

# Item C: Air Quality Permitting Program Rulemaking Updates (Informational)

Sept. 22, 2022

# Agenda

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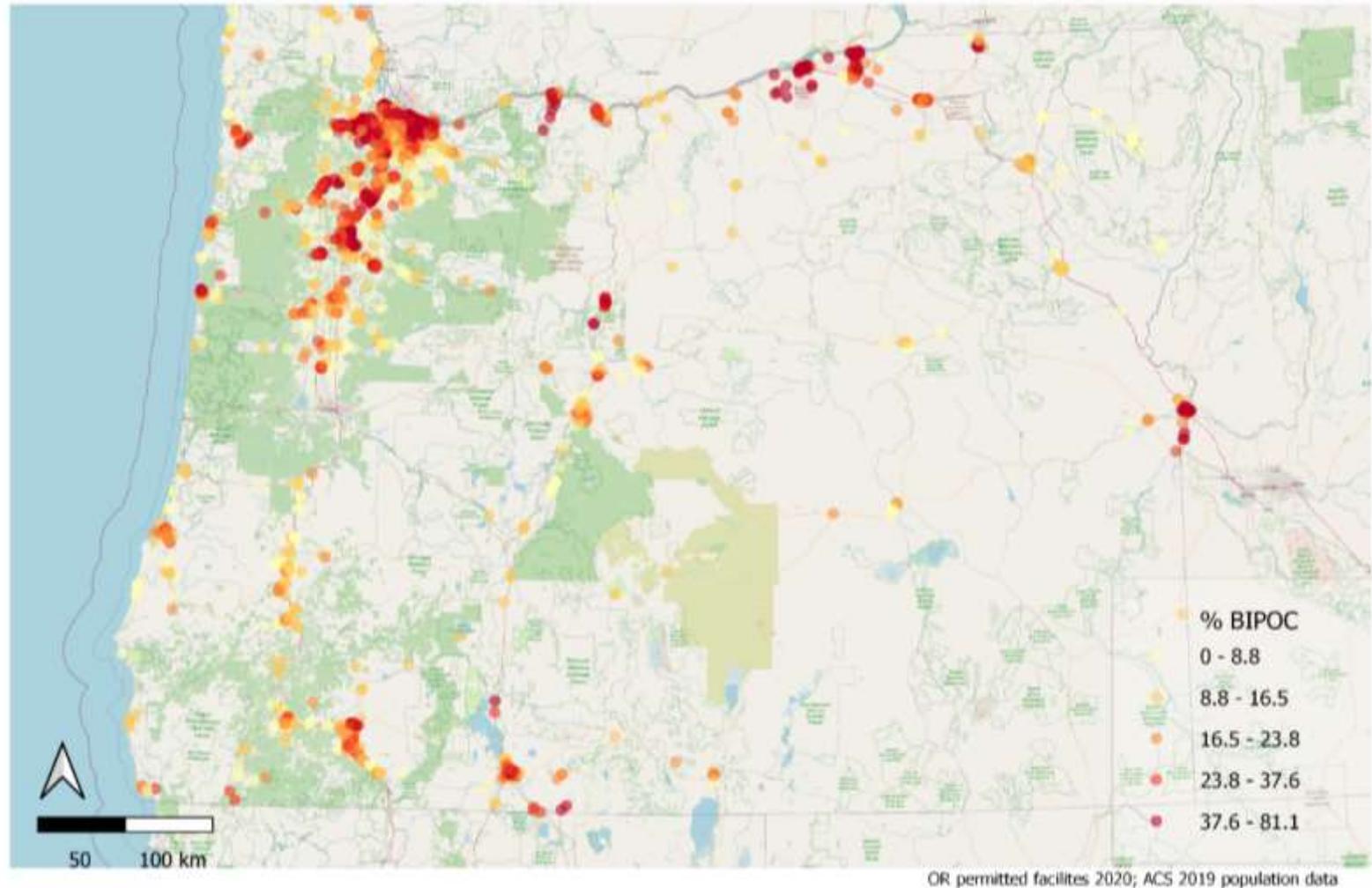
- DEQ's Commitment to Environmental Justice and frontline communities
- Overview of Air Quality Permitting
- National Ambient Air Quality Standards (NAAQS)
- Proposed Rule Changes
  - Notice of Intent to Construct
  - Minor New Source Review/NAAQS
  - Generic Plant Site Emission Limits/NAAQS
- Questions/Answers

# Commitment to Environmental Justice

DEQ is committed to the principles of environmental justice and to ensuring that the agency's actions – including permitting, cleanup, policy and planning, outreach and education, and compliance and enforcement – address the interests of Oregon communities, especially BIPOC, low-income and other traditionally underrepresented communities.



# % BIPOC Population Near Permitted Sources



# Example: Frontline Community Impacts

The highest impacts generally occur along or just beyond the fence line of a facility.

In this hypothetical example for a source, the highest hourly concentrations of NO<sub>2</sub> occur to the northwest of the facility (559 µg/m<sup>3</sup> or 0.30 ppm).

NAAQS = 0.100 ppm

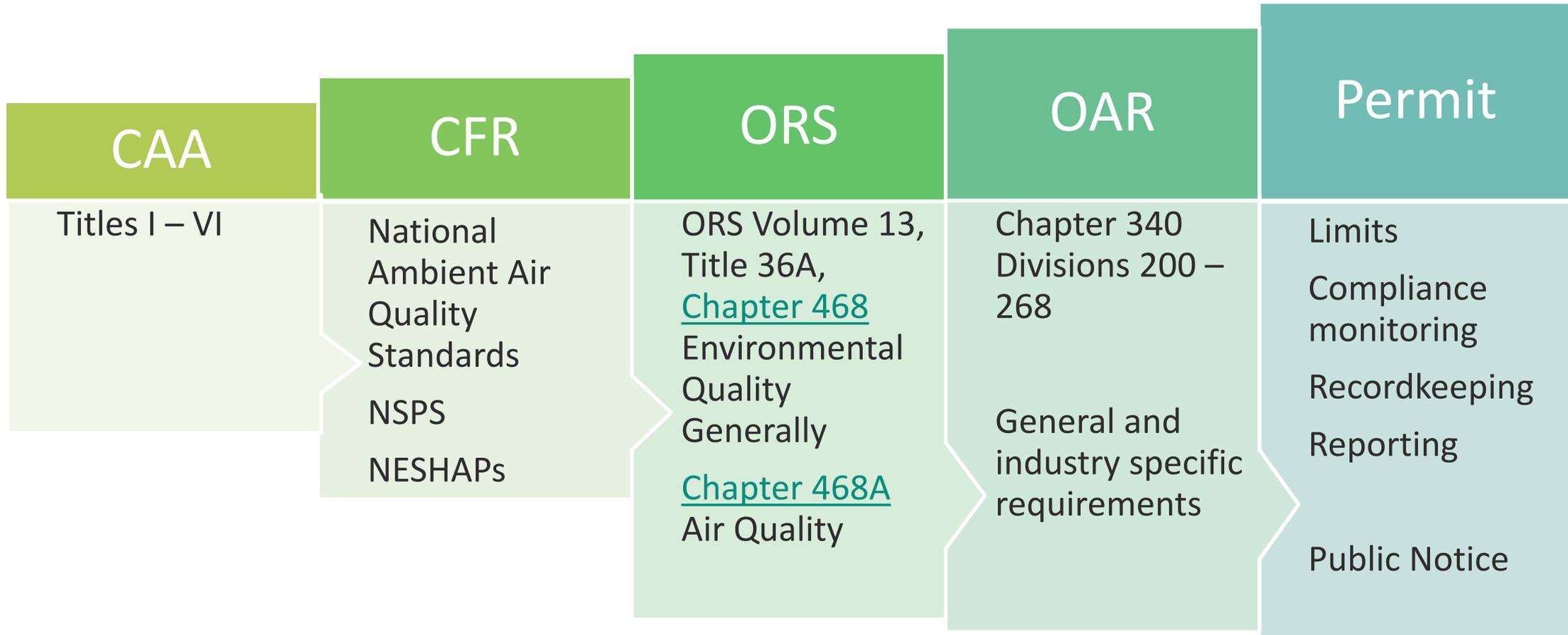


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# Origin Story and Authority



# Approval Processes



Public Comment



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NATIONAL AMBIENT AIR QUALITY STANDARDS					
Pollutant [links to historical tables of NAAQS reviews]	Primary/ Secondary	Averaging Time	Level	Form	
<a href="#">Carbon Monoxide (CO)</a>	primary	8 hours	9 ppm	Not to be exceeded more than once per year	
		1 hour	35 ppm		
<a href="#">Lead (Pb)</a>	primary and secondary	Rolling 3 month average	0.15 µg/m <sup>3</sup>	Not to be exceeded	
<a href="#">Nitrogen Dioxide (NO<sub>2</sub>)</a>	primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years	
	primary and secondary	1 year	53 ppb	Annual Mean	
<a href="#">Ozone (O<sub>3</sub>)</a>	primary and secondary	8 hours	0.070 ppm	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years	
<a href="#">Particle Pollution (PM)</a>	PM <sub>2.5</sub>	primary	1 year	12.0 µg/m <sup>3</sup>	annual mean, averaged over 3 years
		secondary	1 year	15.0 µg/m <sup>3</sup>	annual mean, averaged over 3 years
		primary and secondary	24 hours	35 µg/m <sup>3</sup>	98th percentile, averaged over 3 years
	PM <sub>10</sub>	primary and secondary	24 hours	150 µg/m <sup>3</sup>	Not to be exceeded more than once per year on average over 3 years
<a href="#">Sulfur Dioxide (SO<sub>2</sub>)</a>	primary	1 hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years	
	secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year	

# NAAQS Adoption History

<b>TSP</b> Primary & secondary 24-hour & annual	<b>PM<sub>10</sub></b> Primary & secondary 24-hour & annual	<b>PM<sub>2.5</sub></b> Primary & secondary 24-hour & annual	<b>PM<sub>2.5</sub></b> Primary & secondary 24-hour lowered		<b>PM<sub>2.5</sub></b> Primary annual lowered
<b>NO<sub>2</sub></b> Primary & Secondary annual				<b>NO<sub>2</sub></b> Primary 1- hour	
<b>SO<sub>2</sub></b> Primary 24-hour & annual Secondary 3-hour /annual				<b>SO<sub>2</sub></b> Primary 1- hour	



# Example: Owens-Brockway

**NE Portland glass recycler Owens-Brockway will continue operating, install pollution controls**

Updated: Jul. 27, 2022, 11:06 a.m. | Published: Jun. 30, 2022, 3:21 p.m.



Owens-Brockway Glass Container Inc., located near N.E. Columbia Blvd. and 92nd Drive in Portland, is the state's largest glass container recycler. Mark Graves/The Oregonian

- Environmental advocacy group modeled exceedances of short-term NAAQS which DEQ confirmed
- DEQ issued an order to address the NAAQS violations
- Owens-Brockway shut down one furnace and is installing control

equipment to reduce emissions to comply with the NAAQS

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# Clarify Notice of Intent to Construct\* rules



\* Required for **any** construction or change in operation

# Types of Notice of Construction

Type 1	Type 2	Type 3	Type 4
No permit modification	No permit modification	Permit modification	Permit modification
Equipment $\leq$ de minimis emissions but no increase over permitted emissions	Equipment $\leq$ “significant” emissions but no increase over permitted emissions	Increases permitted emissions but not “significantly”	Increases permitted emissions “significantly” (New Source Review)
10-day window for DEQ review (rule), applicant proceeds at risk	60-day window for DEQ review (statute), applicant proceeds at risk	Less than one year to approve	Takes up to one year to approve
<b>No public notice</b>	<b>No public notice</b>	<b>Public notice</b>	<b>Upfront info meeting + public notice</b>
Add baghouse; modify feed chute; upgrade computer controls	Add thermal oxidizer; add small natural gas boiler	Add large natural gas boiler; replace large paint line	Major expansion that doubles production

# Notice of Intent to Construct Issues

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- Type 1 NCs – sources may begin construction without DEQ written approval in 10 days – inadequate time for meaningful review
- Some Type 1 NC applications should have been Type 2 NCs or permit modifications

# Example: Zenith Energy – Portland Terminal

- Changed from asphalt refinery to crude oil transloading, petroleum storage and terminal operations through an administrative amendment and added equipment through Type 1 and 2 NCs that were not reviewed by DEQ
- City of Portland denied Zenith's application for a LUCS\*
- DEQ issued proposed denial of Zenith Energy permit renewal because of LUCS issues



# Notice of Intent to Construct Solutions

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- Create a list of pre-approved Type 1 NC “notice & go” equipment that do not require any DEQ review
- Review NCs that are not included in list of “notice and go” equipment at least as Type 2 NCs with minimum 60-day review
- Ensure proposed construction submitted as a Type 2 NC is appropriate for 60-day review

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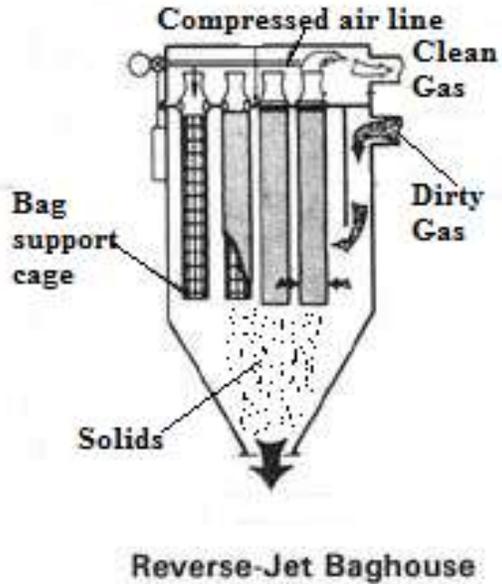
# Proposed Minor New Source Review (Type 3 NC)

Minor NSR will require technology review and modeling for equipment with emissions less than the Significant Emission Rate

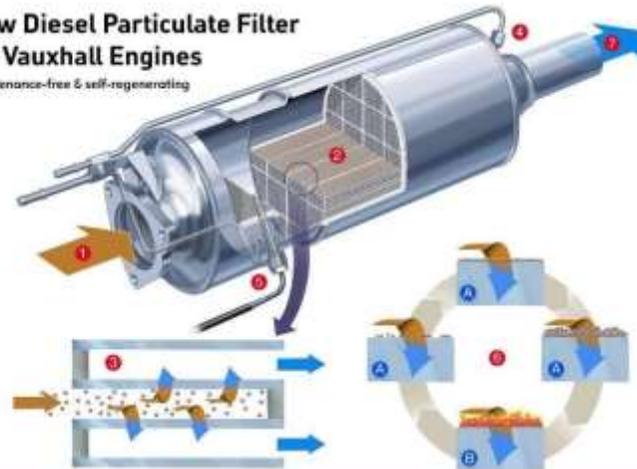
- EPA established Significant Emission Rate in 1980 before 1-hour NAAQS for NO<sub>2</sub> and SO<sub>2</sub> were set.
- Proposed rules may require emission reductions which would begin to address EJ issues/concerns.
- Communities would have more opportunity to engage through public notice process.



# Examples of Control Technologies



**New Diesel Particulate Filter for Vauxhall Engines**  
Maintenance-free & self-regenerating

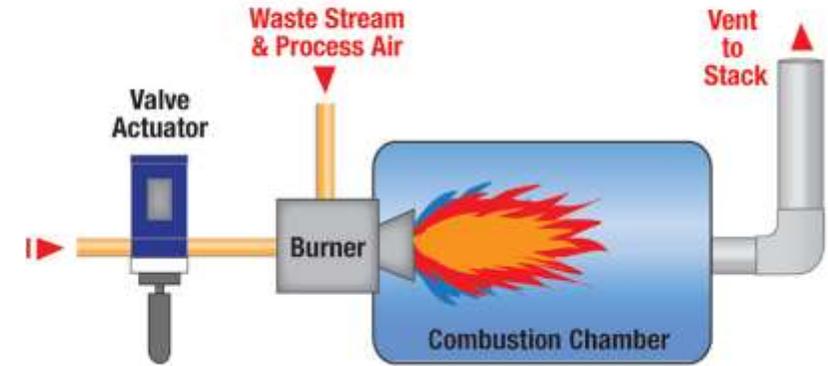


- 1. Pre-treated exhaust emissions
- 2. Cross-section of filter-element
- 3. Function of filter-element
- 4. Filtration-cycle
- 5. Temperature sensor
- 6. Filtration-cycle
- 7. Filtered exhaust emissions



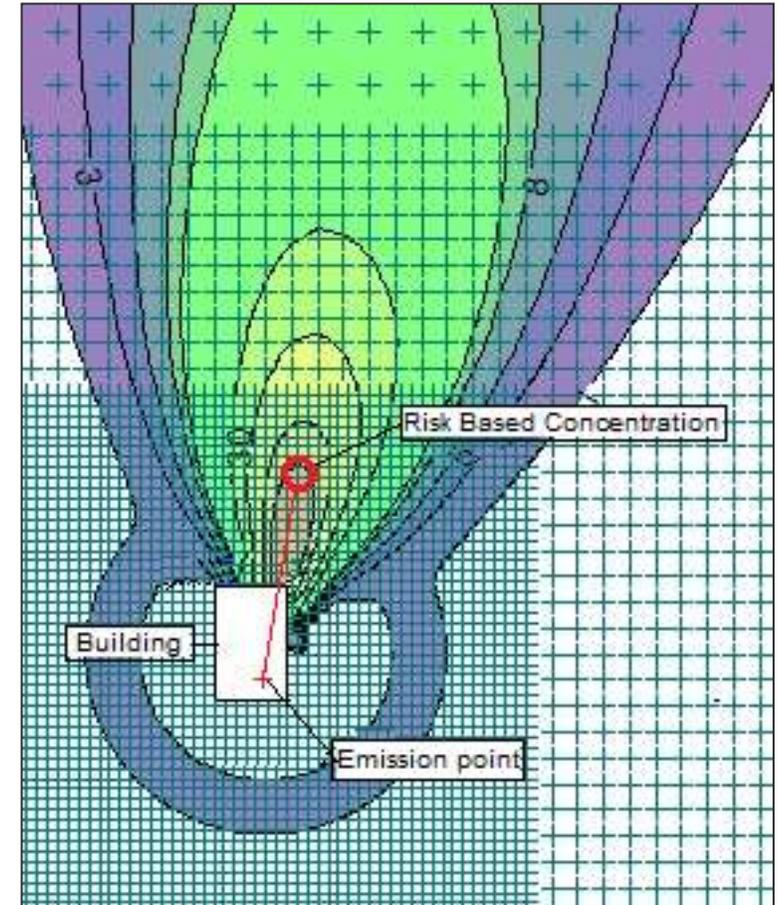
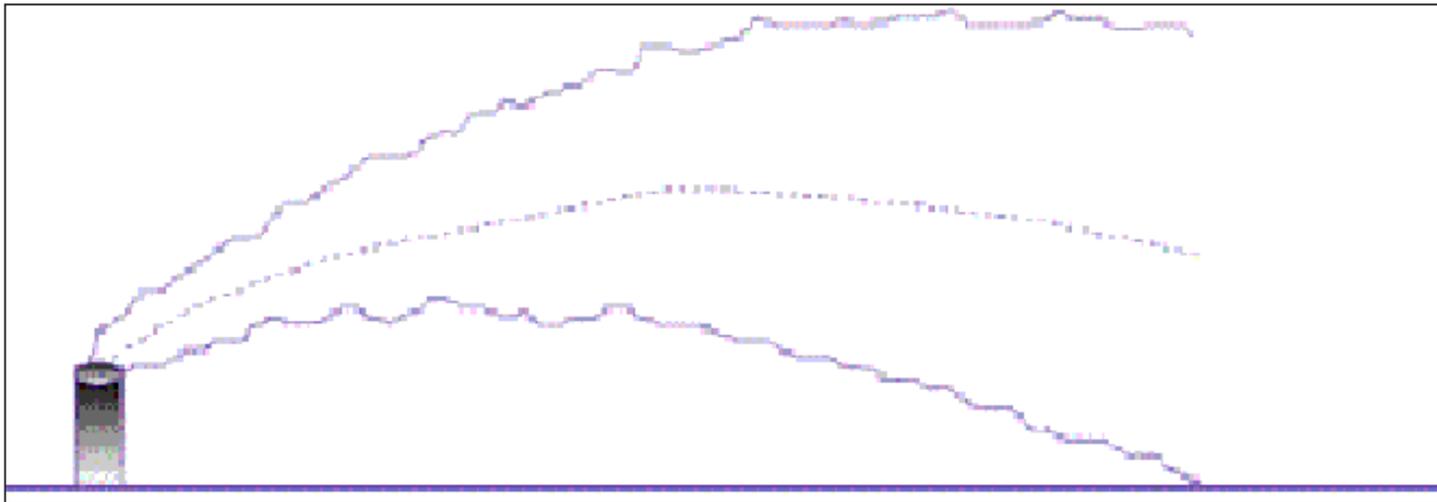
Diesel Particulate Filter System (DPF)

Direct-Fired, Raw-Gas-Airflow Thermal Oxidizer Burner



# Short-Term NAAQS Compliance

Air Dispersion



Modeling Results

# Type 2 NC Proposed Changes

## Type 2 NC

Current emissions < SER

Proposed emissions < Minor Source SER

Significant Emission Rate (tpy)	Pollutant	Minor Source* SER (tons/year)
100	Carbon Monoxide (CO)	10
40	Nitrogen Oxides (NO <sub>x</sub> )	5
15	Particulate Matter (PM <sub>10</sub> )	2
10	Particulate Matter (PM <sub>2.5</sub> )	2
40	Sulfur dioxide (SO <sub>2</sub> )	5
40	Volatile Organic Compounds (VOC)	5

\*Proposed Minor Source SERs are for individual pieces of equipment

# Some Type 2 NCs will become Type 3 NCs\*

## Type 2 NC

- No permit mod
- Emissions < Minor Source SER
- No technology review
- No Short-Term NAAQS modeling
- No public notice

### Features:

- No permit mods for replacing equipment with low emission
- Quicker approval

## Type 3 NC

- Permit mod
- Emissions  $\geq$  Minor Source SER
- Control technology review
- Short-Term NAAQS Modeling
- Public notice

### Features:

- Less emissions
- Assurance that NAAQS are protected
- May take longer to approve

# Neighboring State Minor NSR Requirements

- Washington Ecology:  
Best Available Control Technology for all emissions units; modeling at Small Quantity Emission Rate
- Idaho DEQ:  
Permits required at 1/10<sup>th</sup> of SER; modeling at less than proposal for Minor Source Significant Emission Rates



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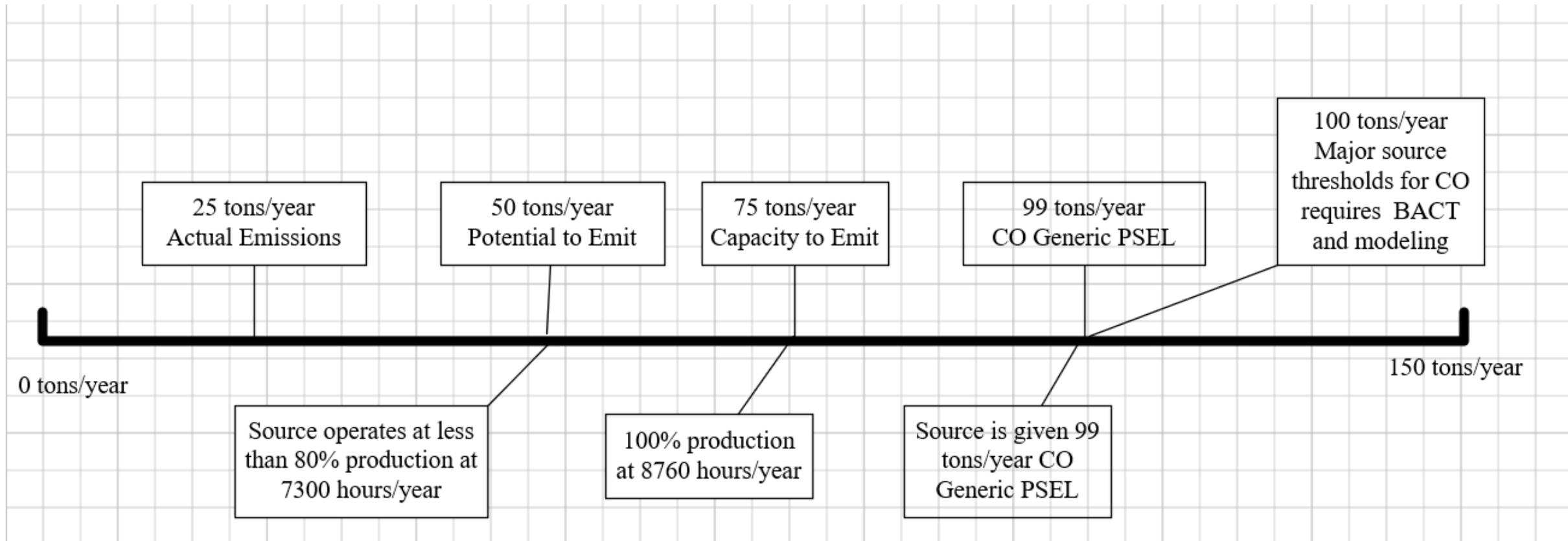
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# Generic Plant Site Emission Limits & NAAQS

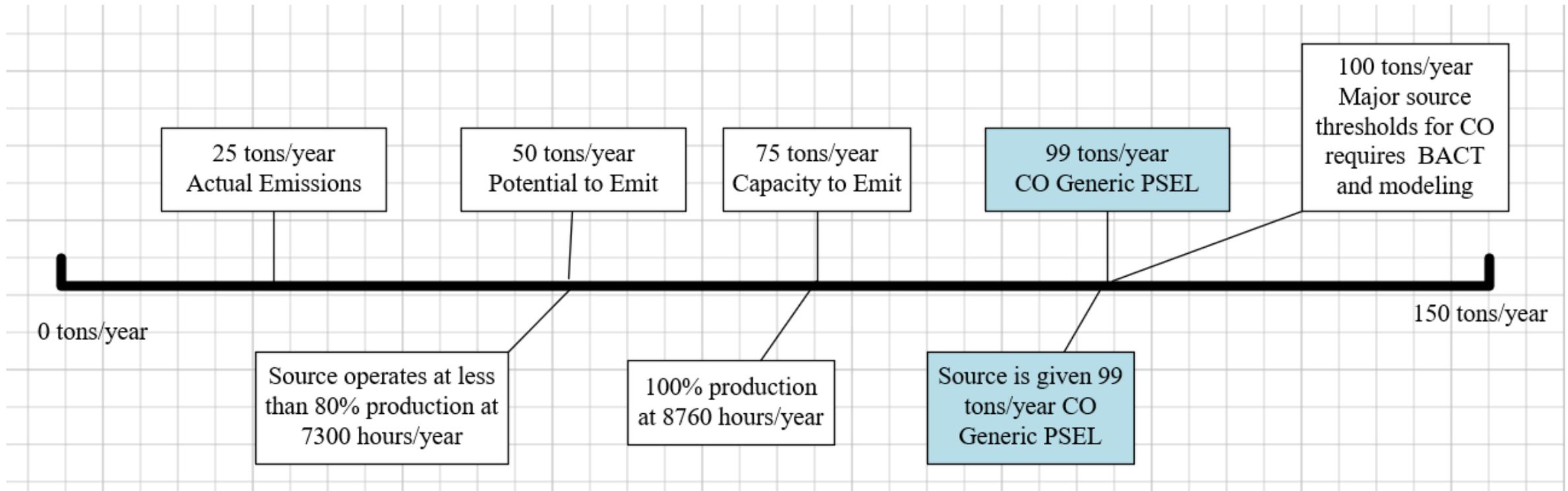
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- Developed as part of the SPPIT process in 1998 which resulted in less public notice
- Increases in PSEL < Significant Emission Rate allowed without any AQ analysis
- Sources requested increases less than the Significant Emission Rate at the end of the year when they realized they would exceed their PSEL
- No short-term NAAQS for PM<sub>2.5</sub>, NO<sub>x</sub> or SO<sub>2</sub> at that time

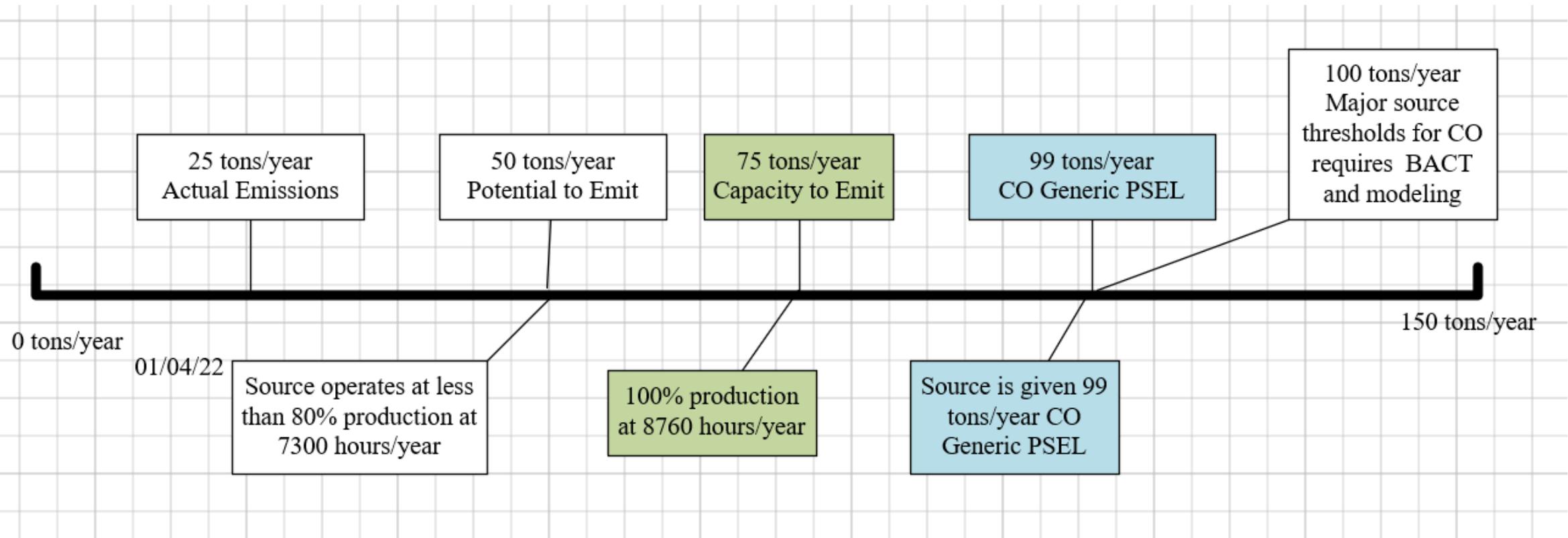
# Example for Carbon Monoxide Generic PSEL



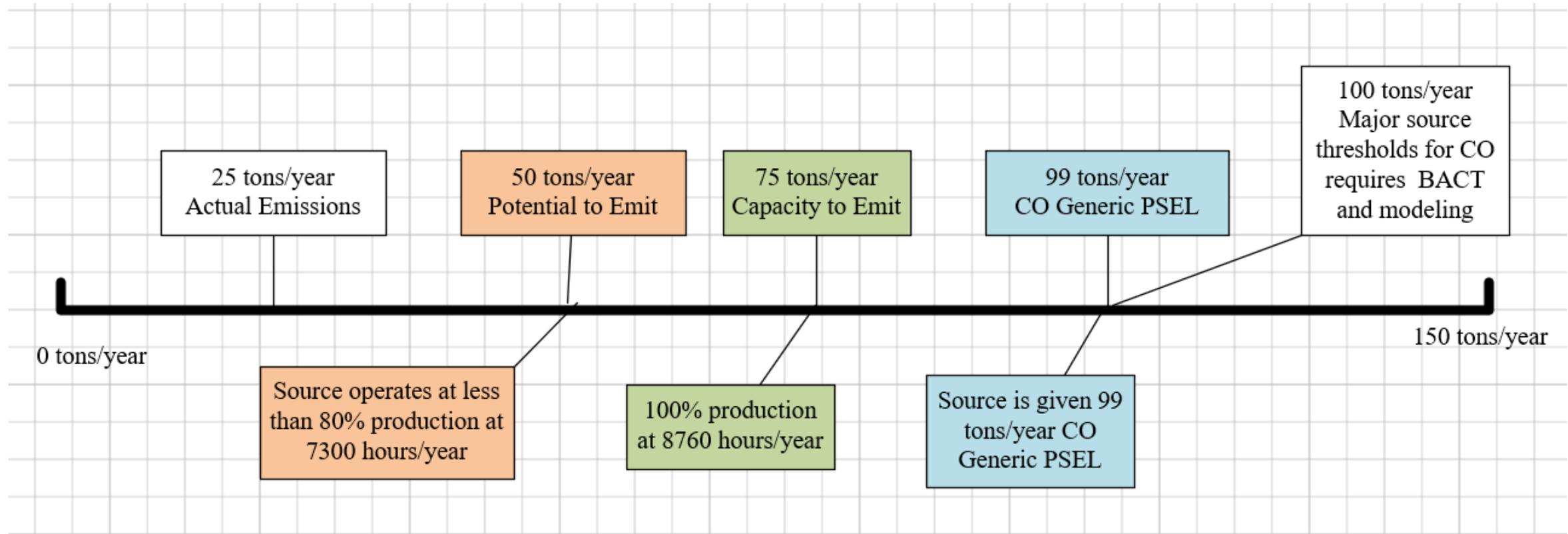
# Carbon Monoxide Generic PSEL



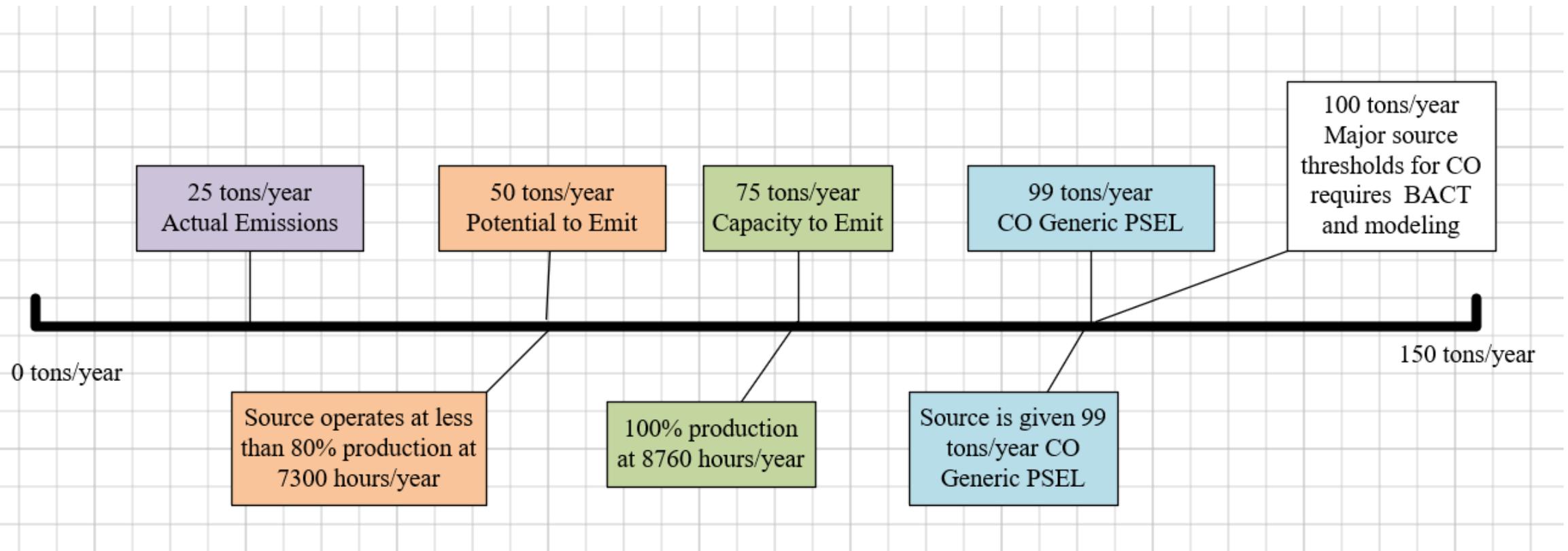
# Capacity to Emit



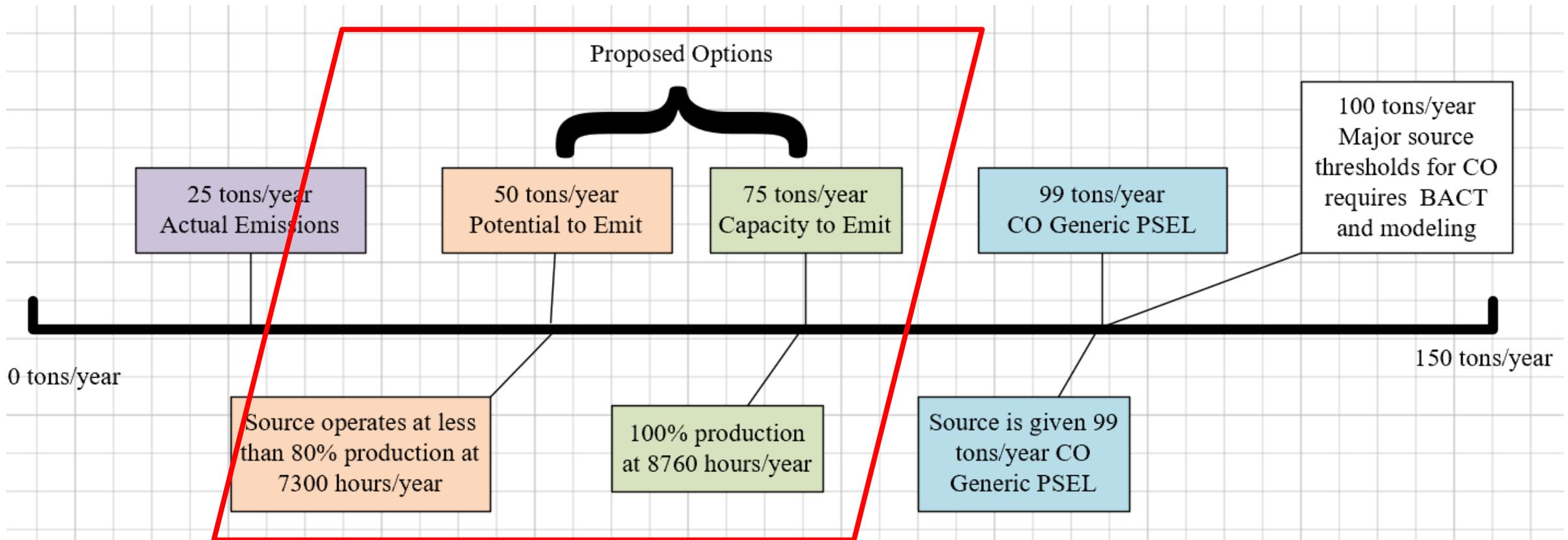
# Potential to Emit



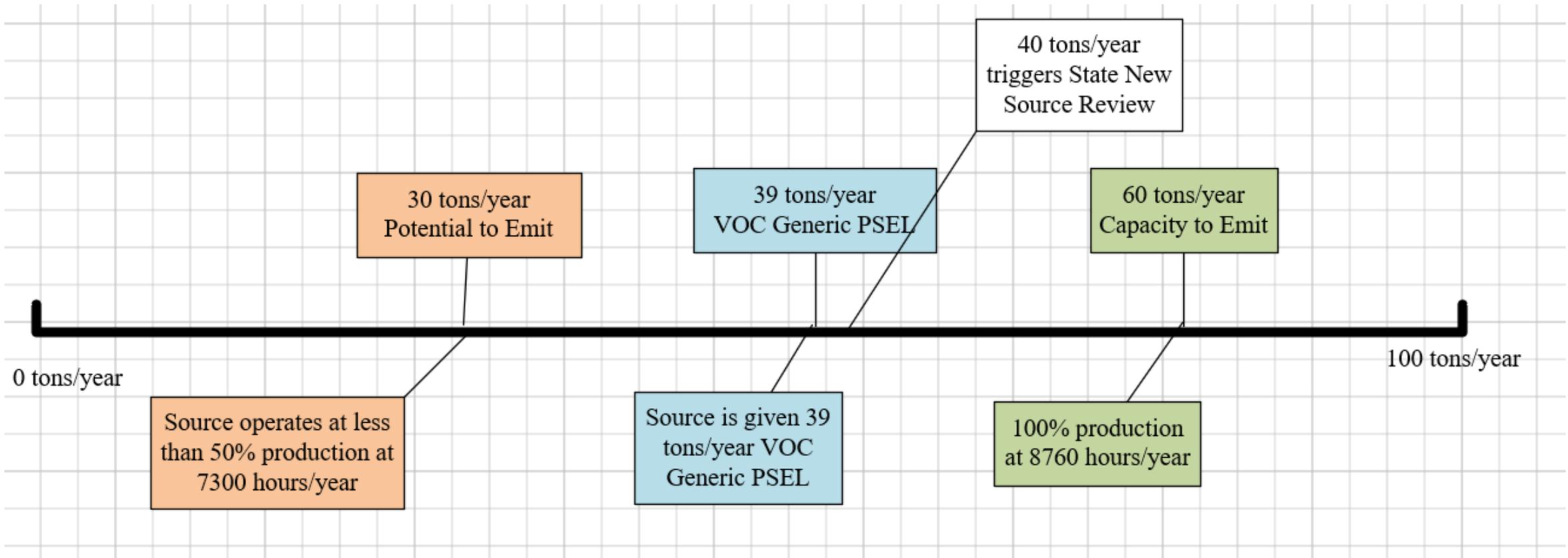
# Actual Emissions



# Proposed Flexibility for Businesses



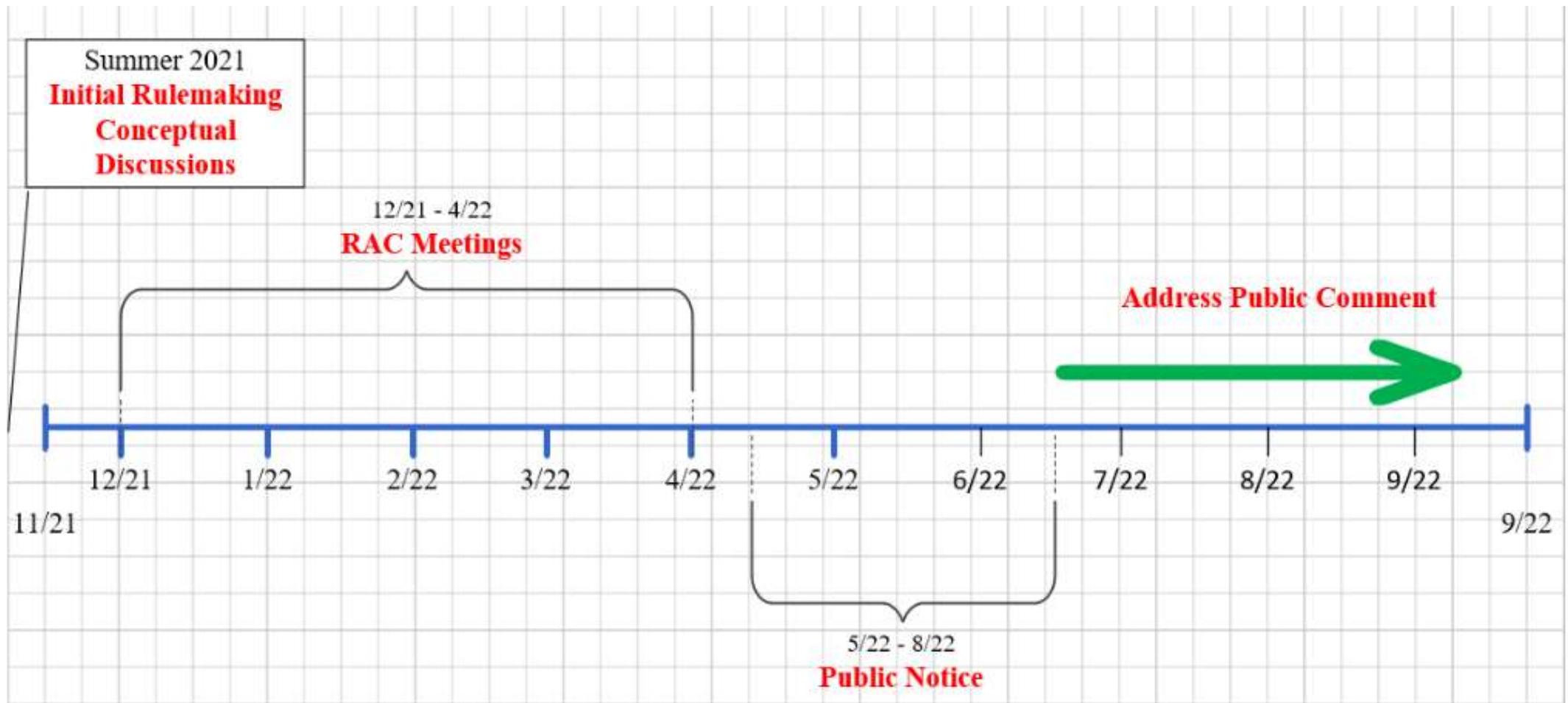
# Choosing Potential to Emit rather than Capacity



# Generic PSELs– Existing vs. Proposed

Requirements under Type 2 Existing Rules	Requirements under Minor NSR (Type 3) Proposed Rules
Potential emissions = 12 tons/year; Generic PSEL = 39 tons/year	Potential emissions = 12 tons/year; PSEL = 12 tons/year
Add 12 ton/year boiler under Type 2 NC because headroom in PSEL; no modeling or technology review, no public notice. Could add another 12 ton/year boiler.	Add 12 ton/year boiler under Type 3 NC because no headroom in PSEL; modeling, technology review and public notice required
Approved without restrictions and no public notice	Potential lower emissions; certainty NAAQS is protected

# Rulemaking Timeline



# Summary of Rulemaking

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- Modernizes DEQ's permitting program to align with NAAQS, DEQ's mission and other state programs
- Aligns with EPA's Minor New Source Review program in 40 CFR Part 51
- Provides more transparency and protection for communities
- Creates more consistency in implementation

