Toxic Release Inventory Inspections

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Introduction

- The goal of this presentation is to
  - Provide a quick background on TRI
  - Discuss how targeting is performed
  - Discuss how inspections are performed
  - What happens when there are violations
  - Current focus of the national TRI program

What is TRI ?

- TRI is the only national, publicly available easily useable database showing toxic chemicals, their releases, discharge, and transfers.
- (But it does not provide information on the quantity manufactured, processed or otherwise used.)

What is TRI?

- Provides important environmental information on the release and transfer of toxic chemicals in the United States.
- Individual facilities report TRI data annually
- The public can search the data by geographic area, facility, industry, parent company, and offsite waste transfer data,
- Quantity of toxic chemicals released to the environment.

Types of TRI Releases

- Facilities must report releases for:
  - Stack air emissions,
  - Fugitive air emissions,
  - Discharges to receiving streams,
  - Discharges to POTWs,
  - Disposal to landfills,
  - Off-site transfers (such as to recycling),

Common manufacturing sectors in NE reporting under TRI (2015)

Manufacturing Sector	**# Reporting**
Fabricated Metal Products	182
Chemical Manufacturing	132
Primary Metal Manufacturing	60
Plastics And Rubber Products	54
Nonmetallic Mineral Products	53
Paper Manufacturing	43
Computer Manufacturing	74
Transportation Manufacturing	55

Persistent Bioaccumalative Toxic Chemicals (PBTs)

- There are 20 chemicals or chemical families that are sufficiently toxic and persistent in the environment that they should have lower reporting thresholds than the other 313 chemicals.

The most common PBTs in NE include (with their threshold)

Lead	100 lbs
Lead compounds	100 lbs
Mercury	10 lbs
Mercury compounds	10 lbs
PACs (Polycyclic Aromatic Compounds)	100 lbs
Benzo (g,h,i) perylene	10 lbs
Pesticides and dioxin	

How much to exceed thresholds?

Product or chemical	**Amount**	**TRI chemical**
#6 fuel oil	5,100 gal/year	PAC
#2 fuel oil	1,400,000 gal/year	PAC
Nitric acid	10,000 lbs or 1,200 gallons pure, or 87 drums of 25% HNO3) or **less than 2 new drums per week**	Otherwise use 42 Baume is 67% (14,925 lbs), or 3 drums per month
Floor finish (certain types – see MSDS)	625,000 lbs (76,000 gallons, 1,382 drums or **26 drums per week**))	Glycol ethers (at 4% concentration)

Targeting and Inspections

- It is my job to find violations
- Believe it or not, I wish the best for your company
- But appreciate where I am coming from

Original Inspection Targeting

- Large facilities
- Specific toxic chemicals

Danversport, Massachusetts facility

Change in Strategy

Now we look at:

- Small facilities that might be dangerous
- facilities that do not report (never reporters),
- report incorrectly (gross data quality),
- large releasers ,
- inconsistencies in reporting (don’t know what they are doing)

Current TRI areas of interest

- non reporters (database comparison),
- report incorrectly or implement improper practices,
- Toxic chemicals (solvents, TCE, HF, etc.),
- Facilities identified by HQ (nonreporters, Title V permits, waste transfers),
- Top releasers in state, and
- I look at the files of a hundred or more facilities each year.

Top Releasers in Massachusetts

from RTK.net

[Alexandria Holdings -Accushnet],[American Biltrite – Ideal Tape]

Top 5 parent companies for pounds of releases

SOLUTIA INC	914,187
CROWN HOLDINGS INC	237,436
INEOS MELAMINES LLC	212,237
ALEXANDRIA HOLDINGS CORP.	165,554
AMERICAN BILTRITE INC	127,765

Want to avoid an unneccesary inspection?

- Any significant change? Such as:
  - not reporting a chemical
  - Significant change in release
- Fill in Section 8.11 or 9.1 narrative.
- Provide comments
- I read many of them during targeting

Inspections

- What to expect
  - Generally TRI inspections are announced inspections

Inspections – what to expect

- **Preinspection letter** (and telephone call)
- **Opening conference**
- **Walk through** –observe, pictures
- **Data and file review**
- **Close out** at end of inspection
- **Office review**

Preinspection letter

- Please have available:
- the quantities of TRI chemicals manufactured, processed or otherwise used at the facility for reporting years, 2013, 2014 and 2015.
- Calculations used to prepare the U.S. EPA TRI forms must be provided. Additionally,
- provide a written description of all the processes occurring at your facility that use the TRI chemicals (a couple paragraphs).

Pre-inspection letter

- list of most common chemicals (or raw materials) used at the facility,
- - quantities of TRI chemicals used or processed each year for the past four years,
- - calculations used to calculate TRI thresholds and quantities,
- - safety data sheets (SDS) for the materials containing TRI chemicals over or near threshold,
- - chemical and product inventories,
- - information on spills and releases, - current air, water, and solid waste permits (as applicable).
- - analytical results of samples collected during the years of interest, if the data are relevant to TRI reporting (e.g., NPDES monitoring, stack tests). In the event that these data are not available for the years specified, please provide the most recent data available.
- - operating procedures, and
- - production information.

What is included in a TRI inspection

- **Opening cenference** - “This is an enforcement inspection – there may be penalties if there are violations”
- Notice of Inspection – read and sign it
- General questions about facility, processes and chemicals- what does the facility do?

Walk through (what to I look for):

- Understand processes,
- Chemical storage, processing areas, and waste storage areas,
- Large quantities of a product or material containing 313 chemicals?
- Largest purchases of chemicals – any TRI chemicals?
- Chemical and material flow. What are they using a lot of?

Start counting bags and look at the SDSs

Count the drums and chemicals and look at the SDS

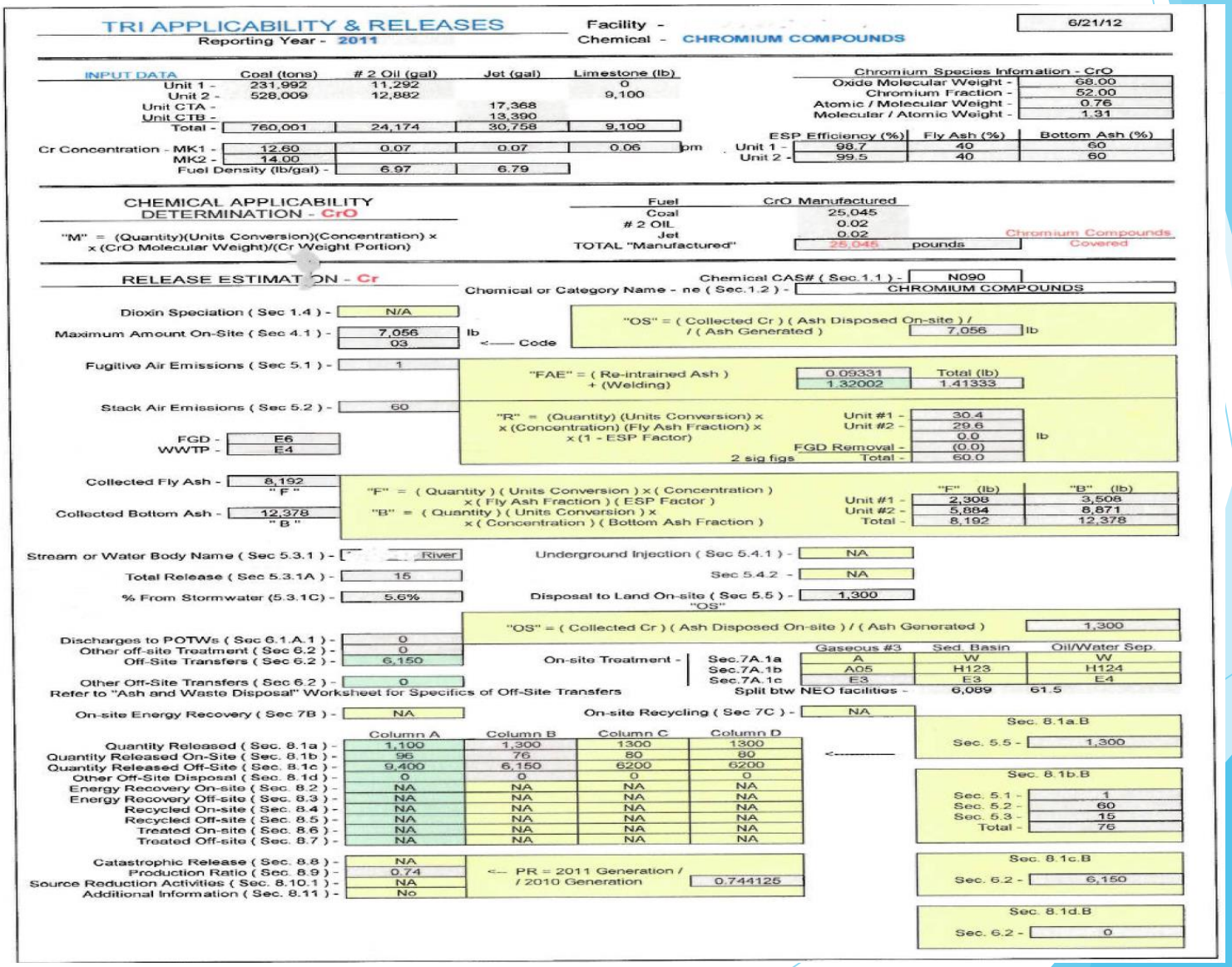
Information I look for during an inspection

1. List all 313 chemicals that might exceed TRI threshold, include CAS # for each chemical.
2. Amount of 313 chemical used/processed or otherwise used on-site in a year.
3. Description of how the 313 is used and/or manufactured.
4. Collect information (at least SDS and chemical purchases) or TRI calculations for the last three reporting years.

At a minimum the Facility must have:

- Three years of calculations – on site,
- Reasonable estimates,
- Purchase records,
- SDS,
- Certificates of analysis (maybe),
- any available monitoring data.

Example of printable TRI calculations



TRI APPLICABILITY & RELEASES
Reporting Year - 2011
Facility -
Chemical - CHROMIUM COMPOUNDS
6/21/12

INPUT DATA	Coal (tons)	# 2 Oil (gal)	Jet (gal)	Limestone (lb)
Unit 1 -	231,992	11,292		0
Unit 2 -	528,009	12,882		9,100
Unit CTA -			17,368	
Unit CTB -			13,390	
Total -	760,001	24,174	30,758	9,100
Cr Concentration - MK1 -	12.60	0.07	0.07	0.06 ppm
MK2 -	14.00			
Fuel Density (lb/gal) -	6.97		6.79	

Chromium Species Infomation - CrO

Oxide Molecular Weight -	68.00
Chromium Fraction -	52.00
Atomic / Molecular Weight -	0.76
Molecular / Atomic Weight -	1.31

	ESP Efficiency (%)	Fly Ash (%)	Bottom Ash (%)
Unit 1 -	98.7	40	60
Unit 2 -	99.5	40	60

CHEMICAL APPLICABILITY DETERMINATION - CrO

"M" = (Quantity)(Units Conversion)(Concentration) x x (CrO Molecular Weight)/(Cr Weight Portion)

Fuel	CrO Manufactured
Coal	25,045
# 2 OIL	0.02
Jet	0.02
TOTAL "Manufactured"	25,045 pounds

Chromium Compounds Covered

RELEASE ESTIMATION - Cr

Chemical CAS# (Sec.1.1) - N090
Chemical or Category Name - ne (Sec.1.2) - CHROMIUM COMPOUNDS

Dioxin Speciation (Sec 1.4) - N/A
Maximum Amount On-Site (Sec 4.1) - 7,056 lb
03 <---- Code

"OS" = (Collected Cr) (Ash Disposed On-site) / / (Ash Generated) 7,056 lb

Fugitive Air Emissions (Sec 5.1) - 1

"FAE" = (Re-intrained Ash) + (Welding) 0.09331 + 1.32002 = Total (lb) 1.41333

Stack Air Emissions (Sec 5.2) - 60

"R" = (Quantity) (Units Conversion) x x (Concentration) (Fly Ash Fraction) x x (1 - ESP Factor)

Unit #1 -	30.4
Unit #2 -	29.6
	0.0
FGD Removal -	(0.0)
2 sig figs Total -	60.0

lb

FGD - E6
WWTP - E4

Collected Fly Ash - 8,192 " F "
Collected Bottom Ash - 12,378 " B "

"F" = (Quantity) (Units Conversion) x (Concentration) x (Fly Ash Fraction) (ESP Factor)
"B" = (Quantity) (Units Conversion) x x (Concentration) (Bottom Ash Fraction)

	"F" (lb)	"B" (lb)
Unit #1 -	2,308	3,508
Unit #2 -	5,884	8,871
Total -	8,192	12,378

Stream or Water Body Name (Sec 5.3.1) - [redacted] River
Underground Injection (Sec 5.4.1) - NA
Total Release (Sec 5.3.1A) - 15
Sec 5.4.2 - NA
% From Stormwater (5.3.1C) - 5.6%
Disposal to Land On-site (Sec 5.5) - 1,300 "OS"

"OS" = (Collected Cr) (Ash Disposed On-site) / (Ash Generated) 1,300

Discharges to POTWs (Sec 6.1.A.1) - 0
Other off-site Treatment (Sec 6.2) - 0
Off-Site Transfers (Sec 6.2) - 6,150

On-site Treatment -

	Gaseous #3	Sed. Basin	Oil/Water Sep.
Sec.7A.1a	A	W	W
Sec.7A.1b	A05	H123	H124
Sec.7A.1c	E3	E3	E4
Split btw NEO facilities -		6,089	61.5

Other Off-Site Transfers (Sec 6.2) - 0
Refer to "Ash and Waste Disposal" Worksheet for Specifics of Off-Site Transfers

On-site Energy Recovery (Sec 7B) - NA
On-site Recycling (Sec 7C) - NA

	Column A	Column B	Column C	Column D
Quantity Released (Sec. 8.1a) -	1,100	1,300	1300	1300
Quantity Released On-Site (Sec. 8.1b) -	96	76	80	80
Quantity Released Off-Site (Sec. 8.1c) -	9,400	6,150	6200	6200
Other Off-Site Disposal (Sec. 8.1d) -	0	0	0	0
Energy Recovery On-site (Sec. 8.2) -	NA	NA	NA	NA
Energy Recovery Off-site (Sec. 8.3) -	NA	NA	NA	NA
Recycled On-site (Sec. 8.4) -	NA	NA	NA	NA
Recycled Off-site (Sec. 8.5) -	NA	NA	NA	NA
Treated On-site (Sec. 8.6) -	NA	NA	NA	NA
Treated Off-site (Sec. 8.7) -	NA	NA	NA	NA

Sec. 8.1a.B
Sec. 5.5 - 1,300

Sec. 8.1b.B
Sec. 5.1 - 1
Sec. 5.2 - 60
Sec. 5.3 - 15
Total - 76

Catastrophic Release (Sec. 8.8) - NA
Production Ratio (Sec. 8.9) - 0.74
Source Reduction Activities (Sec. 8.10.1) - NA
Additional Information (Sec. 8.11) - No

<-- PR = 2011 Generation / / 2010 Generation 0.744125

Sec. 8.1c.B
Sec. 6.2 - 6,150

Sec. 8.1d.B
Sec. 6.2 - 0

Identification of TRI Chemicals?

- Often (but definitely not always) listed in SDS.
- Usually under composition information, regulated chemicals, or SARA 313.
- Use information provided in EPA guidance,
- Certificate of analysis,
- Monitoring data

- TRI chemical list: http://www.epa.gov/tri/

- List of Lists: http://www.epa.gov/ceppo/pubs/title3.pdf

Point to remember (regarding SDS)

- SDSs aren't that great
- SDS and certificate of analysis can be very different.
- Some suppliers purposefully obfuscate concentrations of materials or
- select "blend" CAS #s rather that regulated CAS #

Points to remember

- Communicate with your purchasers
- Review your incoming material (sometimes someone will switch an incoming material without telling the environmental staff)
- and SDS annually(sometimes chemical supplier will “improve” an incoming material without telling the environmental staff)

- The article exemption only applies if you have less than 0.5 pounds of releases

Data Quality

- It is better to be accurate rather than conservative.
- Under proposed draft penalty policy over reporting will be equivalent to under reporting
- Two significant figures!!!!!

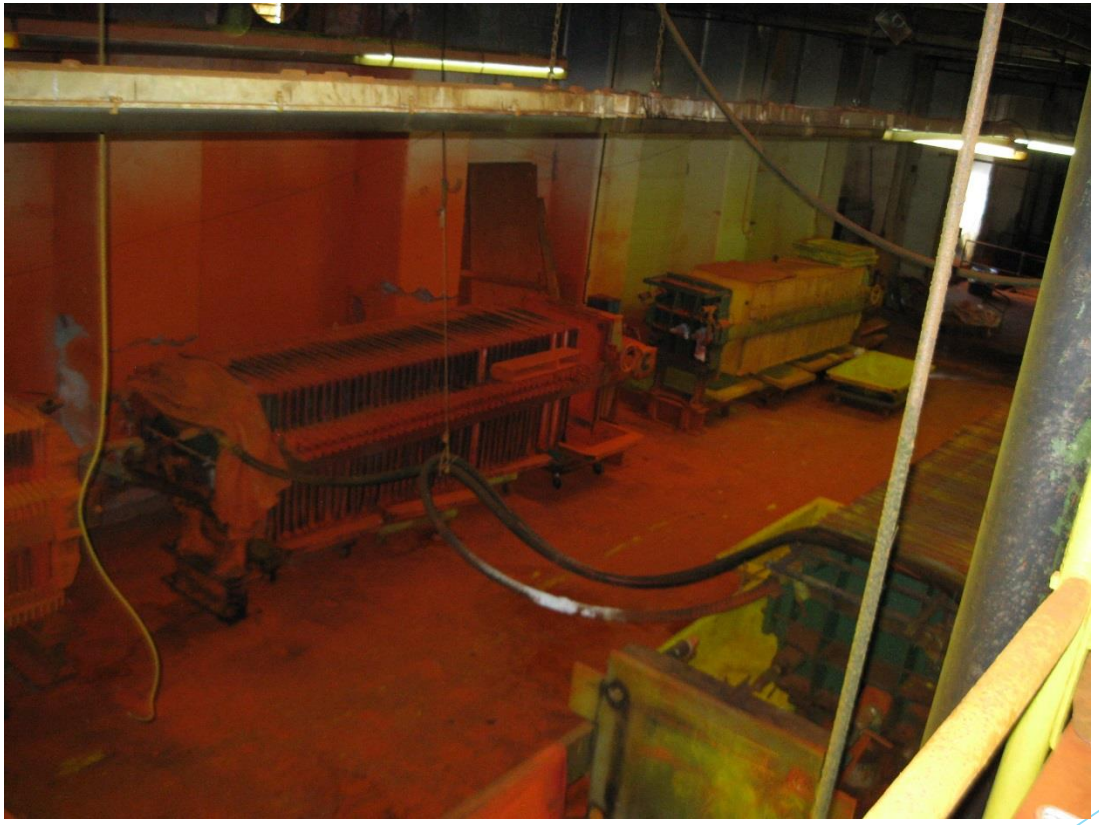
You want to present a good image

Are these TRI violations?

Nitric Acid stored over Potassium Hydroxide


DO NOT
USE


POISON
6
IPDI-ADDUKT H3150
HCKL-042,4784
NEW YORK
MADE IN WEST GERMANY
NET.: 30 KGS, GROSS 34 KGS
CORROSIVE
CORROSIVE LIQUID N.O.S.
CONCRETE MIX




2D

Those are pressurized anhydrous ammonia pipes

What if there are violations?

- If you did not submit a report or might be late submitting a report :
  - submit it as soon as possible
  - amount of penalty increases for each day
- Penalty Policy – as much as $37,500 per violation (this will be going up)

Penalties are based on this

ENFORCEMENT RESPONSE POLICY FOR SECTION 313 OF
THE EMERGENCY PLANNING COMMUNITY RIGHT-TO-KNOW ACT (1986)
AND
SECTION 6607 OF THE POLLUTION PREVENTION ACT (1990)
[AMENDED]

Amended 1996, 1997, and 2001

April 12, 2001

Current Penalty Policy

Penalty amount based on:

- # of chemicals - one penalty for each chemical and each year
- Revenue (or sales) of overall company (above or below $10,000,000)
- Number of employees (above or below 50 FTE)
- then add them up

New proposed Penalty Policy

- Failure to timely report to EPA and/or to the appropriate State/Tribe
- Category I Data Quality Errors
- Failure to maintain records as prescribed at 40 CFR § 372.10(a) or (b)
- Failure to supply notification as prescribed at 40 CFR § 372.45

New proposed Penalty Policy
(will have a multiplier if above a certain threshold)

≥ 20 times threshold amount
≥ 15 times and < 20 times threshold amount
≥ 10 times and < 15 times threshold amount
≥ 5 times and < 10 times threshold amount
< 5 times threshold amount

New inflation adjustment rule

- Significant increase in penalties
- Applies to all media - except TRI for now
- TRI penalties may go from a maximum of $37,500 to approximately $54,700 in the future

Penalty policy web address

- http://www.epa.gov/compliance/resources/policies/civil/epcra/epcra313erp.pdf

If you have TRI violations

- Generally 30% reduction for cooperation and attitude
- You are expected to make corrections as soon as possible
- I will accept (and often request) additional information that provides clarity to the potential violation

Chemical Reinstated For Reporting Year 2012

- 7783-06-4 Hydrogen sulfide

Chemical Added For Reporting Year 2014

- 88-72-2 o-Nitrotoluene

Chemical Category Added For Reporting Year 2015

- Nonylphenol (This category includes only those chemicals listed below):
- 104-40-5 4-Nonylphenol
- 11066-49-2 Isononylphenol
- 25154-52-3 Nonylphenol
- 26543-97-5 4-Isononylphenol
- 84852-15-3 4-Nonylphenol, branched
- 90481-04-2 Nonylphenol, branched

Chemical Added For Reporting Year 2016

- 106-94-5 1-Bromopropane

Chemical Category Added For Reporting Year 2017

- Hexabromocyclododecane (This category includes only those chemicals covered by the CAS numbers listed here):
- 3194-55-6 1,2,5,6,9,10-Hexabromocyclododecane
- 25637-99-4 Hexabromocyclododecane

New sectors being considered

- Gas processing
- Maybe a few more
- Things will likely change under new administration

EPA transition

- **The new President may nominate an EPA Administrator shortly after the Inauguration.** The individual nominated for this position must be confirmed by the Senate before taking office. In the absence of a confirmed Administrator, the new Administration can follow EPA's Order of Succession or appoint someone to temporarily serve. Most Assistant Administrator-level positions will be filled by acting officials, typically the principal deputy official.

EPA transition

- **Additional political appointments will follow the Administrator.** As of November 1, 2016, EPA had 79 political appointees.
- Of these, 14 positions require presidential appointment and Senate confirmation. They include the Administrator, the Deputy Administrator, the Assistant Administrators (AA), the Chief Financial Officer and the Inspector General.
- Regional Administrators (RA) do not require Senate confirmation.

EPA transition

- A number of other positions are appointed, some of which are assigned to the Administrator's office - commonly referred to as "the third floor" because of its location at the Federal Triangle complex in Washington. They include the Chief of Staff, the White House Liaison, the Associate Administrators for Public Affairs; Policy; and Congressional and Intergovernmental Affairs, and other senior advisors.
- The Inspector General is the only political appointee position that is not subject to change with the new Administration

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