UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION OF AIR QUALITY

General Instructions for Sources Submitting

2014 ACTUAL EMISSIONS INVENTORY

IMPORTANT

Please read the entire booklet before beginning.

Be sure to keep a copy of the completed inventory and calculations for your own records, while sending the original forms to the Division of Air Quality (DAQ).

JANUARY 2015

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Table 10

Inventory Forms

Form #	Form Name	Purpose
F11a	Fugitive Dust - Roads	PM10 emissions from road traffic on company-used/owned roads.
F11b	Fugitive Dust - Storage Piles	PM10 emissions from company's storage piles.
F12	Off-Highway Mobile Sources	Emissions from company vehicles other than from their public thoroughfare usage.
F13	Quarry & Mining Activities	Emissions from drilling and blasting.
F14	Vapor Degreaser	VOC emissions from degreaser tanks.
F15a	Engines (engines other than off-highway mobile sources)	Emissions from engines such as turbines and generators.
F15b	Engine Stack	Stack information associated with F15a.
F16	Information previously submitted on this form should be provided on F15a Engines	
F17	Loading Racks - Refining/Production	VOC emissions from loading racks.
F18a	Internal Floating Roof Storage Tanks	Replaced by EPA Tanks software
F18b	External Floating Roof Storage Tanks	
F19a	Vertical Fixed Roof Storage Tanks	
F19b	Horizontal Fixed Roof Storage Tanks	
	Supplement to F18 & F19	
F20a	Refinery Fugitive VOC Emissions	Fugitive VOC emissions from refinery processes.
F20b	Refinery Fugitive VOC Emissions Using Correlation Equations	Include Supplement F20b to document monitored components.
F22	Bakery VOC Emissions	VOC emissions from baked bread products.

Table 10 Inventory Forms		
Form #	**Form Name**	**Purpose**
A	Company/Site Information	Current or updated company name, address, phone, contact, and site information.
B	Summary - Total Emissions by Site (tons/year)	Provides a grand total of all criteria emissions, as well as HAP and other regulated pollutants associated with a facility. Prepare one Summary per facility
F2	Process/Fuel Information	F2, F3, and F4 together comprise a general set of reporting forms, suitable for any company for which there is no specific reporting form suitable for their processes.
F3	Emissions for Controlled and Uncontrolled Processes	
F4	Stack Information (stacks associated with F2 and F3)	
F5	Operating Time	Central location for listing process times
F6a	Fugitive Emissions (not exhausted through stacks or control facilities)	Uncontrolled or uncontrollable emissions from a process.
F6b	Fugitive Emissions - Solvents or Coatings (including paint booths exhausting through a vent or stack) Vapor Degreasers use F14.	Uncontrolled or uncontrollable VOC emissions specifically from a solvent or coating process.
F6c	Fugitive Spray Booth Stack Information	For paint booth stacks associated with F6b.
F7	Sand & Gravel Operations	PM10 emissions from crushing operations.
F8	Concrete Batch Plant	PM10 emissions from concrete batch plants.
F9a	Asphalt Plant	Emissions from Asphalt Plants
F9b	Asphalt Plant Stack	Stack information associated with F9a.
F10	Cutback Asphalt Plant	Emissions from Asphalt Plants

GENERAL INSTRUCTIONS FOR THE CRITERIA & HAZARDOUS AIR POLLUTANT INVENTORY

SUBMITTING REQUIREMENTS

What method do you use to submit the inventory data?

There are two methods for submitting an inventory:

1. DAQ-provided workbooks - available only for large major sources at this time;
2. Blank forms are available at the DAQ website: **www.airquality.utah.gov**. Click on the link '2014 Emissions Inventory Forms & Instructions'. Then, if portable sources are being reported, click on the link 'Forms for Portable Equipment' in the Emissions Inventory Forms table.

What types of submittals are required?

1. Detailed submittals: Submittal includes completed individual forms for all types of emissions occurring at your company's location. Any part or activity of the source that emits is included in this submittal. Required for Table 1 Source Categories 1, 2, and 3.
2. Summary submittals: Submittal is only of the total of each individual pollutant emitted, summarized from all activity at your company's location. Calculations to determine those totals are to be available to DAQ inspectors. Required for Table 1 Source Category 4.

Is a submittal required?

If you answer yes to any of the following questions, a 2014 submittal is required.

1. Did your source emit 100 tons or more per year of oxides of sulfur (SO_x) after 1999?

° Yes Submit detailed information using one of the above mentioned methods. You must also submit an Excel SO_x spreadsheet if it is provided with your 2014 inventory request.

No Go to question 2.

2. Did your source emit or does your current Approval Order allow emissions of 250 tons per year or more of PM_{10},or volatile organic compounds (VOC), or 2500 tons per year or more of oxides of nitrogen (NO_x), oxides of sulfur (SO_x), ammonia, or carbon monoxide (CO)?

° Yes Submit detailed information using one of the above mentioned methods.

No Go to question 3.

3. Is your source a major Title V source that has never submitted an air emissions

inventory?

˚ Yes Submit detailed information using one of the above mentioned methods.

No Go to question 4.

4. Is your source an area Title V source that has never submitted an air emissions inventory?

Yes Submit only summary information for every location which your equipment operated. Use Form A and Form B that are available at the above mentioned website. Other forms may be used to calculate emission totals, but do not need to be submitted. HOWEVER, documents must be kept on site showing how the totals were calculated for DAQ compliance inspectors' review.

If you do not know if your source is subject to Title V or not, please contact one of the DAQ staff listed in your 2014 request letter.

No Go to question 5.

If you have questions about why you received a 2014 inventory request, please contact one of the DAQ staff listed in your 2014 request letter to determine why DAQ's records show that you need to submit.

The following table summarizes what is needed for the various 2014 inventory submittals.

Table 8

HAZARDOUS AIR POLLUTANTS (HAPs)

HAPs that are not chargeable are shaded. Unless otherwise indicated by " * " in the CAS # column, all HAPs are also considered VOCs or PM_{10}.

CAS #	Pollutant	Minimum Emissions (lbs/yr)	Corresponding Tons/Yr
75014	Vinyl chloride	18.07	0.01
79005	Vinyl Trichloride	500	0..25
75354	Vinylidene chloride (1,1-Dichloroethylene)	420.71	0.21
1330207	Xylenes (isomers and mixture)	500.00	0.25

NOTE: Methyl ethyl ketone (2-Butanone), and Ethylene glycol monobutyl ether are no longer considered to be HAPs for the Clean Air Act.

Table 9

Non-Criteria/Non-HAP Regulated Pollutants

CAS #	Pollutant	Minimum Emissions (lbs/yr)	Corresponding Tons/yr
11762	2-Butoxyethanol	0	0
112345	2-(2-Butoxyethoxy)-Ethanol	0	0
	Dioxin/Furans	0	0
	Fluorides	53.05	0.03
	Municipal solid waste landfill emissions	500	0.25
	Total reduced sulfur	0	0
	Sulfuric acid mist	21.22	0.01

Table 8

HAZARDOUS AIR POLLUTANTS (HAPs)

HAPs that are not chargeable are shaded. Unless otherwise indicated by " * " in the CAS # column, all HAPs are also considered VOCs or PM_{10} .

CAS #	Pollutant	Minimum Emissions (lbs/yr)	Corresponding Tons/Yr
57018527	Propylene Glycol Butyl Ether	0	0
107982	Propylene Glycol Monomethyl Ether	500	0.25
75569	Propylene oxide	500	0.25
106467	p-Dichlorobenzene	500	0.25
106423	p-Xylenes	500	0.25
91225	Quinoline	0	0
106514	Quinone	9.38	0
82688	Quintobenzene	10.61	0.01
	Radionuclides (including radon) /5/	0	0
7782492	Selenium	4.24	0
	Selenium Compounds	4.24	0
7791233	Selenium Oxychloride	4.24	0
100425	Styrene	500	0.25
96093	Styrene oxide	0	0
7664939 *	Sulfuric Acid, Nickel(2+) Salt (1	7.07	0
1746016	TCDD	0	0
	TCDF	0	0
95807	TDA	0	0
127184	Tetrachloroethylene (Perchloroethylene)	500	0.25
25322207	Tetrachloroethane	0	0
7550450 *	Titanium tetrachloride	0	0
108883	Toluene	500	0.25
95807	Toluene-2,4-diamine	0	0
26471625	Toluene-2,4-Diisocyanate	0.56	0
8001352	Toxaphene (chlorinated camphene)	10.61	0.01
542756	Trans-1,3-Dichloropropene	96.32	0.05
12002481	Trichlorobenzene	0	0
79016	Trichloroethylene	500	0.25
121448	Triethylamine	87.82	0.04
	Triethylene Glycol	0	0
1582098	Trifluralin	0	0
108054	Vinyl acetate	500	0.25
593602	Vinyl bromide	15.46	0.01

Table 1

2014 EMISSIONS INVENTORY REQUIREMENTS
(Applies to individual locations)

Source Category	Data Requested
1. Sources with $\geq$ 100 tons of actual SO_x emissions per year after 1999.	Submit detailed information for NO_x, SO_x, PM_{10}, $PM_{2.5}$, VOC, CO, ammonia, lead, and it's compounds; and Annual Sulfur Dioxide Emission Report including any adjustment that needs to be made for the 2014 SO_x emissions to be comparable to the SO_x emissions in the **2006** emissions inventory; or Acid Rain Report Summary for 2014 including any adjustment that needs to be made for the 2014 SO_x emissions to be comparable to the **2006** Acid Rain Report.
2. Sources with the potential to emit (PTE) $\geq$ 250 tons PM_{10}, Ammonia, or VOC, or $\geq$ 2500 tons NO_x, CO, or SO_x	Submit detailed information for NO_x, SO_x, PM_{10}, $PM_{2.5}$, VOC, CO, ammonia, lead, and it's compounds; other regulated pollutants (see Table 4 on page 13). Individual HAPs should be reported if emissions have changed by 40 tons or more since last submittal. (Note: Keep a copy of your calculations on site for inspectors.)
3. Major Title V Sources statewide	Submit detailed information for NO_x, SO_x, PM_{10}, $PM_{2.5}$, VOC, CO, ammonia, lead, and it's compounds; individual HAPs as well as other regulated pollutants (see Table 4 on page 13).

Table 1 2014 EMISSIONS INVENTORY REQUIREMENTS (Applies to individual locations)	
Source Category	**Data Requested**
4. Area Title V Sources statewide.	Submit site-wide summary totals of individual criteria, HAPs, and other regulated pollutants on Form B (see Table 4 on page 13 and Table 8 on page 28). Forms A and B are the only forms required to be submittal for this category of sources.

ALSO OF NOTE:

- PM_{10}-Condensable, PM_{10}-Filterable, $PM_{2.5}$,$PM_{2.5}$-Condensable, $PM_{2.5}$-Filterable, and ammonia emissions data are required to be included in the submittals.

Area Sources and Title V Program requirements

A permitted source may be considered an 'area source' due to a number of factors, including minimal allowable emissions or regulatory conditions.

EPA has clarified which specific New Source Performance Standard (NSPS) and Maximum Achievable Control Technology (MACT) regulations do not bring sources into the Title V Program if they are not a significant source of emissions. See Table 2 on page 5 for a current list of regulations that, individually, do not bring area sources into the Title V program.

Be aware, however, that other federal regulations in the permit may concurrently trigger inclusion in the Title V program.

Table 8

HAZARDOUS AIR POLLUTANTS (HAPs)

HAPs that are not chargeable are shaded. Unless otherwise indicated by " * " in the CAS # column, all HAPs are also considered VOCs or PM_{10}.

CAS #	Pollutant	Minimum Emissions (lbs/yr)	Corresponding Tons/Yr
684935	N-Nitroso-N-methylurea	0	0
119904	o,o-Diansidine	0	0
90040	o-Anisidine	10.69	0.01
95487	o-Cresol	469.27	0.23
95534	o-Toluidine	185.99	0.09
95476	o-Xylenes	500	0.25
	PAH	0	0
106467	para-Dichlorobenzene	500	0.25
56382	Parathion	2.12	0
92671	p-Aminodiphenyl	0	0
	p-Cresol	469.27	0.23
106467	P-Dichlorobenzene	500	0.25
92933	p-Nitrobiphenyl	0	0
92671	p-Phenylaniline	0	0
82688	Pentachloronitrobenzene (Quintobenzene)	10.61	0.01
87865	Pentachlorophenol	10.61	0.01
127184	Perchloroethylene	500	0.25
88062	Phenachlor	0	0
108952	Phenol	408.39	0.2
64006	Phenol, 3-(1-Methylethyl)-Methylca	0	0
100414	Phenylethane	500	0.25
62384	Phenylmercuric Acetate	0.21	0
75445	Phosgene	8.59	0
7803512 *	Phosphine	8.85	0
7723140 *	Phosphorus	2.15	0
	Phosphorus Compounds	2.12	0
85449	Phthalic anhydride	128.54	0.06
1336363	Polychlorinated biphenyls (Aroclors)	0	0
	Polycyclic aromatic hydrocarbons	0	0
	Polycylic Organic Matter (POM)	0	0
106503	p-Phenylenediamine	2.12	0
123386	Propionaldehyde	0.00	0
114261	Propoxur (Baygon)	10.61	0.01
78875	Propylene dichloride (1,2-Dichloropropane)	500	0.25

Table 8 HAZARDOUS AIR POLLUTANTS (HAPs) HAPs that are not chargeable are shaded. Unless otherwise indicated by " * " in the CAS # column, all HAPs are also considered VOCs or PM_{10}.			
CAS #	**Pollutant**	**Minimum Emissions (lbs/yr)**	**Corresponding Tons/Yr**
67561	Methanol	500	0.25
72435	Methoxychlor	212.2	0.11
151382	Methoxyethylmercuric Acetate	0.21	0
74839	Methyl bromide (Bromomethane)	82.41	0.04
74873	Methyl chloride (Chloromethane)	500	0.25
71556 *	Methyl chloroform (1,1,1-Trichloroethane)	500	0.25
60344	Methyl hydrazine	0.4	0
74884	Methyl iodide (Iodomethane)	246.46	0.12
108101	Methyl isobutyl kentone (Hexone)	500	0.25
624839	Methyl isocyanate	0.99	0
502396	Methyl Mercuric Dicyanamide	0.21	0
80626	Methyl methacrylate	500	0.25
1634044	Methyl tert butyl ether	500	0.25
75092 *	Methylene chloride (Dichloromethane)	500	0.25
101688	Methylene diphenyl diisocyanate	1.09	0
60344	Methylhydrazine	0.4	0
108907	Monochlorobenzene	500	0.25
108383	m-Xylenes	500	0.25
121697	N,N-Diethyl aniline (N,N-Dimethylaniline)	500	0.25
91203	Naphthalene	500	0.25
7440022	Nickel	31.83	0.02
	Nickel Compounds	2.12	0
90040	Nitrilotriacetic Acid Nickel(+2) H440022	0	0
34831033 *	Nitrilotriacetic Acid, Antimony(+3)	0	0
46242448 *	Nitrilotriacetic Acid, Beryllium S	0	0
18432547 *	Nitrilotriacetic Acid, Cobalt (+3)	0	0
23319519 *	Nitrilotriacetic Acid, Manganese S	0	0
18983727 *	Nitrilotriacetic Acid, Cadmium (+2	0	0
98953	Nitrobenzene	106.85	0.05
57147	N,N-Dimethylhydrazine	0.52	0
62759	N-Nitrosodimethylamine	0	0
59892	–Nitrosomorpholine	0	0

Table 2 Area Source Pollutant Regulations That Do Not Initiate Title V Program Requirements (10/24/2011)	
40 CFR Part 60 Subpart	**New Source Performance Standards (NSPS) Stationary Sources**
Dc	Boilers - exemption applies only to boilers that burn only natural gas and propane.
AAA	Residential Wood Heaters
IIII	Compression Ignition Internal Combustion Engines
JJJJ	Spark Ignition Internal Combustion Engines
OOOO	Crude Oil & Nat Gas Production, Transportation, Distribution
40 CFR Part 61 Subpart	**National Emission Standards for Hazardous Air Pollutants**
M	HAPs Asbestos
40 CFR Part 63 Subpart	**National Emission Standards for Hazardous Air Pollutants (HAPs) (aka Maximum Achievable Control Technology (MACT) Industry Groups & Source Categories)**
M	Perchlorethylene for Dry Cleaners
N	Chromium Electroplating and Anodizing Tanks
O	Ethylene Oxide for Sterilization Facilities
T	Halogenated Solvent Cleaning
HH	Oil & Natural Gas Production
RRR	Secondary Aluminum Production
ZZZZ	Reciprocating Internal Combustion Engines
WWWWW	Hospital Sterilizers
ZZZZZ	Iron and Steel Foundries

40 CFR Part 61 Subpart	National Emission Standards for Hazardous Air Pollutants
BBBBBB	Gasoline Distribution, Bulk Terminals, Bulk Plants, Pipeline Facilities
CCCCCC	Gasoline Dispensing Facilities
DDDDDD	Polyvinyl Chloride & Copolymers Production
HHHHHH	Paint Stripping & Miscellaneous Surface Coating
JJJJJJ	Industrial, Commercial, and Institutional Boilers
LLLLLL	Acrylic and Modacrylic Fibers Production
OOOOOO	Flexible Polyurethane Foam Production and Fabrication
PPPPPP	Lead Acid Battery Manufacturing
QQQQQQ	Wood Preserving
RRRRRR	Clay Ceramics
TTTTTT	Secondary Nonferrous Metals
VVVVVV	Chemical Manufacturing
WWWWWW	Plating and Polishing Operations
XXXXXX (1)	Electrical & Electronic Equipment Finishing Operations
XXXXXX (2)	Fabricated Metal Products
XXXXXX (3)	Fabricated Structural Metal Manufacturing
XXXXXX (4)	Fabricated Plate Work (boiler shops)
XXXXXX (5)	Heating Equipment, except Electric
XXXXXX (6)	Industrial Machinery & Equipment Finishing Operations
XXXXXX (7)	Iron and Steel Forging
XXXXXX (8)	Primary Metal Products Manufacturing
XXXXXX (9)	Valves and Pipe Fittings
YYYYYY	Ferroalloys Production Facilities

Table 8

HAZARDOUS AIR POLLUTANTS (HAPs)

HAPs that are not chargeable are shaded. Unless otherwise indicated by " * " in the CAS # column, all HAPs are also considered VOCs or PM_{10}.

CAS #	Pollutant	Minimum Emissions (lbs/yr)	Corresponding Tons/Yr
112072	Glycol Monobutylether Acetate	0	0
76448	Heptachlor	1.06	0
118741	Hexachlorobenzene	0.04	0
87683	Hexachlorobutadiene	4.53	0
77474	Hexachlorocyclopentadiene	2.37	0
67721	Hexachloroethane	205.47	0.1
680319	Hexamethyl phosphoramide	0	0
822060	Hexamethylene-1,6-diisocyanate	0.72	0
110543	Hexane	500	0.25
108101	Hexone	500	0
107415	Hexylene Glycol	500	0.25
302012	Hydrazine	0.28	0
122667	Hydrazobenzene	0	0
7647010 *	Hydrochloric acid	117.91	0.06
74908 *	Hydrocyanic acid	82.15	0.04
7664393 *	Hydrofluoric acid	38.82	0.02
7647010 *	Hydrogen Chloride	117.91	0.06
74908 *	Hydrogen Cyanide	82.15	0.04
7664393 *	Hydrogen Fluoride	38.82	0.02
123319	Hydroquinone	42.41	0.02
540841	Isooctane	0	0
78591	Isophorone	446.85	0.22
98828	Isopropylbenzene AKA-Cumene	500	0.25
7439921	Lead	0	0
	Lead Compounds	0	0
58899	Lindane (all isomers)	10.61	0.01
74884	Iodomethane	246.4	0.12
	M/P Xylene	500	0.25
108316	Maleic anhydride	8.51	0
7439965	Manganese	4.24	0
	Manganese Compounds	4.24	0
108394	m-Cresol	469.27	0.23
1600277	Mercuric Acetate	0.21	0
21908532	Mercuric Oxide	0.21	0
7439976 *	Mercury	0.21	0
	Mercury Compounds	0.21	0

Table 8 HAZARDOUS AIR POLLUTANTS (HAPs) HAPs that are not chargeable are shaded. Unless otherwise indicated by " * " in the CAS # column, all HAPs are also considered VOCs or PM_{10}.			
CAS #	**Pollutant**	**Minimum Emissions (lbs/yr)**	**Corresponding Tons/Yr**
64675	Diethyl sulfate	0	0
111466	Diethylene Glycol	0	0
111900	Diethylene Glycol Monoethyl Ether	0	0
124174	Diethylene Glycol Monoethyl Ether A	0	0
60117	Dimethyl aminoazobenzene	0	0
79447	Dimethyl carbamoyl chloride	0	0
68122	Dimethyl formamide	500	0.25
131113	Dimethyl phthalate	106.1	0.05
79469	Dimethylnitromethane	500	0.25
77781	Dimethyl sulfate	10.94	0.01
34590946	Dipropylene Glycol Methyl Ether	500	0.25
	Dipropylene Glycol Monomethyl Ether	0	0
95954	Dowicide B	0	0
95954	Dowicide 2	0	0
88062	Dowicide 2S	0	0
106898	Epichlorohydrin	40.15	0.02
100425	Ethenylbenzene	500	0.25
140885	Ethyl acrylate	323.67	0.16
100414	Ethyl benzene	500	0.25
51796	Ethyl carbamate (Urethane)	0	0
75003	Ethyl chloride (Chloroethane)	500	0.25
106934	Ethylene dibromide	0	0
107062	Ethylene dichloride (1,2-Dichloroethane)	500	0.25
107211	Ethylene glycol	500	0.25
110496	Ethylene Glycol Monomethyl Ether A	0	0
122996	Ethylene Glycol Monophenyl Ether	0	0
2807309	Ethylene Glycol Monopropyl Ether	0	0
151564	Ethylene imine (Aziridine)	18.69	0.01
75218	Ethylene oxide	38.23	0.02
96457	Ethylene thiourea	0	0
75343	Ethylidene dichloride (1,1-Dichloroethane)	500	0.25
	Fine mineral fibers	21.22	0.01
50000	Formaldehyde	5.83	0
	Glycol ethers	0	0

40 CFR Part 61 Subpart	National Emission Standards for Hazardous Air Pollutants
ZZZZZZ	Aluminum, Copper, & Other Nonferrous Founderies
AAAAAAA	Asphalt Processing & Asphalt Roofing Manufacturing
BBBBBBB	Chemical Preparations Industry
CCCCCCC	Paints & Allied Products Manufacturing
DDDDDDD	Prepared Feeds Manufacturing

***An area HAP source is a stationary source with HAP emissions of less than 10 tons of a single HAP, or 25 tons of any combination of HAPs.**

2014 INVENTORY REQUESTS

When should you receive the Annual 2014 Inventory Request?

The request, including workbooks as appropriate, should reach you early in February, 2015.

What if you don't receive an Annual 2014 Inventory Request?

Contact Deborah McMurtrie at (801) 536-4187 or dmcmurtrie@utah.gov to determine why you may not have received a request and obtain an inventory packet if required.

METHODS OF SUBMITTING INVENTORY INFORMATION

How do you use an inventory workbook to submit data?

For those sources for which workbooks have been developed, an electronic copy of the source workbook will be supplied on disc with the Annual 2014 Inventory Request. The 2014 workbook file has been updated to be compatible with DAQ's database for automatic uploading. New EPA emission factors have been incorporated into the calculations within the workbook and any necessary changes have been made to the included file. Use this workbook file to submit your 2014 inventory data. For information on how to update your workbook, see the instruction file included on the inventory request packet disc.

How do you use summary forms to submit data?

If your source is in the "Other Title V Sources Statewide that have Never Submitted" category as listed in Table 1 on page 3, only submit Form A and a Form B for each location.

See "Additional Information About Specific Forms" on page 10.

Remember to keep the calculations of the totals available for compliance purposes.

How do you use blank forms to submit data?

Blank forms should be used for processes or activities that have not been previously reported. Permanent site forms and instructions can be downloaded from the DAQ website: **www.airquality.utah.gov**. Click on the link "'2014 Emissions Inventory Forms & Instructions". Then, if portable sources are being reported, click on the link 'Forms for Portable Equipment'

Click on the "?" to link to each form's instructions. If you have questions, contact one of the inventory staff listed in your Annual 2014 Inventory Request letter.

Which forms do you use?

All sources submitting detailed forms need to include Form A, Form B, Form 5, in addition to any other forms needed to report emissions data for the equipment or activities that emit at the source.

Table 10 on page 38 explains what type of equipment and activities to put on what form. If a form does not pertain to your processes, you can ignore that form. Use Form 2 for equipment or activities for which there is no other specific form.

If in 2014 your equipment was used at a site other than the location indicated on your Approval Order, use a set of Portable Equipment forms for the emissions emitted at each alternate site(s). These forms are found on the DAQ website: **www.airquality.utah.gov**. Click on the link "2014 Emissions Inventory Forms & Instructions." Then, click on the link "Forms for Portable Equipment."

If you are permitted as a Portable Source, use the forms found on the above website. A separate set of forms is to be submitted for each individual location where the permitted equipment has been operated during the year.

PORTABLE EQUIPMENT WITHOUT PREVIOUS SUBMITTALS

Table 8

HAZARDOUS AIR POLLUTANTS (HAPs)

HAPs that are not chargeable are shaded. Unless otherwise indicated by " * " in the CAS # column, all HAPs are also considered VOCs or PM_{10}.

CAS #	Pollutant	Minimum Emissions (lbs/yr)	Corresponding Tons/Yr
79118 *	Chloroacetic acid	4.88	0
108907	Chlorobenzene	500	0.25
510156	Chlorobenzilate	0	0
75003	Chloroethane	500	0
67663	Chloroform	500	0.25
74873	Chloromethane	500	0.25
107302	Chloromethyl methyl ether	0	0
126998	Chloroprene	500	0.25
7440473	Chromium	10.61	0.01
77202582	Chromium Compounds	0.07	0
1333820	Chromium Oxide	0.07	0
18540299	Chromium VI	0.07	0
542756	Cis-1,3-Dichloropropene	96.32	0.05
7440484	Cobalt	0.42	0
	Cobalt Compounds	0.42	0
62207765	Cobalt, ((2,2'-1(1,2-Ethanediylbis	0.42	0
	Coke Oven Emissions	0	0
544923	Copper(1)Cyanide	0	0
1319773	Cresols	469.27	0.23
1319773 *	Cresols/Cresylic acid (isomers and mixt.)	469.27	0.23
98828	Cumene	500	0.25
101144	Curene (AKA-4,4-Methylene Bis(2Chloroaniline)	0.77	0
57125	Cyanide	0	0
	Cyanide Compounds	0	0
72559	DDE	0	0
121142	DNT	0	0
334883	Diazomethane7	2.43	0
132649	Dibenzofurans	0	0
106934	Dibromoethane	0	0
84742	Dibutylphthalate	106.1	0.05
111444	Dichloroethyl ether (Bis(2-chloroethyl)ether)	500	0.25
75092	Dichloromethane	500	0.25
62737	Dichlorvos	19.1	0.01
111422	Diethanolamine	42.44	0.02

Table 8 HAZARDOUS AIR POLLUTANTS (HAPs) HAPs that are not chargeable are shaded. Unless otherwise indicated by " * " in the CAS # column, all HAPs are also considered VOCs or PM_{10}.			
CAS #	Pollutant	Minimum Emissions (lbs/yr)	Corresponding Tons/Yr
7783702	Antimony Pentafluoride	10.61	0.01
	Arsenic	0.21	0
	Arsenic Compounds	0.07	0
1327533	Arsenic Trioxide	0.07	0
7784421	Arsine	3.38	0
1332214	Asbestos	0	0
71432	Benzene (including benzene for gasoline)	33.9	0.02
	Benzene Sol Org	95	0
92875	Benzidine	0	0
98077	Benzotrichloride	12.64	0.01
100447	Benzyl chloride	109.86	0.05
7440417	Berylium	0.04	0
	Beryllium Compounds	0.01	0
57578	Beta-Propiolactone	31.27	0.02
92524	Biphenyl	26.77	0.01
542881	Bis(chloromethyl)ether	0	0
117817	Bis(2-ethylhexyl)phthalate (DEHP)	106.1	0.05
1375543	Bisphenol A Diglycidyl Ether	0	0
75252	Bromoform	109.7	0.05
74839	Bromomethane	82.41	0.04
106990	Butadiene	31.23	0.02
7440439	Cadmium	0.07	0
	Cadmium Compounds	0.01	0
156627	Calcium cyanamide	10.61	0.01
133062	Captan	106.1	0.05
63252	Carbaryl	106.1	0.05
75150	Carbon disulfide	500	0.25
463581	Carbon oxide sulfide (COS)	0	0
	Carbon oxysulfide	0	0
56235	Carbon tetrachloride	222.42	0.11
463581	Carbonyl sulfide	0	0
120809	Catechol	477.82	0.24
133904	Chloramben	0	0
57749 ^	Chlordane	10.61	0.01
7782505 *	Chlorine	30.77	0.02

How do you submit information when your equipment operated in more than one location?

Some equipment such as asphalt plants, concrete batch plants, portable generators, and associated support equipment, may be operated in multiple locations during the course of a calendar year. Emissions from each location that equipment operated during the course of the year, must be reported using a separate set of forms. The corresponding county of operation should be entered in the county field on each form submitted for each location.

Non-major (Area) Title V portable sources need only submit totals of individual pollutants. These totals should be submitted on Form B. If your equipment operated at multiple sites during 2014, you will need to complete a Form A and a Form B for each site, even if projects were located in the same county. Include HAPs and other regulated pollutants and indicate if they are also included as PM_{10} or VOCs.

Who submits?

The owner of the Approval Order(s) that is being used at a particular location is responsible for making sure the emissions are submitted. The party submitting may be the owner of the property, the equipment, or the operator.

What emissions are included in the submittal?

All air emissions that occur at the site are included in the submittal, not just the emissions from the equipment or processes listed in the Approval Order.

The site includes any equipment or activities that are located or occur within a contiguous or adjacent area that are under common control and belong to the same type of major industry. See Table 3 for a list of common major categories. For more major categories, see the Executive Office of the President, Office of Management and Budget's "Standard Industrial Classification Manual"

Table 3 Major Industrial Categories (Standard Industrial Classification Major Groups)	
Major Group	**Description**
01	Agricultural production - crops
02	Agriculture production livestock and animal specialties
07	Agricultural services
10	Metal mining
12	Coal mining
13	Oil and gas extraction
14	Mining & quarrying of nonmetallic minerals
15	Building construction-general contractors and operative builders
16	Heavy construction other than building construction-contractors
29	Petroleum refining and related industries
32	Manufacturing of stone, clay, glass, and concrete products

ADDITIONAL INFORMATION ABOUT SPECIFIC FORMS

Form A

Form A requires company, site, and contact information. Current information for your company, site(s), and contacts should be included. **One form is required for each location where the equipment operated.**

Form B: SUMMARY -Total Emissions by Site

A summary of facility emissions is included on this form. It includes the total amount of emitted individual pollutants at the source not including emissions from the tailpipe of mobile sources; total amount of individual pollutants from tailpipe; and the total amount of individual pollutants including tailpipe emissions.

In addition to criteria pollutants, this form is to include individual HAPs and other regulated pollutants emitted by sources. One Form B is required for

Table 8 HAZARDOUS AIR POLLUTANTS (HAPs) HAPs that are not chargeable are shaded. Unless otherwise indicated by " * " in the CAS # column, all HAPs are also considered VOCs or PM_{10}.			
CAS #	**Pollutant**	**Minimum Emissions (lbs/yr)**	**Corresponding Tons/Yr**
584849	2,4-Toluenediisocyanate	0.76	0
53963	2-Acetlyaminofluorene	0	0
111762	2-Butoxy-Ethanol	500	0.25
532274	2-Chloroacetophenone	6.71	0
126998	2-Chloro-1,3,Butadiene	500	0.25
532274	2-Chloro-1-phenylethanone	6.71	0.25
75558	2-Methylaziridine	99	0.05
79469	2-NP	500	0.25
79469	2-Nitropropane	500	0.25
91941	3,3-Dichlorobenzidine	0	0
119904	3,3-Dimethoxybenzidine	0	0
119937	3,3'-Dimethyl benzidine	0	0
96128	3-Chloro-1,2-dibromopropane	0	0
91941	4,4-Diamino-3,3-dichlorobiphenyl	0	0
101144	4,4-Methylene bis(2-chloraniline)	0.77	0
101144	4,4'-Methylenebis[2-chlorobenzenamine]	0.77	0
101779	4,4'-Methylene dianiline	17.21	0.01
534521	4,6-Dinitrol-o-cresol and salts	4.24	0
101779	4-(4-Aminobenzyl)aniline	17.21	0.01
92671	4-Aminobiphenyl	0	0
92933	4-Nitrobiphenyl	0	0
100027	4-Nitrophenol	0	0
75070	Acetaldehyde	500	0.25
60355	Acetamide	0	0
75070	Acetic Aldehyde	500	0.25
75058	Acetonitrile	500	0.25
98862	Acetophenone	500	0.25
107028	Acrolein	3.62	0
79061	Acrylamide	0.64	0
79107 *	Acrylic acid	125.08	0.06
107131	Acrylonitrile	92.08	0.05
51285	Aldifen	0	0
107051	Allyl chloride	66.39	0.03
62533	Aniline	161.64	0.08
7440360	Antimony	10.61	0.01
	Antimony Compounds	10.61	0.01

Table 8 HAZARDOUS AIR POLLUTANTS (HAPs) HAPs that are not chargeable are shaded. Unless otherwise indicated by " * " in the CAS # column, all HAPs are also considered VOCs or PM_{10}.			
CAS #	Pollutant	Minimum Emissions (lbs/yr)	Corresponding Tons/Yr
120821	1,2,4-Trichlorobenzol	500	0.25
106887	1,2-Butene oxide	0	0
106887	1,2-Butylene Oxide	0	0
96128	1,2-Dibromo-3-chloropropane	0	0
106934	1,2-Dibromoethane	0	0
107062	1,2-Dichloroethane	500	0.25
78875	1,2-Dichloropropane	500	0.25
95476	1,2-Dimethylbenzene	500	0.25
122667	1,2-Diphenylhydrazine	0	0
106887	1,2-Epoxybutane	0	0
1120714	1,2-Oxathiolane 2,2-dioxide	0	0
75558	1,2-Propylenimine (2-Methylaziridine)	99.1	0.05
106990	1,3-Butadiene	31.28	0.02
542756	1,3-Dichloropropene	96.3	0.05
108383	1,3-Dimethylbenzene	500	0.25
1120714	1,3-Propane sultone	0	0
106467	1,4-Dichlorobenzene(p)	500	0.25
123911	1,4-Diethyleneoxide	500	0.25
106423	1,4-Dimethylbenzene	500	0.25
123911	1,4-Dioxane	500	0.25
106898	1-Chloro-2,3-epoxypropane	40.15	0.02
121142	1-Methyl-2,4-dinitrobenzene	4.24	0
540841	2,2,4-Trimethylpentane	0	0
1746016	2,3,7,8-Tetrachlorodibenzo-p-Dioxin	0	0
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin	0	0
94757 *	2,4 Dichlorophenoxyacetic acid	212.2	0.11
95954	2,4,5-Trichlorophenol	0	0
88062	2,4,6-Trichlorophenol	0	0
94757 *	2,4-D, salts and esters	212.2	0.11
95807	2,4-Diaminotoluene	0	0
584849	2,4-Diisocyanatoluene	0.76	0
51285	2,4-Dinitrophenol	0	0
121142	2,4-Dinitrotoluene	4.24	0
51285	2,4-DNP	0	0
95807	2,4-Toluene diamine	0	0

each location where your equipment was operating during the calendar year.

Remember to indicate if the HAPs are also included in the reported PM_{10} or VOC totals.

Form 5 - Operating Hours

This form is designed to reduce repetitive reporting of the operating hours for a site. If all processes at a site have the same operating hours, enter that information on Form 5 and write "All Processes" in the Description field.

Form F18a-F19b - Replaced by TANKS

The U.S. EPA recommends the use of the latest version of TANKS (currently version 4.09D) for the estimation of emissions from storage tanks. TANKS is designed for use by local, state, and federal agencies, environmental consultants, and others who need to calculate VOC emissions from organic liquid storage tanks.

TANKS is a Windows-based computer software program that computes estimates of VOC emissions from fixed- and floating-roof storage tanks. TANKS is based on the emission estimation procedures from Chapter 7 of EPA's "Compilation of Air Pollutant Emission Factors (AP-42)", plus recent updates from the American Petroleum Institute. A user's manual, included with the program, explains the many features and options of TANKS. The program includes on-line help for every screen.

The software can be downloaded from the EPA web page in a ZIP format from: http://www.epa.gov/ttn/chief/software/tanks/index.html.

Be aware, you must include the full output of TANKS 4.09D with your emissions inventory submittal.

Form F20b

Form F20b has been formatted for refinery fugitive emissions resulting from the correlation equation calculation method. Supplement Form 20b is provided for documenting each of the monitored components.

Ozone Season (June 1 through August 31)

Since Salt Lake and Davis Counties are now maintenance areas for ozone, **NO Ozone Season Inventory is required.**

TYPES OF INFORMATION

Emissions from what time period are reported?

The emission information should be based for the past calendar year – from

January 1 through December 31, 2014.

What pollutants are included in the submittal?

All of the following pollutants that are emitted at your source are to be included in your submittal: PM_{10}, PM_{25}, SO_x, NO_x, VOC, CO, lead, ammonia, and other regulated pollutants. HAPs are reported if emissions have increased by 40 tons from last submittal. This includes emissions from various pieces of equipment, mobile sources, as well as fugitive emissions.

PM

Particulate matter, also known as particle pollution, is a complex mixture of extremely small dust and soot particles. Particle pollution is divided into two categories, "PM_{10}" and "$PM_{2.5}$." PM_{10} is matter less than 10 micrometers in diameter. That would be about one-seventh the width of a strand of human hair. $PM_{2.5}$ is even smaller - measuring 2.5 micrometers or less.

Federal regulations (40 CFR Part 51) require that sources now report emissions data for **filterable** and **condensable** components for both $PM_{2.5}$ and PM_{10}. Filterable, condensable, and primary $PM_{2.5}$ and PM_{10} are defined in 40 CFR Part 51 as follows:

Filterable $PM_{2.5}$ or PM_{10}: Particles that are directly emitted by a source as a solid or liquid at stack or release conditions and captured on the filter of a stack test train. Filterable $PM_{2.5}$ is particulate matter with an aerodynamic diameter equal to or less than 2.5 micrometers. Filterable PM_{10} is particulate matter with an aerodynamic diameter equal to or less than 10 micrometers.

Condensable PM: Material that is vapor phase at stack conditions, but which condenses and/or reacts upon cooling and dilution in the ambient air to form solid or liquid PM immediately after discharge from the stack. Note that all condensable PM, if present from a source, is typically in the $PM_{2.5}$ size fraction, and therefore all of it is a component of both primary $PM_{2.5}$ and primary PM_{10}.

Primary $PM_{2.5}$: The sum of filterable $PM_{2.5}$ and condensable $PM_{2.5}$.

Primary PM_{10}: The sum of filterable PM_{10} and condensable PM_{10}.

Sources are required to report all pertinent data including operating parameters, controls, throughputs, emission factors, and calculations for the filterable and condensable components of $PM_{2.5}$ and PM_{10}. Emissions data for calculating the filterable and condensable components for $PM_{2.5}$ and PM_{10} may be obtained from stack tests, AP-42, manufacturer specifications, and industry standards etc. Stack test data should include the filterable

Table 7

VALID ESTIMATING METHODS FOR SPECIFIC PROCESSES

Estimation Methods: Preferred (P) or Alternative (A)

Process Source Category	Material balance	Emission Factors	Source Testing	CEM	Emission Models/ Predictive Monitoring[a]	Fuel Analysis	Engineering Calculations
Ships, Surface Coating	P, A	A	P, A		A		
Wastewater Collection and Treatment	A	A	A		P		A
Wood Furniture, Surface Coating	P, A	A	P, A		A		

[a] Predictive emission monitoring is an estimation method where emissions are correlated to process parameters based on demonstrated correlations. Reference: *Emission Inventory Improvement Preferred and Alternative Methods.* Volume I, Introduction to the EIIP, and Volume II, Point Sources.

Table 8

HAZARDOUS AIR POLLUTANTS (HAPs)

HAPs that are not chargeable are shaded. Unless otherwise indicated by " * " in the CAS # column, all HAPs are also considered VOCs or PM_{10}.

CAS #	Pollutant	Minimum Emissions (lbs/yr)	Corresponding Tons/Yr
71556 *	1,1,1-Trichloroethane	500	0.25
79345	1,1,2,2-Tetrachloroethane	145.68	0.07
79005	1,1,2-Trichloroethane	500	0.25
72559	1,1-dichloro-2,2-bis(p-chlorophenyl)ethylene)	0	0
75343	1,1-Dichloroethane	500	0.25
75354	1,1-Dichloroethylene	420.71	0.21
57147	1,1-Dimethyl hydrazine	0.52	0
120821	1,2,4-Trichlorobenzene	500	0.25

Table 7 VALID ESTIMATING METHODS FOR SPECIFIC PROCESSES							
Estimation Methods: Preferred (P) or Alternative (A)							
Process Source Category	**Material balance**	**Emission Factors**	**Source Testing**	**CEM**	**Emission Models/ Predictive Monitoring[a]**	**Fuel Analysis**	**Engineering Calculations**
Metal Cans, Surface Coating	P, A	A	P, A		A		
Metal Coil, Surface Coating	P, A	A	P, A		A		
Metal Furniture, Surface Coating	P, A	A	P, A		A		
Misc. Metal Parts, Surface Coating	P, A	A	P, A		A		
Oil & Gas Field Production & Processing		P, A	A	A	P		
Paper Coating, Surface Coating	A	P, A	A		P		
Plastic Products Mfg.	P, A	A	P, A		A		
Plastic Parts, Surface Coating	P, A	A	P, A		A		
Secondary Metal Processing		P, A	P, A	P, A			
Semi-conductor Mfg.	P	A	P, A				A

component (Method 201A or equivalent), and the condensable component (Method 202 or equivalent). Following is a list of sections in AP-42 that contain emissions factors and information concerning filterable and condensable PM emissions:

AP-42 1.1 Bituminous and Subbituminous Coal Combustion
AP-42 1.2 Anthracite Coal Combustion
AP-42 1.3 Fuel Oil Combustion
AP-42 1.4 Natural Gas Combustion
AP-42 1.7 Lignite Combustion
AP-42 3.1 Stationary Gas Turbines
AP-42 3.2 Natural Gas-Fired Reciprocating Engines
AP-42 3.4 Large Stationary Diesel and all Stationary Dual-Fuel Engines
AP-42 8.12 Sodium Carbonate
AP-42 9.5.2 Meat Smokehouses
AP-42 9.5.3 Meat Rendering Plants
AP-42 9.6.1 Natural and Processed Cheese
AP-42 9.9.4 Alfalfa Dehydrating
AP-42 9.10.1.2 Sugar Beet Processing
AP-42 9.13.3 Snack Chip Deep Fat Frying
AP-42 10.5 Plywood Manufacturing
AP-42 10.6.1 Waferboard/Oriented Strandboard Manufacturing
AP-42 10.6.2 Particleboard Manufacturing
AP-42 10.6.3 Medium Density Fiberboard Manufacturing
AP-42 10.6.4 Hardboard and Fiberboard Manufacturing
AP-42 10.9 Engineered Wood Products Manufacturing
AP-42 11.1 Hot Mix Asphalt Plants
AP-42 11.3 Brick And Structural Clay Product Manufacturing
AP-42 11.4 Calcium Carbide Manufacturing
AP-42 11.6 Portland Cement Manufacturing
AP-42 11.10 Coal Cleaning
AP-42 11.13 Glass Fiber Manufacturing
AP-42 11.17 Lime Manufacturing
AP-42 11.20 Lightweight Aggregate Manufacturing
AP-42 11.21 Phosphate Rock Processing
AP-42 11.23 Taconite Ore Processing
AP-42 11.28 Vermiculite Processing
AP-42 12.2 Coke Production
AP-42 12.5.1 Steel Minimills

SO_x

Oxides of sulfur (SO_x) is an invisible gas with a pungent odor. The major source of sulfur oxides is the combustion of sulfur-containing fuels, primarily coal and fuel oil.

NO_x
Oxides of nitrogen (NO_x) are formed in high-temperature combustion processes. The substance can react to form ozone or PM_{10} in the form of nitrates.

CO
Carbon monoxide (CO) is a colorless, odorless, very toxic gas resulting from incomplete combustion.

VOC
Volatile Organic Compounds (VOC) for the purposes of criteria pollutant emission inventory reporting means any compound of carbon (other than carbon monoxide, carbon dioxide, carbonic acid, metallic carbonates, metallic carbides, and ammonium carbonate) which participates in atmospheric photochemical reactions. A company must report all reactive VOC emissions (including fugitive emissions). VOC emissions which are non-reactive are not reported. See Figure 1 on page 17 for a list of non-reactive VOC.

Lead
Elemental Lead (Pb) and its compounds are to be included on various forms as a criteria pollutant. Elemental lead should be measured by using a reference method explained in Appendix G of 40 CFR Part 50. This can be viewed on website
http://edocket.access.gpo.gov/cfr_2008/julqtr/pdf/40cfr50AppG.pdf

Ammonia
Ammonia comes mostly from agricultural activities. Ammonia builds up in the ground level layer of the atmosphere during inversions due to lack of vertical mixing. It reacts directly with gaseous nitric acid to form ammonium nitrate particulate.

Hazardous Air Pollutants (HAPs)
Hazardous Air Pollutants are toxic air pollutants that are known or suspected to cause cancer or other serious health effects or adverse environmental effects. A list of substances that are considered to be HAPs are listed in Table 8 beginning on page 28. If the total emissions of an individual HAP is less than the level listed as the Minimum Emissions (lbs/yr) in Table 8, reporting of that HAP is not required.

Other regulated Non-Criteria, Non-HAP pollutants
These are air pollutants, listed in Table 4 below, that are neither criteria pollutants nor hazardous air pollutants, yet are federally regulated and reportable. They are to be reported on Form 1 and Form B, and most are chargeable under the Title V program; see Table 9 for minimum emissions.

Table 7

VALID ESTIMATING METHODS FOR SPECIFIC PROCESSES

Estimation Methods: Preferred (P) or Alternative (A)

Process Source Category	Material balance	Emission Factors	Source Testing	CEM	Emission Models/ Predictive Monitoring[a]	Fuel Analysis	Engineering Calculations
Aircraft Mfg, Surface Coating	P, A	A	P, A		A		
Appliances, Surface Coating	P, A	A	P, A		A		
Automobiles and Light-duty Trucks, Surface Coating	P, A	A	P, A		A		
Automobile Refinishing Surface Coating	P, A	A	P, A		A		
Boilers		A	P	P		P	
Equipment Leaks		A	A		P		
Flat Wood Product Mfg, Surface Coating	P, A	A	P, A		A		
Heavy-duty Truck Mfg, Surface Coating	P, A	A	P, A		A		
Hot-Mix Asphalt Plants		P	P	A	A	P	
Magnet Wire, Surface Coating	P, A	A	P, A		A		

Table 5 Emissions Control Device Codes	
Control Facility Code	**Control Facility Description**
207	Carbon Injection
208	Freeboard Refrigeration Device

Table 6 EMISSIONS ESTIMATE METHOD CODES	
Estimate Code	**Estimate Method Description**
0	No Code Given
1	CEMs (Continuous Emission Monitoring
2	Engineering judgement
3	Material Balance
4	Stack Test
5	EPA Speciation Profile
6	State/Local Speciation Profile
7	Manufacturer Speciation
8	User-calculate based on EPA's AP-42 Emission Factors
9	State/Local Emission Factors
10	Site Specific Emission Factors
11	Vender Emission Factors
12	Trade Group Emission Factors

Note: The numbering of the estimate codes has been modified due to EPA's move from AIRS to NET in 1999. Be sure to review and correct the codes in your submittal as needed.

Table 4 Other Regulated Non-Criteria, Non-HAP Pollutants	
2-(2-Butoxyethoxy)-Ethanol	Fluorides
2-Butoxyethanol	Total reduced sulfur
Dioxin/furan (total tetra-through octachlorinated dibenzo-p-dioxins and dibernzofurans	Sulfuric acid mist
Municipal solid waste landfill: non-methane organic compounds	

How are the calculations done?

EPA's "AP-42 Fifth Edition Compilation of Air Pollutant Emission Factors, Volume 1: Stationary and Area Sources" explains what types of emissions are generated by different processes and how to calculate them. This document can be viewed at /www.epa.gov/ttn/chief/ap42/ on the web.

If AP-42 emission factors are used in the calculating of emissions, the most current edition of AP-42 must be used. Any inventories submitting calculations using out-of-date factors will not be considered complete.

In addition, the instructions for some forms include sample equations for calculating emissions for some processes: F7 Sand and Gravel, F11b Fugitive Dust - Storage Piles, and F12 Off-Highway Mobile. These instructions can be viewed on the DAQ website, www.airquality.utah.gov. Click on the link '2014 Emissions Inventory Forms & Instructions', then click on the "?" by the individual forms in the table.

If there are questions about the information necessary to calculate emissions, please contact Scott Hanks of the DAQ Emissions Inventory staff at (801)536-4066 or Shanks@utah.gov. He is available to answer questions and assist with emission calculations.

The equations used to calculate the emissions for detailed 2014 inventory data must be included as part of the submittal for it to be considered complete.

What if the inventory data is not complete or inaccurate?

It is important to be accurate and concise. Failure to do so constitutes a violation, and penalties may be accessed.

When should you submit the Emissions Inventory report?

The completed inventory must be postmarked by April 15, 2015. The date cannot be extended.

What if you submit late?

It is important to submit your report by the deadline. Failure to do so constitutes a violation, and penalties may be accessed.

Where do you send the reports?

Once you have completed your inventory, make a copy of the workbook file, report, and/or forms for your records and submit the **ORIGINAL** to:

ATTN: Emission Inventory
Utah Division of Air Quality
PO Box 144820
Salt Lake City, UT 84114-4820

Note: Due to EPA regulations, DAQ cannot accept electronic workbook inventories submitted by e-mail. Burn the workbook file to a CD and mail it to the above address.

Is the data kept confidential?

The information you submit is not considered confidential. Under state and federal law, it becomes a matter of public record. The process information and the emissions data will be forwarded to EPA and incorporated in the National Emission Inventory (NEI), a publicly accessible database.

Definitions and terms used in the inventory forms and workbooks

Breakdown emissions
The total emissions from each process are required to be reported, including any emissions that occur due to a breakdown, whether or not the breakdown is reported to DAQ. Please enter the total emissions on the forms and indicate the total emissions due to breakdowns. The "Other Title V sources statewide that have never submitted" listed in Table 1 on page 3 that are not submitting detailed data must include breakdown emissions as part of the individual pollutant totals on Form B.

Emission factors are used to derive estimates of air pollutant emissions based on the amount of fuel combusted, industrial production levels, distances traveled, or similar activity data. Factors have been developed by

Table 5
Emissions Control Device Codes

Control Facility Code	Control Facility Description
131	Thermal Oxidizer
132	Condenser
133	Incinerator
134	Demister
137	HVAF
138	Boiler at Landfill
139	SCR (Selective Catalytic Reduction)
139	SCR (Selective Catalytic Reduction)
140	NSCR (Non-Selective Catalytic Reduction)
141	Wet Scrubber
143	Wet Suppression
144	Spray Screen
145	Single Wet Cap
146	Wet Electrostatic Precipitator
147	Increased Air/fuel Ratio with Intercooling
148	Clean Burn
149	Pre-combustion Chamber
150	Mechanical Collector
151	Fiber Mist Eliminator
152	Mist Eliminator - High Efficiency
153	Water Sprays
154	Screened Drums or Cages
155	Packed Bed Scrubber - High Efficiency
157	Screen
158	Ionizing Wet Scrubber
159	Electrified Filter Bed
201	Knock Out Box
202	Spray Dryer
203	Catalytic Converter
204	Overfire Air
205	Low NOX Burners
206	Dry Sorbent Injection

Table 5 Emissions Control Device Codes	
Control Facility Code	**Control Facility Description**
96	Vapor Lock Balance Recover System
97	Installation of Secondary Seal for External Floating
98	Moving Bed Dry Scrubber
99	Unspecified (describe control facility)
100	Baghouse
101	High Efficiency Particulate Air Filter (HEPA)
102	Low Solvent Coatings
103	Powder Coatings
104	Waterborne Coatings
105	Process Modification - Electrostatic Spraying
106	Dust Suppression by Physical Stabilization
107	Selective Noncatalytic Reduction for NOx
108	Dust Suppression - Traffic Control
109	Catalytic Oxidizer
110	Vapor Recovery Unit
112	Afterburner
113	Rotoclone
115	Impingement Type Wet Scrubber
116	Catalytic Incinerator
117	Packed Scrubber
118	Crossflow Packed Bed
119	Dry Scrubber
120	Floating Bed Scrubber
121	Multiple Cyclones
122	Quench Tower
123	Spray Scrubber
124	High Pressure Scrubber
125	Low Pressure Scrubber
127	Fabric Filter
128	Electrostatic Precipitator
129	Scrubber
130	Caustic Scrubber

EPA for many types of processes. Factors can be found in EPA's "Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources," called AP-42. This document can be viewed or downloaded from the EPA website www.epa.gov/ttn/chief/ap42/.

Estimate Code means emission estimate method codes required by EPA for reporting purposes. A valid method code of quantifying actual emissions is required wherever an emission estimate appears on a form. The valid method codes are listed in Table 6 on page 24 of this document. These are the only codes which will be accepted.

Facility is machinery, equipment, structures of any part or accessories installed or acquired for the primary purpose of controlling or disposing of air pollution. It does not include an air conditioner, fan, or other similar device for the comfort of personnel.

Fugitive Emissions are emissions from an installation or facility which are neither passed through an air cleaning device nor vented through a stack or could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.

National Emission Standard for Hazardous Air Pollutants (NESHAP) Source is any stationary source of any of the 187 HAPs listed in §112(b)(1) of the Clean Air Act for which the EPA Administrator, under the authority of §112(d), has adopted an emissions standard that is published in 40 CFR Part 61 or Part 63. These 187 pollutants were listed by Congress because it determined that emissions of those HAPs may individually, or in aggregate, present significant risks to public health in urban areas. Once a pollutant is regulated under a NESHAP, it is regulated for all sources of that pollutant.

NSPS Source is any stationary source of pollution for which the Administrator of EPA adopted a national standard that is published in 40 CFR Part 60. These categories of sources were established because it was determined they contributed significantly to air pollution which may reasonably be anticipated to endanger public health or welfare.

Percentage of Annual Hours of Operation is the percent of the total annual hours of operation which occurs during any calendar month. Operating hours are now being reported collectively on Form 5. The combined monthly percentages should add to 100.

Responsible Official is defined in R307-415-3 of the Utah Air Quality Rules. This document can be viewed or downloaded from the DAQ website http://www.airquality.utah.gov/Planning/Rules/Actual_Rules/RULES400.htm.

SCC means Source Classification Code. These codes are established by EPA to define various emissions activities. An SCC should be associated with each emission-generating process or piece of equipment in the detailed inventory report. A link to SCCs can be found under WebFire Factor References on EPA OQAPS web site: http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main.

Source is any structure, building, facility, or installation which emits or may emit any air pollutant subject to regulation under the Clean Air Act and which is located on one or more continuous or adjacent properties and which is under the control of the same person or persons (under common control). A building, structure, facility, or installation means all of the pollutant-emitting activities which belong to the same industrial grouping (see Table 3 on page 9 for industrial groupings).

UTM Coordinates means Universal Transverse Mercator (UTM) geographic coordinates, specified by the UTM zone, horizontal coordinate, and vertical coordinate. Utah falls within zones 11 and 12.

Where do I go for more information?

The following data tables are included in this document:

- 2014 Emissions Inventory Requirements (Table 1)
- Area Source Regulations that Do Not Initiate Title V Program (Table 2)
- Major Industrial Categories (Table 3)
- Other Regulated Pollutants (Table 4)
- Nonreactive VOCs (Figure 1)
- Emissions Control Device Codes (Table 5)
- Emissions Estimate Method Codes (Table 6)
- Valid Estimating Methods for Specific Processes (Table 7)
- Hazardous Air Pollutants (HAPs) (Table 8)
- Non-Criteria/Non-HAP Regulated Pollutants (Table 9)
- Inventory Forms (Table10)

Blank Forms

Blank forms and instructions for permanent as well as portable sources can be downloaded from the DAQ website: **www.airquality.utah.gov**. Click on the link '2014 Emissions Inventory Forms & Instructions'. Then, if portable sources are being reported, click on the link 'Forms for Portable Equipment'

The instructions to the forms are viewed by clicking on the "?" next to the form number.

Inventory Request Letters

If you did not receive an inventory request letter, contact Deborah McMurtrie at (801)

Table 5
Emissions Control Device Codes

Control Facility Code	Control Facility Description
64	Annular Ring Filter
65	Catalytic Reduction
66	Molecular Sieve
67	Wet Lime Slurry Scrubbing
68	Alkaline Fly Ash Scrubbing
69	Sodium Carbonate Scrubbing
70	Sodium-Alkali Scrubbing
71	Fluid Bed Dry Scrubber
72	Tube and Shell Condenser
73	Refrigerated Condenser
74	Barometric Condenser
75	Single Cyclone
76	Multiple Cyclone w/o Fly Ash Reinjection
77	Multiple Cyclone w/Fly Ash Reinjection
78	Baffle
79	Dry Electrostatic Granular Filter
80	Chemical Oxidation
81	Chemical Reduction
82	Ozonation
83	Chemical Neutralization
84	Activated Clay Adsorption
85	Wet Cyclonic Separator
86	Water Curtain
87	Nitrogen Blanket
88	Conservation Vent
89	Bottom Filling
90	Conversion to Variable Vapor Space Tank
91	Conversion to Floating Roof Tank
92	Conversion to Pressurized Tank
93	Submerged Filling
94	Underground Tank
95	White Paint

Table 5 Emissions Control Device Codes	
Control Facility Code	**Control Facility Description**
32	Ammonia Injection
33	Off Stoichiometric Firing
34	Wellman-Lord/Sodium Sulfite Scrubbing
35	Magnesium Oxide Scrubbing
36	Dual Alkali Scrubbing
37	Citrate Process Scrubbing
38	Ammonia Scrubbing
39	Catalytic Oxidation - Flue Gas Desulfurization
40	Alkalized Alumina
41	Dry Limestone Injection
42	Wet Limestone Injection
43	Sulfuric Acid Plant - Contact Process
44	Sulfuric Acid Plant - Double Contact Process
45	Sulfur Plant
46	Process Change
47	Vapor Recovery System (including condensers,
48	Activated Carbon Adsorption
49	Liquid Filtration System
50	Packed-Gas Absorption Column
51	Tray-Type Gas Absorption Column
52	Spray Tower
53	Venturi Scrubber
54	Process Enclosed
55	Impingement Plate Scrubber
56	Dynamic Separator (Dry)
57	Dynamic Separator (Wet)
58	Mat or Panel Filter
59	Metal Fabric Filter Screen (Cotton Gins)
60	Process Gas Recovery
61	Dust Suppression by Water Sprays
62	Dust Suppression by Chemical Stabilizers or
63	Gravel Bed Filter

536-4187 or Dmcmurtrie@utah.gov.

Previously submitted inventory data
Previously submitted inventory data can be obtained by contacting Deborah McMurtrie by telephone at (801) 536-4187 or by e-mail at Dmcmurtrie@Utah.gov.

EPA's AP-42 Emission factors and equations for calculations
Emission factors and equations for calculations can be found on the web at: www.epa.gov/ttn/chief/ap42.

Questions and concerns
Contact any of the following Inventory Staff for help:

Scott Hanks	(801) 536-4066
Jim Schubach	(801) 536-4001
Deborah McMurtrie	(801) 536-4187

REFERENCE DATA

Figure 1

NON-REACTIVE VOCS

The following chemicals contain non-reactive VOCs which do not need to be reported. However, those preceded with a * are also considered HAPs which do need be reported.

1 chloro-1-fluoroethane (HCFC-151a);
1-chloro 1,1-difluoroethane (HCFC-142b);
1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane $C_4F_9OC_2H_5$);
1,1-dichloro 1-fluoroethane (HCFC-141b);
1,1-difluoroethane (HFC-152a);
***** 1,1,1-trichloroethane (methyl chloroform);
1,1,1-trifluoro 2,2-dichloroethane (HCFC-123);
1,1,1-trifluoroethane (HFC-143a);
1,1,1,2-tetrafluoroethane (HFC-134a);
1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane (n-$C_3F_7OCH_3$)
1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane $C_4F_9OCH_3$);
1,1,1,2,3-pentafluoropropane (HFC-245eb);
1,1,1,2,3,3-hexafluoropropane (HFC-236ea);
1,1,1,2,3,3,3-heptafluoropropane (HFC 227ea)
1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC 43-10mee);
1,1,1,3,3-pentafluorobutane (HFC-365mfc);
1,1,1,3,3-pentafluoropropane (HFC-245fa);
1,1,1,3,3,3-hexafluoropropane (HFC-236fa);

1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113);
1,1,2,2-tetrafluoroethane (HFC-134);
1,1,2,2,3-pentafluoropropane (HFC-245ca);
1,1,2,3,3-pentafluoropropane (HFC-245ea);
1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a);
1,2-dichloro 1,1,2,2-tetrafluoroethane (CFC-114);
1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb);
2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124);
2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane
($(CF_3)_2CFCF_2OCH_3$);
2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane
($(CF_3)_2CFCF_2OC_2H_5$);
3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl) hexane
3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca);
acetone;
chlorodifluoromethane (HCFC-22);
chlorofluoromethane (HCFC-31);
chloropentafluoroethane (CFC-115);
cyclic, branched, or linear completely methylated siloxanes;
dichlorodifluoromethane (CFC-12);
difluoromethane (HFC-32);
dimethyl carbonate;
ethane;
ethylfluoride (HFC-161);
methane;
methyl acetate;
methyl formate ($HCOOCH_3$)
***** methylene chloride (dichloromethane);
parachlorobenzotrifluoride (PCBTF);
pentafluoroethane (HFC-125);
perchloroethylene (tetrachloroethylene);
propylene carbonate;
trichlorofluoromethane (CFC-11);
trifluoromethane (HFC-23);
perfluorocarbon compounds which fall into these classes:

- Cyclic, branched, or linear, completely fluorinated alkanes;
- Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
- Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and
- Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

Table 5
Emissions Control Device Codes

Control Facility Code	Control Facility Description
0	Uncontrolled
1	Wet Scrubber - High Efficiency 95-99%
2	Wet Scrubber - Medium Efficiency 80-95%
3	Wet Scrubber - Low Efficiency < 80%
4	Gravity Collector - High Efficiency 95-99%
5	Gravity Collector - Medium Efficiency 80-95%
6	Gravity Collector - Low Efficiency < 80%
7	Centrifugal Collector - High Efficiency 95-99%
8	Centrifugal Collector - Medium Efficiency 80-95%
9	Centrifugal Collector - Low Efficiency < 80%
10	Electrostatic Precipitator - High Efficiency 95-99%
11	Electrostatic Precipitator - Medium Efficiency 80-
12	Electrostatic Precipitator - Low Efficiency < 80%
13	Gas Scrubber (general, not classified)
14	Mist Eliminator - High Velocity, i.e., v>250 ft/min
15	Mist Eliminator - Low Velocity, i.e., v>259 ft/min
16	Fabric Filter - High Temperature, i.e., T>250 F
17	Fabric Filter - Medium Temperature, i.e., F <T<250
18	Fabric Filter - Low Temperature, i.e., T<180 F
19	Catalytic Afterburner
20	Catalytic Afterburner w/ Heat Exchanger
21	Direct Flame Afterburner
22	Direct Flame Afterburner w/ Heat Exchanger
23	Flaring
24	Modified Furnace or Burner Design
25	Staged Combustion
26	Flue Gas Recirculation
27	Reduced Combustion - Air Preheating
28	Steam or Water Injection
29	Low Excess Air Firing
30	Use of Fuel with Low Nitrogen Content
31	Air Injection