# Ministry of the Environment

## Toxics Reduction Act, 2009
## & O. Reg. 455/09

Ontario Air Practitioners Group

October 20th, 2010

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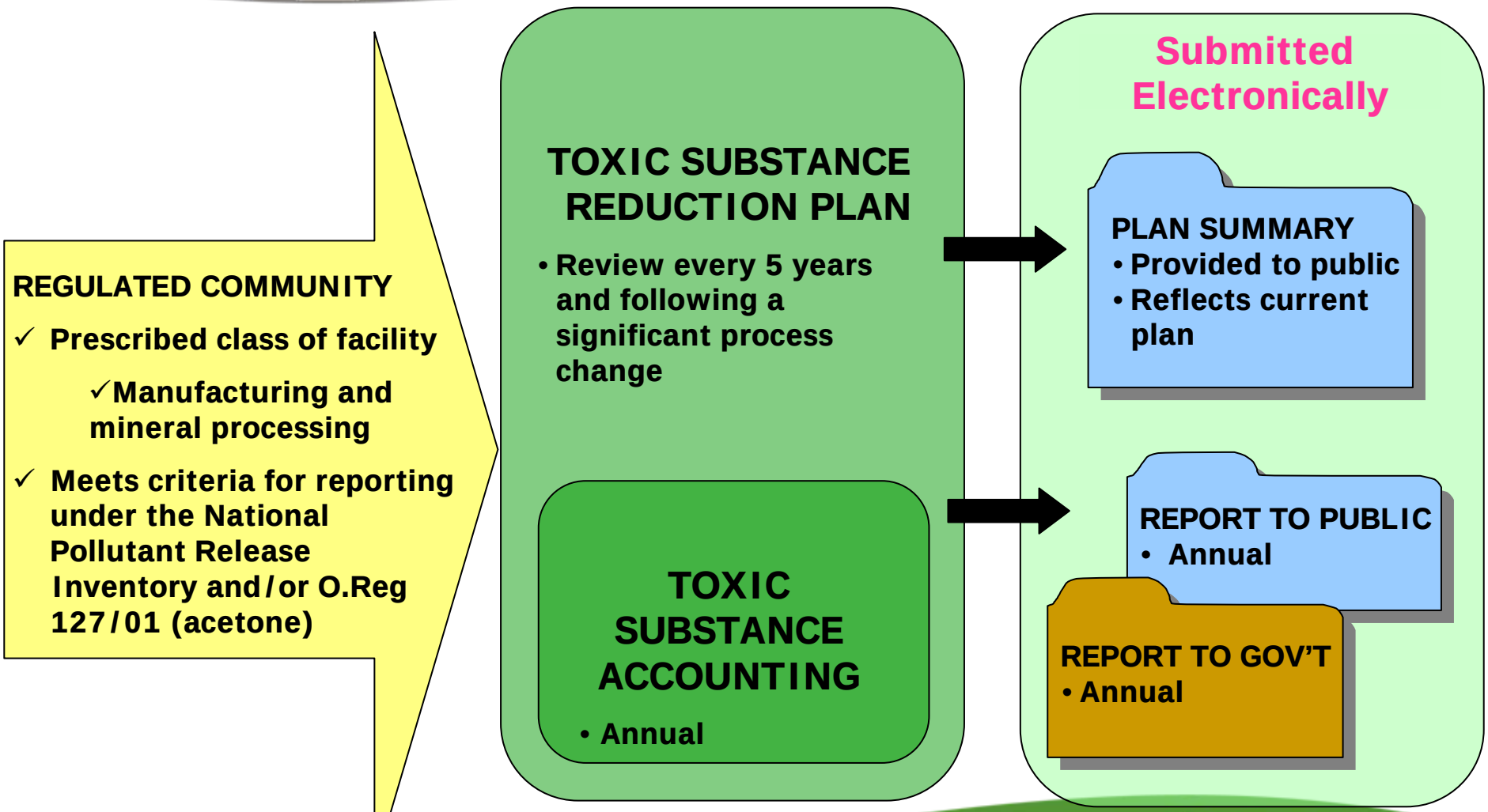
# Agenda

1. Overview of the Toxics Reduction Act, 2009 and Regulation
2. Clarifying the Prescribed Toxic Substances and Class of Facility
3. Toxic Substance Accounting
4. Overview of Toxic Substance Reduction Planning
5. Overview of Plan Summary and Annual Report Requirements
6. Other Requirements
7. Exemption and Exit Records
8. Update on Toxic Substance Reduction Planner Proposal
9. Next Steps

# Overview of the Toxics Reduction Act, 2009 and General Regulation



# Toxic Substances Prescribed Under the Act

**Toxic substances are defined as:**

- All substances and substance groupings on the NPRI Notice and O. Reg. 127 (Acetone).
  - This also includes the forms specified in the NPRI notice (e.g. particulate matter as a criteria air contaminant)

- Substances were separated in two Phases to focus on priority substances first:
  - **Phase I**: 47 priority toxic and carcinogenic substances and substance groupings
    - Tracking January 1, 2010 – December 31, 2010
    - First report due by June 1, 2011, based on 2010
    - First plan due by December 31, 2011

  - **Phase II**: All remaining substances on the NPRI Notice and Acetone
    - Tracking January 1, 2012 – December 31, 2012
    - First report due by June 1, 2013, based on 2012
    - First plan due by December 31, 2011

# Clarifying the Class of Facility

## Prescribed class of facility is defined as:

- Facilities at which manufacturing takes place that are required to provide information to the federal NPRI.
  - This includes facilities identified using the NAICS code commencing with the digits 31, 32 or 33; and
  - Facilities commencing with the digits 212 that process minerals using chemicals to extract, refine or concentrate an ore

**It is the facility's obligation to review and determine whether the criteria is met**

For information on the NPRI, please refer to:
http://www.ec.gc.ca/inrp-npri/default.asp?lang=En&n=4A577BB9-1

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9th Floor, Fontaine Building
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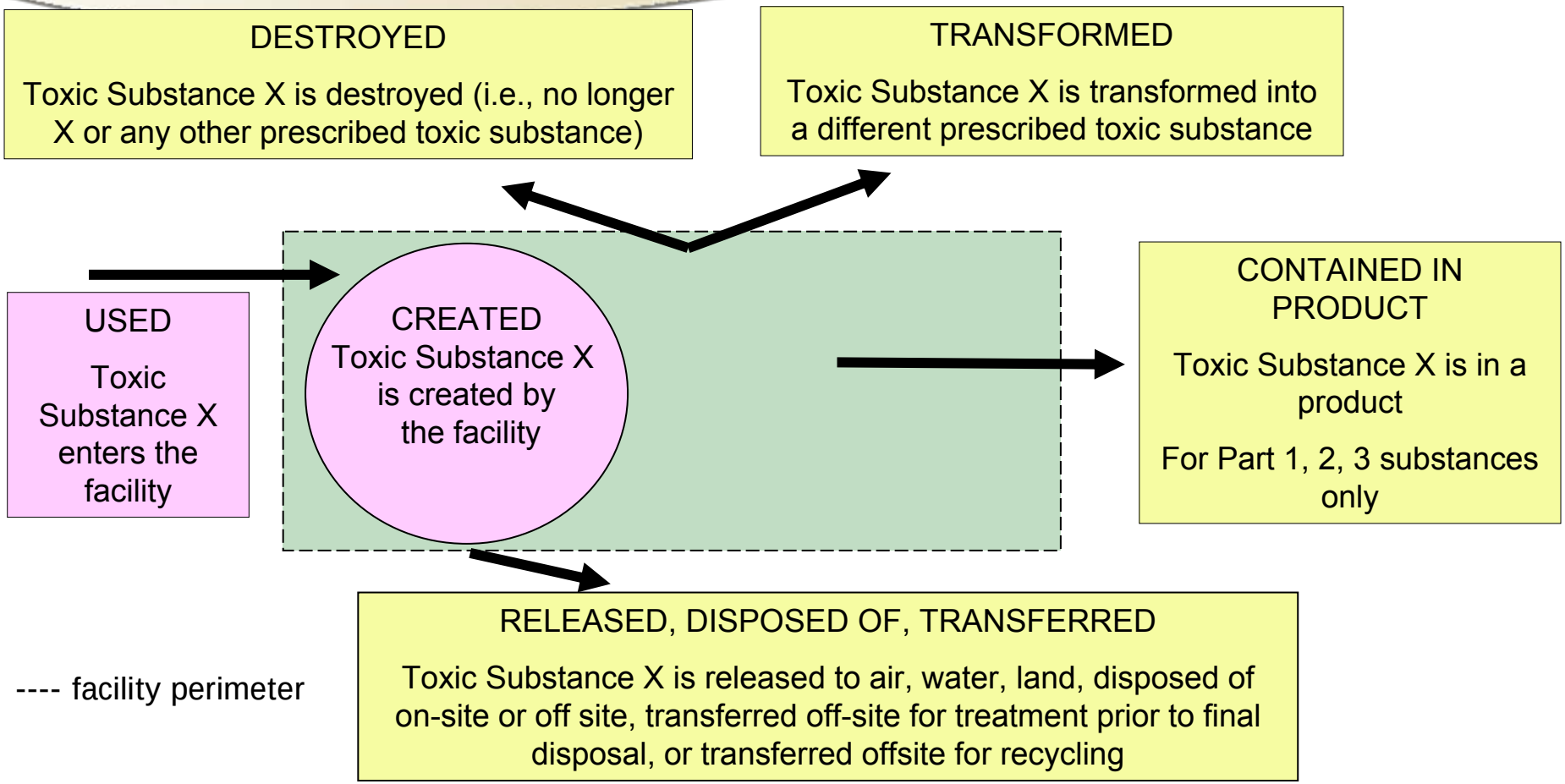
# Toxic Substance Accounting

**What is the intent of the toxic substance accounting requirements?**

- Toxic substance accounting is a method of tracking and quantifying substances to identify the inputs and outputs of a substance at a facility.

- It is valuable in determining:
  - The extent to which a toxic substance is used or created at a facility
  - Aspects of the facility's operations which are good targets for toxics reduction
  - A baseline to track progress in reducing toxics

# INPUTS AND OUTPUTS OF SUBSTANCES AT A FACILITY (For Substance X)




**USED + CREATED** ≈ **DESTROYED + TRANSFERRED + CONTAINED IN PRODUCT + RELEASED + DISPOSED OF + TRANSFERRED**

# Toxic Substance Accounting

## What are the toxic substance accounting requirements?

### 1. Tracking

- Facilities must break down the facility operations into stages, then subsequently into processes, and develop a process flow diagram for every process.
  - Identifies how the substance enters the process, what happens to it during the process, how it leaves the process and what happens to it after it leaves the process.

**The facility must keep a record of the stages and process flow diagrams**
**(to be included / referenced in the Toxic Substance Reduction Plan)**

# Toxic Substance Accounting

**What are the toxic substance accounting requirements?**

**2. Quantifying**

- Facilities must quantify the amount of the toxic substance used, created, transformed, destroyed, released, disposed of and transferred for each process.
  - For substances in Parts 1, 2 and 3 of Schedule 1 to the NPRI Notice, facilities must also quantify the amount that is contained in product (not required for substances listed in Parts 4 and 5 of Schedule 1, and acetone).

- Facilities must use the best available method or combination of methods to track and quantify for each process (e.g. monitoring, source testing, using engineering estimates, etc).

**A record of the of the quantities must be completed by June 1 of the following year**

**This record must be kept at the facility**

# Toxic Substance Accounting

## What are the toxic substance accounting requirements?

### 2. Quantifying (Cont'd)

- The regulation lays out several considerations for facilities when selecting the best available method:
  - The best way to quantify the substance in question (liquid versus gaseous, contained in product versus fugitive emissions)
  - Industry standards (What do similar sectors use?)
  - Economic achievability
  - Established and recognized methods (i.e. continuous monitoring, published emission factors)
  - Methods required by other laws

**Facilities are required to keep a record of the method or combination of methods chosen and the rationale why they were selected**
**(to be included/referenced in the Toxic Substance Reduction Plan)**

**Methods must remain the same unless changed through a plan review, or required by another law**

# Toxic Substance Accounting

## What are the toxic substance accounting requirements?

### 3. Compare inputs and outputs

- For each substance in each process, determine whether:

  *Use + Creation = Transformed + Destroyed + Leaves Process*

- If the sum of inputs is not approximately equal to the sum of outputs, provide an explanation.

**A record of the "not approximately equal" explanation must be completed by June 1 of the following year**

**This record must be kept at the facility**

# Toxic Substance Reduction Planning

**What is the intent of the planning requirements?**

- Toxic substance reduction planning is a systematic, comprehensive method of identifying and planning for the implementation of toxics reduction options
- It is designed to assist facilities in:
  - Identifying the costs associated with a toxic substance
  - Identifying and evaluating options to reduce toxics and related costs
  - Determining options best suited for implementation and mapping out implementation steps and timelines
- Implementation is voluntary

**One plan must be created for each substance and be kept at the facility** *

* Single document can contain multiple plans

## Content of Toxic Substance Reduction Plans

**Basic facility information**

**Statement of intent to reduce or reasons for not including one**

**Objectives and any targets**

**Description of each process**

- Description of **how, when, where & why** the substance is used or created at the facility
- **Records** of **stages** of manufacturing operations and **process flow diagrams**

**Toxic substance accounting info**

- Quantifications used to prepare the plan.
- Record of methods used to track and quantify toxic.
- If applicable, record of explanation of “no approximate balance” of inputs and outputs
- Estimate of indirect and direct annual costs associated with the toxic substance

**Options considered for reduction**

- Consideration of 7 toxic reduction categories stipulated in NPRI or explanation of why no option could be identified
- Estimate of potential toxics reduction achieved if option were implemented
- Identification of technically feasible options
- Analysis of economic feasibility of technically feasible options, including anticipated savings and payback

**Option(s) to be implemented**, or statement that no option(s) are to be implemented

- For each a description of implementation steps and timetable
- For each a summary of estimated toxics reduction and anticipated timelines for achieving reductions in use and creation.

**Certifications** by highest ranking employee and proposed toxic substance reduction planner

# Content of Plan Summary
# - to be submitted by December 31 -

| Toxic Substance Reduction Plan Summary |
| --- |
| **Basic facility information** (with a few exclusions, please consult regulation) |
| **List of toxic substances** at the facility for which a plan is required |
| **Objectives and any targets**<br>• Copy of the statement of intent to reduce or reasons for not including one<br>• Description of why the substance is used or created at the facility |
| **Description of options, estimated reductions and projection of effectiveness**<br>• Description of options to be implemented or statement that no option is to be implemented.<br>• If no option is to be implemented, an explanation of why.<br>• For each option to be implemented, the estimated reductions in use, creation, release and contained in product as a result of implementing the option<br>• Anticipated timelines for achieving the estimated reductions<br>• A projection of how effective the plan will be in meeting the objectives |
| • A **statement** that summary accurately reflects current version of the plan |
| **Optional content**<br>• Actions taken to reduce toxics not identified in the plan<br>• Rationale for why options to be implemented were selected |
| **Copies of certifications** of the plan |

# Content of Annual Report – to be submitted by June 1 -

| Report to Government | Public Information |
|---|---|
| **FIRST report only includes (pre-plan):** | |
| **Basic facility information** | Similar info, except no business number and contact info only for the public contact |
| **List of toxic substances** at the facility for which a plan is required | ✓ |
| **Summarize tracking and quantification**<br>• Facility-wide quantities, used, created, contained in product, released, disposed of, transferred<br>• Indication of changes in methods, significant process changes, non-routine events | Similar info except:<br>• Used, created, contained in product expressed in ranges<br>• No information on methods, significant process changes, non-routine events |

# Content of Annual Report – to be submitted by June 1 -

| Report to Government | Public Information |
|---|---|
| **Subsequent Reports include (post-plan):** | |
| **Basic facility information** | Similar info, except no business number and contact info only for the public contact |
| **List of toxic substances** at the facility for which a plan is required | ✓ |
| **Summarize tracking and quantification**<br>• Facility-wide quantities, used, created, contained in product, released, disposed of, transferred<br>• Indication of changes in methods, significant process changes, non-routine events | Similar info except:<br>• Used, created, contained in product expressed in ranges<br>• No information on methods, significant process changes, non-routine events |
| **Comparison of tracking and quantification to previous reporting period***<br>• Reasons for changes from previous year | • Summary only of the reasons for changes from previous year |
| **Describe steps taken to achieve objectives and assess effectiveness**<br>• Include objectives and any targets<br>• Include estimate of toxics reduction achieved<br>• Difference between steps taken and those in the plan and indication of whether timetable for steps will be met | Similar info except:<br>• Summary only of estimated toxics reduction achieved, steps taken and the difference between steps taken and those set out in the plan |
| **Optional**<br>• Actions taken to reduce toxics not identified in the plan and estimate of toxics reduction achieved | Summary only |
| Describe **amendments** to the plan | Summary only |
| **Certification** by highest-ranking employee | ✓ (copy) |

# Other Requirements

## Review of Plans

- The first review for all plans is 2018 and every 5 years after.
- More frequently if there is a significant process change at the facility.

## Documents and Records retention

- Documents and records related to the development of the plans and reports must be retained at the facility for seven years, including the Toxic Substance Reduction Plans.

## Notice of errors and change of ownership

- If the owner or operator has changed, the new owner or operator of the facility must notify the Ministry within 30 days.
- A facility has 30 days to submit the correct information to the Ministry after becoming aware of errors or inaccuracies.

# “Exit” vs “Exemption” Record

| | Differences | Similarities |
|---|---|---|
| “Exit” Record | Applies to any criteria that are not met:<br>1) No longer NAICS code<br>2) No longer using/creating substances<br>3) Permanently reducing employees to zero<br>4) Not meeting criteria for reporting under NPRI<br><br>Record is required<br>Only required to be submitted once | Applies if facility was captured under the Act at least once<br><br>If conditions are met, facility is not required to:<br>• Account<br>• Report<br>• Plan<br>• Review<br><br>The record:<br>• Is due by June 1st of the following year<br>• Include, a description of the circumstances that led to the determination<br>• Include quantifications<br>• Certified by the highest ranking employee<br>• Will be available to the public, except detailed information and quantifications |
| “Exemption” Record | • Only applies to dioxins, furans, hexachlorobenzene<br>• Only applies if indicated that substance is below level of quantification<br>• Only applies if method used to determine below level of quantification is monitoring or source testing<br>• Record is only required if a facility wants to take advantage of the exemption<br>• Submitted for three consecutive years before ALL obligations cease under the Act and reg. | |

**If a facility finds itself in both circumstances, the “Exit” Record is required**

# Proposed Regulatory Requirements for Toxic Substance Reduction Planners

- Using a broad, cross-disciplinary approach, the proposed role of the planner is to:
  - Certify that the plan complies with the legal requirements; and
  - Provide recommendations to facilities that assist in identifying toxics reduction options, building the business case for action, and further encouraging facilities to implement their plans

- Proposal is for plans to be certified by licensed planners who must meet the education and/or work qualifications, take a course, pass an exam and pay for the licence.

**UPDATE:**

- Ministry is considering the comments received through the Environmental Registry (April 1 to May 17, 2010 / Registry #: 010-9349) and during the consultation sessions held earlier this year.

# Next Steps

**Program Implementation**

- Provide assistance to industry, including guidance documents.
- Further support for innovation in green chemistry and engineering.
- Train toxic substance reduction planners, pending new regulatory requirements.

# For Further Information

Ontario's Toxics Reduction Strategy
http://www.ene.gov.on.ca/en/toxics/index.php

To receive updates and notifications related to the *Toxics Reduction Act, 2009* and O. Reg.455/09, please subscribe to our email newsletter at http://www.ene.gov.on.ca/en/mailing/subscribe.php

For general information on the Act and regulation you may contact the Ministry's Public Information Centre at **1-800-565-4923** or in Toronto at 416 325-4000 or email picemail.moe@ontario.ca.

For information on the NPRI, please refer to:
http://www.ec.gc.ca/inrp-npri/default.asp?lang=En&n=4A577BB9-1

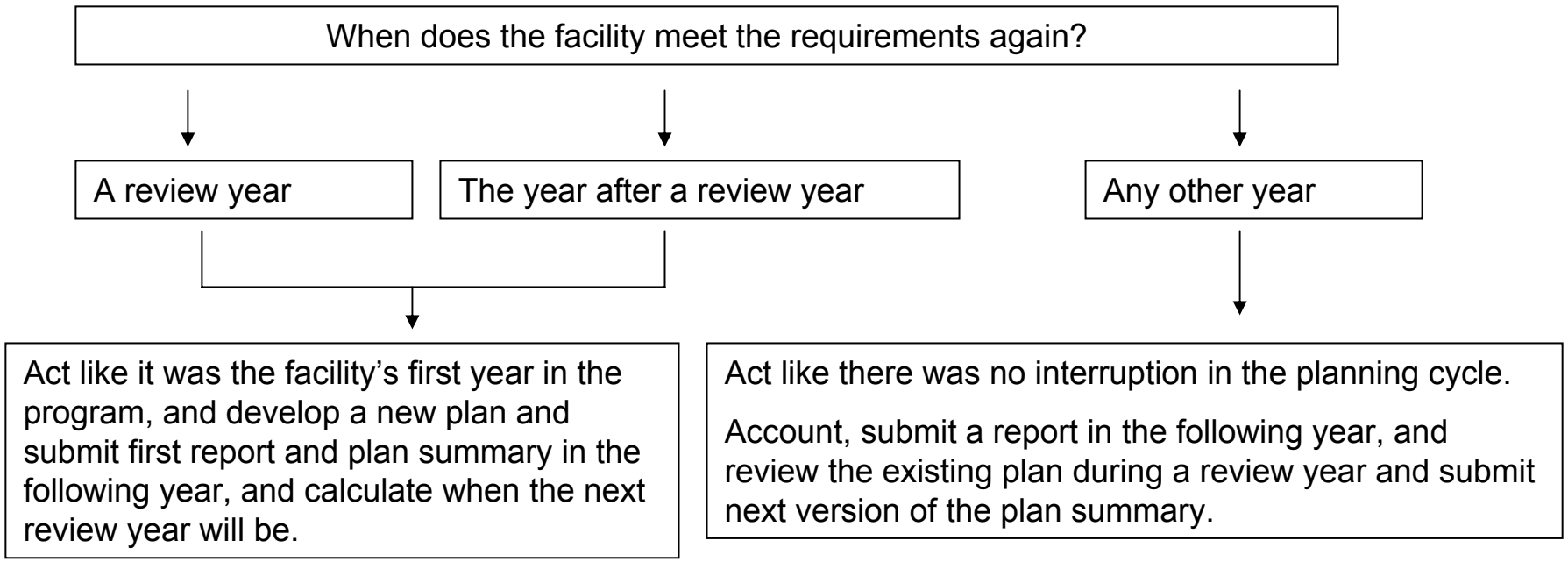
# Appendix 1 - Articulating how facilities are re-captured under the Act if exemptions no longer apply

- The Regulation sets out two streams for recapturing facilities when all criteria are met again and when the exemptions no longer apply (i.e. above the level of quantification for dioxins, furans or hexachlorobenzene)
  - If the facility has been out for 2 or less years
  - If the facility has been out for 3 or more years

- The following slides illustrate these two streams

# Appendix 1 - Articulating how facilities are re-captured under the Act if exemptions no longer apply

***The facility has been out for 2 or less years***



# Appendix 1 - Articulating how facilities are re-captured under the Act if exemptions no longer apply

***The facility has been out for 3 or more***