 7).	OCPSF (Organic Chemicals, Plastics and Synthetic Fibers)	4	No	No	08179
10.39	EPA-HQ-OW-2015-0665-0051	Sasol North American Operations. Lake Charles Chemical Complex and R&D - DCN 08180	Contains information about manufacturing units at the Lake Charles Chemical Complex of Sasol North American Operations.	Fact/Data Sheet	Sasol	07/17/2015	Sasol. 2015. Sasol North American Operations. Lake Charles Chemical Complex. Available online at: http://www.sasolnorthamerica.com/louisiana.	OCPSF (Organic Chemicals, Plastics and Synthetic Fibers)	1	No	No	08180

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10.39	EPA-HQ-OW-2015-0665-0052	Telephone and Email Communication with Scott Shaw, Sasol North America, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Dioxin Discharges for Sasol - DCN 08181	Telephone and email conversation between Scott Shaw, Sasol North America, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 DMR dioxin discharges for Sasol.	Meeting Materials	Shaw, Scott	12/23/2014	Shaw, S. 2014. Correspondence between Scott Shaw, Sasol North America, and Kim Bartell, ERG. Re: 2013 DMR Dioxin Discharges. (December 23).	OCPSF (Organic Chemicals, Plastics and Synthetic Fibers)	7	No	No	08181
10.39	EPA-HQ-OW-2015-0665-0053	Preliminary Study of Carbon Disulfide Discharges from Cellulose Products Manufacturers - DCN 08182	Study of wastewater discharges, specifically carbon disulfide (CS2) from regenerated cellulose manufacturers.	Publication; USEPA	U.S. EPA	12/01/2011	U.S. EPA. 2011. Preliminary Study of Carbon Disulfide Discharges from Cellulose Products Manufacturers. Washington, D.C. (December).	OCPSF (Organic Chemicals, Plastics and Synthetic Fibers)	29	No	No	08182
10.39	EPA-HQ-OW-2015-0665-0252	Telephone Communication with Jack Webster, Viscofan USA, Inc., and Elizabeth Gentile, Eastern Research Group, Inc., Re: 2013 TRI Carbon Disulfide Discharges from Viscofan USA, Inc - DCN 08183	Telephone conversation between Jack Webster, Viscofan USA, Inc., and Elizabeth Gentile, Eastern Research Group, Inc., about 2013 TRI carbon disulfide discharges from Viscofan USA, Inc.	Meeting Materials	Webster, Jack	12/01/2014	Webster, J. 2014. Correspondence between Jack Webster, Viscofan USA, Inc., and Liz Gentile, ERG. Re: 2013 TRI Carbon Disulfide Discharges. (Dec).	OCPSF (Organic Chemicals, Plastics and Synthetic Fibers)	1	No	No	08183

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10.39	EPA-HQ-OW-2015-0665-0253	Telephone and Email Communication with Michael Yoder, Viskase Corporation, and Elizabeth Gentile, Eastern Research Group, Inc., Re: 2013 TRI Carbon Disulfide Discharges from Viskase Corp - DCN 08184	Telephone and email conversation between Michael Yoder, Viskase Corporation, and Elizabeth Gentile, Eastern Research Group, Inc., about 2013 TRI carbon disulfide discharges from Viskase Corp.	Meeting Materials	Yoder, Michael	12/01/2014	Yoder, M. 2014. Correspondence between Michael Yoder, Viskase Corporation, and Liz Gentile, ERG. Re: 2013 TRI Carbon Disulfide Discharges. (Dec).	OCPSF (Organic Chemicals, Plastics and Synthetic Fibers)	1	No	No	08184
10.39	EPA-HQ-OW-2015-0665-0054	New DuPont Chambers Works plant manager ready to take on big change - DCN 08185	South Jersey Times article on the new DuPont Chambers Works plant manager Dawn Hughes as she talks about her career and the future of the DuPont Chambers Works.	Publication Copyrighted Material	Young, Alex	12/12/2014	Young, Alex. 2014. New DuPont Chambers Works plant manager ready to take on big change. South Jersey Times. (December 12).	OCPSF (Organic Chemicals, Plastics and Synthetic Fibers)	3	No	Yes	08185
10.43	EPA-HQ-OW-2015-0665-0079	Telephone and Email Communication with Steve Brewer, Valero Refining Co., and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 TRI Hydrogen Sulfide Discharges for Valero Refining in Memphis, TN - DCN 08218	Telephone and email conversation between Steve Brewer, Valero Refining Co., and Kimberly Bartell, Eastern Research Group, Inc., about 2013 TRI Hydrogen Sulfide Discharges for Valero Refining in Memphis, TN.	Meeting Materials	Brewer, Steve	12/22/2014	Brewer, S. 2014. Correspondence between Steve Brewer, Valero Refining, and Kim Bartell, ERG. Re: TRI H2S Discharges for Valero Refining. (Dec 22).	Petroleum Refining	4	No	No	08218

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10.43	EPA-HQ-OW-2015-0665-0082	Telephone and Email Communication with Sergio Ibarra, Tesoro Refining, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 TRI Hydrogen Sulfide Discharges for Tesoro Refining in Salt Lake City, UT - DCN 08221	Telephone and email conversation between Sergio Ibarra, Tesoro Refining, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 TRI Hydrogen Sulfide Discharges for Tesoro Refining in Salt Lake City, UT.	Meeting Materials	Ibarra, Sergio	12/22/2014	Ibarra, S. 2014. Correspondence between Sergio Ibarra, Tesoro Refining, and Kim Bartell, ERG. Re: TRI H2S Discharges for Tesoro Refining. (Dec 22).	Petroleum Refining	3	No	No	08221
10.43	EPA-HQ-OW-2015-0665-0088	Telephone and Email Communication with Neil Stanton, Ergon West Virginia and Kimberly Bartell, Eastern Research Group, Inc. Re: 2013 DMR Sulfide Discharges - DCN 08227	Telephone and email conversation between Neil Stanton, Ergon West Virginia and Kimberly Bartell, Eastern Research Group, Inc. about 2013 DMR Sulfide Discharges.	Meeting Materials	Stanton, Neil	02/27/2015	Stanton, N. 2015. Correspondence between Neil Stanton, Ergon West Virginia and Kim Bartell, ERG. Re: 2013 DMR Sulfide Discharges. (Feb 27).	Petroleum Refining	9	No	No	08227
10.49	EPA-HQ-OW-2015-0665-0066	Alabama Department of Environmental Management (ADEM). National Pollutant Discharge Elimination System Facility Permit for NPDES AL0002674 - International Paper Company – Pine Hill Containerboard Mill, Pine Hill, AL. - DCN 08198	2012 NPDES Facility Permit for International Paper Company - Pine Hill Containerboard Mill, Pine Hill, AL - AL0002674.	Permit, Registration	ADEM	08/01/2012	ADEM. 2012. Alabama Department of Environmental Management. NPDES Permit: IP – Pine Hill Containerboard Mill, Pine Hill, AL (AL0002674). (August 1).	Pulp, Paper, and Paperboard	56	No	No	08198

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10.49	EPA-HQ-OW-2015-0665-0295	Preliminary Category Review – Facility Data Review and Revised Calculations for Point Source Category 430 – Pulp and Paper - DCN 08199	Underlying data analysis and calculations for facilities reviewed as part of the 2015 preliminary category review for PSC 430 – Pulp and Paper.	Data	Eastern Research Group, Inc	09/01/2015	ERG. 2015. Prelim Category Review – Facility Data Review and Revised Calculations for PSC 430 – Pulp and Paper. (Sept).	Pulp, Paper, and Paperboard	0	No	No	08199
10.49	EPA-HQ-OW-2015-0665-0067	Resolute Forest Products. Legal Entity Name Changes - DCN 08200	Presents legal name changes for the company from AbitibiBowater Inc. to Resolute Forest Products, Inc.	Fact/Data Sheet	Resolute FP	05/23/2012	Resolute FP. 2012. Resolute Forest Products. Legal Entity Name Changes. (May 23). Available online at: http://www.resolutefp.com/About_Us/Identity/.	Pulp, Paper, and Paperboard	2	No	No	08200
10.49	EPA-HQ-OW-2015-0665-0068	Telephone and Email Communication Between Jerry Schwartz, American Forest and Paper Association, Paul Wiegand, National Council for Air and Stream Improvement, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR and TRI Pulp and Paper Discharges - DCN 08201	Telephone and email conversation between Jerry Schwartz, American Forest and Paper Association (AF&PA), Paul Wiegand, National Council for Air and Stream Improvement (NCASI), and Kimberly Bartell, Eastern Research Group, Inc., about 2013 DMR and TRI Pulp and Paper Discharges.	Meeting Materials	J. Schwartz, P. Wiegand	12/04/2014	Schwartz, J. and P. Wiegand. 2014. Communication Between J. Schwartz, AF&PA, P. Wiegand, NCASI, and Kim Bartell, ERG. Re: 2013 DMR & TRI Data. (Dec).	Pulp, Paper, and Paperboard	52	No	No	08201

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10.49	EPA-HQ-OW-2015-0665-0069	A Summary of Information Regarding the Presence, Fate, and Concentrations of Reduced Sulfur in Pulp and Paper Mill Treated Effluents - DCN 08202	National Council for Air and Stream Improvement prepared a summary of information regarding the presence, fate, and concentrations of reduced sulfur in Pulp and Paper Mill treated effluents.	Fact/Data Sheet	Wiegand, Paul	01/01/2015	Wiegand, P. 2015. NCASI. A Summary of Info Regarding the Presence, Fate, and Concentrations of Reduced Sulfur in Pulp and Paper Treated Effluents.	Pulp, Paper, and Paperboard	6	No	No	08202
10.50	EPA-HQ-OW-2015-0665-0238	Chemical Book: 2-Mercaptobenzothiaole - DCN 08278	Properties of 2-Mercaptobenzothiaole from the chemical book	Publication; Copyrighted Materials	Chemical Book	09/18/2014	Chemical Book. 2014. See 2015 ARR.	Rubber Manufacturing	2	No	Yes	08278
10.50	EPA-HQ-OW-2015-0665-0239	Chemical Land 21: 2-Mercaptobenzothiazole - DCN 08279	Properties of 2-Mercaptobenzothiaole from the chemicalland21.com	Data	ChemicalLand 21.com.	06/11/2015	ChemicalLand21. com. 2015. See 2015 ARR.	Rubber Manufacturing	3	No	No	08279

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10.50	EPA-HQ-OW-2015-0665-0240	CooperStandard: Products and Innovations Webpage - DCN 08280	Cooper Standard is a leading global supplier of systems and components for the automotive industry.	Publication; Copyrighted Materials	CooperStandard	01/01/2015	CooperStandard. 2015. See 2015 ARR.	Rubber Manufacturing	1	No	Yes	08280
10.50	EPA-HQ-OW-2015-0665-0241	Dober History Webpage - DCN 08281	Webpage on the company history of Dober.	Publication; Copyrighted Materials	Dober	01/01/2015	Dober. 2015. See 2015 ARR.	Rubber Manufacturing	2	No	Yes	08281
10.50	EPA-HQ-OW-2015-0665-0242	Emerald Performance Materials Home Webpage - DCN 08282	Emerald Performance Materials, LLC produces and markets technologically advanced specialty chemicals for a broad range of food and industrial applications.	Publication; Copyrighted Materials	Emerald Performance	01/01/2006	Emerald Performance Materials. 2006. See 2015 ARR.	Rubber Manufacturing	2	No	Yes	08282

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10.50	EPA-HQ-OW-2015-0665-0243	GoldKey: The Intermix Technology - DCN 08283	For superior dispersion and mixing uniformity, Intermix Technology is regarded as the latest and best mixing process available. GoldKey Processing chose the Intermix process for its many advantages and serviceability.	Publication	GoldKey	01/01/2015	GoldKey. 2015. See 2015 ARR.	Rubber Manufacturing	2	No	No	08283
10.50	EPA-HQ-OW-2015-0665-0244	International Automotive Components (IAC): Company Webpage - DCN 08284	International Automotive Components (IAC) is the third largest automotive interior components supplier in the world by market share and the only global supplier with a singular focus on interiors.	Publication; Copyrighted Materials	IAC	01/01/2015	IAC. 2015. See 2015 ARR.	Rubber Manufacturing	1	No	Yes	08284
10.50	EPA-HQ-OW-2015-0665-0245	Emission Scenario Document on Additives in Rubber Industry - DCN 08285	Document providing information on the sources, use patterns and release pathways of chemicals used as additives in rubber industry to assist in the estimation of releases of chemicals to the environment.	Publication	OECD	06/24/2004	OECD. 2004. See 2015 ARR.	Rubber Manufacturing	39	No	No	08285

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10.50	EPA-HQ-OW-2015-0665-0246	Rubber Chemicals - DCN 08286	Rubber chemicals are materials that are added in minor amounts to rubber formulations in order to improve their properties and make them commercially useful.	Publication; Copyrighted Materials	Ohm, R. F.	01/01/2000	Ohm, R. F. 2000. See 2015 ARR.	Rubber Manufacturing	20	No	Yes	08286
10.50	EPA-HQ-OW-2015-0665-0247	Rubber Compounding - DCN 08287	Rubber compounding is the complex, multidisciplinary science of selecting and blending the appropriate combination of elastomers and other ingredients to meet the performance, manufacturing, environmental, and cost requirements for rubber goods made and used in commerce.	Publication; Copyrighted Materials	Rodgers, B., et. al.	01/01/2004	Rodgers, B. 2004. See 2015 ARR.	Rubber Manufacturing	58	No	Yes	08287
10.50	EPA-HQ-OW-2015-0665-0248	Sigma-Aldrich: M3302 - 2-Mercaptobenzothiazole - DCN 08288	Properties of 2-Mercaptobenzothiaole from Sigma-Aldrich.	Publication; Copyrighted Materials	Sigma-Aldrich	01/01/2015	Sigma-Aldrich. 2015. See 2015 ARR.	Rubber Manufacturing	3	No	Yes	08288

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10.50	EPA-HQ-OW-2015-0665-0249	Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Tire and Synthetic Segment of the Rubber Processing Point Source Category - DCN 08289	Development document for the tire and synthetic rubber segments of the rubber processing industry rulemaking.	Report	U.S. EPA	02/01/1974	U.S. EPA. 1974. See 2015 ARR.	Rubber Manufacturing	206	No	No	08289
10.50	EPA-HQ-OW-2015-0665-0250	R.E.D. FACTS: Sodium and Zinc Salts of 2-Mercaptobenzothiazole - DCN 08290	All pesticides sold or distributed in the United States must be registered by EPA, based on scientific studies showing that they can be used without posing unreasonable risks to people or the environment.	Report	U.S. EPA	09/01/1994	U.S. EPA. 1994. See 2015 ARR.	Rubber Manufacturing	6	No	No	08290
10.50	EPA-HQ-OW-2015-0665-0251	Changes To The TRI List Of Toxic Chemicals - DCN 08291	Chemical deletions and modifications to the TRI List of Toxic Chemicals	Data	U.S. EPA	02/27/2015	U.S. EPA. 2015. See 2015 ARR.	Rubber Manufacturing	13	No	No	08291

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10.54	EPA-HQ-OW-2015-0665-0070	Telephone and Email Communication with Christopher Beranek, Georgia Environmental Protection Division, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Sulfide Discharges for King America Finishing - DCN 08203	Telephone and email conversation between Christopher Beranek, Georgia Environmental Protection Division, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 DMR sulfide discharges for King America Finishing.	Meeting Materials	Christopher Beranek	05/11/2015	Beranek, C. 2015. Correspondence between Christopher Beranek, Georgia EPD, and Kim Bartell, ERG. Re: 2013 DMR Sulfide Discharges. (May 11).	Textile Mills	4	No	No	08203
10.54	EPA-HQ-OW-2015-0665-0276	Preliminary Category Review – Facility Data Review for Point Source Category 410 – Textiles - DCN 08204	Underlying data analysis and calculations for facilities reviewed as part of the 2015 preliminary category review for PSC 410 – Textile Mills.	Data	Eastern Research Group, Inc	09/01/2015	ERG. 2015. Prelim Category Review – Facility Data Review for PSC 410 – Textiles. (Sept).	Textile Mills	0	No	No	08204
10.54	EPA-HQ-OW-2015-0665-0071	Georgia Department of Natural Resources, Environmental Protection Division. (GA EPD). National Pollutant Discharge Elimination System Facility Permit for NPDES GA0003280 -King America Finishing, Inc., Sylvania, GA - DCN 08205	2013 NPDES Facility Permit for King America Finishing, Inc., Sylvania, GA - GA0003280.	Permit, Registration	GA EPD	11/19/2013	GA EPD. 2013. Georgia DNR, EPD. NPDES Permit: King America Finishing, Inc., Sylvania, GA. (November 19).	Textile Mills	23	No	No	08205

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10.54	EPA-HQ-OW-2015-0665-0072	Telephone and Email Communication with Matthew Hutcheson, King America Finishing, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Sulfide Discharges for King America Finishing - DCN 08206	Telephone and email conversation between Matthew Hutcheson, King America Finishing, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 DMR Sulfide Discharges for King America Finishing.	Meeting Materials	Matthew Hutcheson	05/13/2015	Hutcheson, M. 2015. Correspondence between Matthew Hutcheson, King America, and Kim Bartell, ERG. Re: 2013 DMR Sulfide Discharges. (May 13).	Textile Mills	5	No	No	08206
10.54	EPA-HQ-OW-2015-0665-0073	Telephone and Email Communication with Crystal Rippy, South Carolina Department of Health and Environmental Compliance, and Kara Edquist, Eastern Research Group, Inc., Re: 2013 DMR Discharges for Mohawk Industries - DCN 08207	Telephone and email conversation between Crystal Rippy, South Carolina Department of Health and Environmental Compliance, and Kara Edquist, Eastern Research Group, Inc., about 2013 DMR Discharges for Mohawk Industries Oak River Facility.	Meeting Materials	Crystal Rippy	02/13/2015	Rippy, C. 2015. Correspondence between Crystal Rippy, SC DHEC, and Kara Edquist, ERG. Re: 2013 DMR Discharges for Mohawk Industries. (Feb 13).	Textile Mills	5	No	No	08207
10.55	EPA-HQ-OW-2015-0665-0074	Telephone and Email Communication with Keisha Akhavein, Florida Department of Environmental Protection, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR TCDD Discharges for Koppers Inc - DCN 08213	Telephone and email conversation between Keisha Akhavein, Florida Department of Environmental Protection, and Kimberly Bartell, Eastern Research Group, Inc., about 2013 DMR TCDD Discharges for Koppers Inc.	Meeting Materials	Akhavein, Keisha	11/07/2014	Akhavein, K. 2014. Correspondence between Keisha Akhavein, FL DEP, and Kim Bartell, ERG. Re: 2013 DMR TCDD Discharges for Koppers Inc. (Nov 7).	Timber Products Processing	4	No	No	08213

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11.2	EPA-HQ-OW-2015-0665-0101	Telephone and Email Communication between Nestor Louis, EPA Region 2, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Discharges for Wyndham Sugar Bay Resort - DCN 08240	Telephone and email conversation between Nestor Louis, EPA Region 2, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Discharges for Wyndham Sugar Bay Resort.	Meeting Materials	Louis, Nestor	02/13/2015	Louis, N. 2015.Telephon Communication between Nestor Louis, EPA Region 2, and Kim Bartell, ERG. Re: 2013 DMR Discharges for Wyndham Sugar. (Feb 13).	Drinking Water Treatment	4	No	No	08240
11.3	EPA-HQ-OW-2015-0665-0100	Telephone and Email Communication between Murray Lantner, EPA Region 2, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Discharges for Bacardi Corp - DCN 08239	Telephone and email conversation between Murray Lantner, EPA Region 2, and Kimberly Bartell, Eastern Research Group, Inc., Re: 2013 DMR Discharges for Bacardi Corp.	Meeting Materials	Lantner, Murray	02/13/2015	Lantner, M. 2015. Telephone and Email Communication between Murray Lantner, EPA Region 2, and Kim Bartell, ERG. Re: 2013 DMR Discharges. (Feb 13).	Miscellaneous Foods and Beverages	108	No	No	08239

Attachment 3

DOCUMENTS CITED IN THE PRELIMINARY 2016 EFFLUENT GUIDELINES PROGRAM PLAN

DCN	Title	Docket/Document ID
06636	Notes from Telephone Conversation between Chris Krejci, ERG, and Steve Auchterlonie, Front St. Remedial Action – DCN 06636	EPA-HQ-OW-2008-0517-0076
07754	Environmental Engineering Support for Clean Water Regulations Programmatic Quality Assurance Project Plan (PQAPP) – DCN 07754	EPA-HQ-OW-2010-0824-0229
08312	Memorandum: Centralized Waste Treatment Facility List – DCN 08312	EPA-HQ-OW-2015-0665-0285
00554	A Strategy for National Clean Water Industrial Regulations: Effluent Limitations Guidelines, Pretreatment Standards, and New Source Performance Standards	EPA-HQ-OW-2003-0074-0215
06557	Technical Support Document for the Annual Review of Existing Effluent Guidelines and Identification of Potential New Point Source Categories – DCN 06557	EPA-HQ-OW-2008-0517-0515
06703	Technical Support Document for the Preliminary 2010 Effluent Guidelines Program Plan – DCN 06703	EPA-HQ-OW-2008-0517-0514
07755	U.S. EPA National Pollution Discharge Elimination System (NPDES) Permit Writers' Manual – DCN 07755	EPA-HQ-OW-2010-0824-0236
07685	The 2011 Annual Effluent Guidelines Review Report – DCN 07685	EPA-HQ-OW-2010-0824-0195
07501	Toxic Weighting Factors Methodology – DCN 07501	EPA-HQ-OW-2010-0824-0004
07756	Final 2012 and Preliminary 2014 Effluent Guidelines Program Plans – DCN 07756	EPA-HQ-OW-2014-0170-0002
08107	Final 2014 Effluent Guidelines Program Plan – DCN 08107	EPA-HQ-OW-2014-0170-0210
08236	Known Data Problems – DCN 08236	EPA-HQ-OW-2015-0665-0097
08209	The 2015 Annual Effluent Guidelines Review Report – DCN 08209	EPA-HQ-OW-2015-0665-0299
MF00001	Preliminary Study of the Metal Finishing Category: 2015 Status Report – DCN MF00001	EPA-HQ-OW-2015-0665-0303