

SIP Processing: Development

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Lessons Learned

- Every SIP is very different
- AERMOD modeling is relatively straightforward; multi-source strategy development is not
- Photochemical modeling for SIPs (ozone, $PM_{2.5}$) adds much complexity to the process
- Strategy development for these SIPs is also complex, with multitude of VOC/Nox sources

Lessons Learned (continued)

- Getting buy-in from affected sources for control strategy is the goal but may not happen.
- Some affected companies prefer to spend resources on litigation over emission controls
- Final decision on control strategy is ALWAYS political to some degree
- Good working relationships between state and EPA SIP staffs are important!

Case Study - Detroit area SO₂ SIP

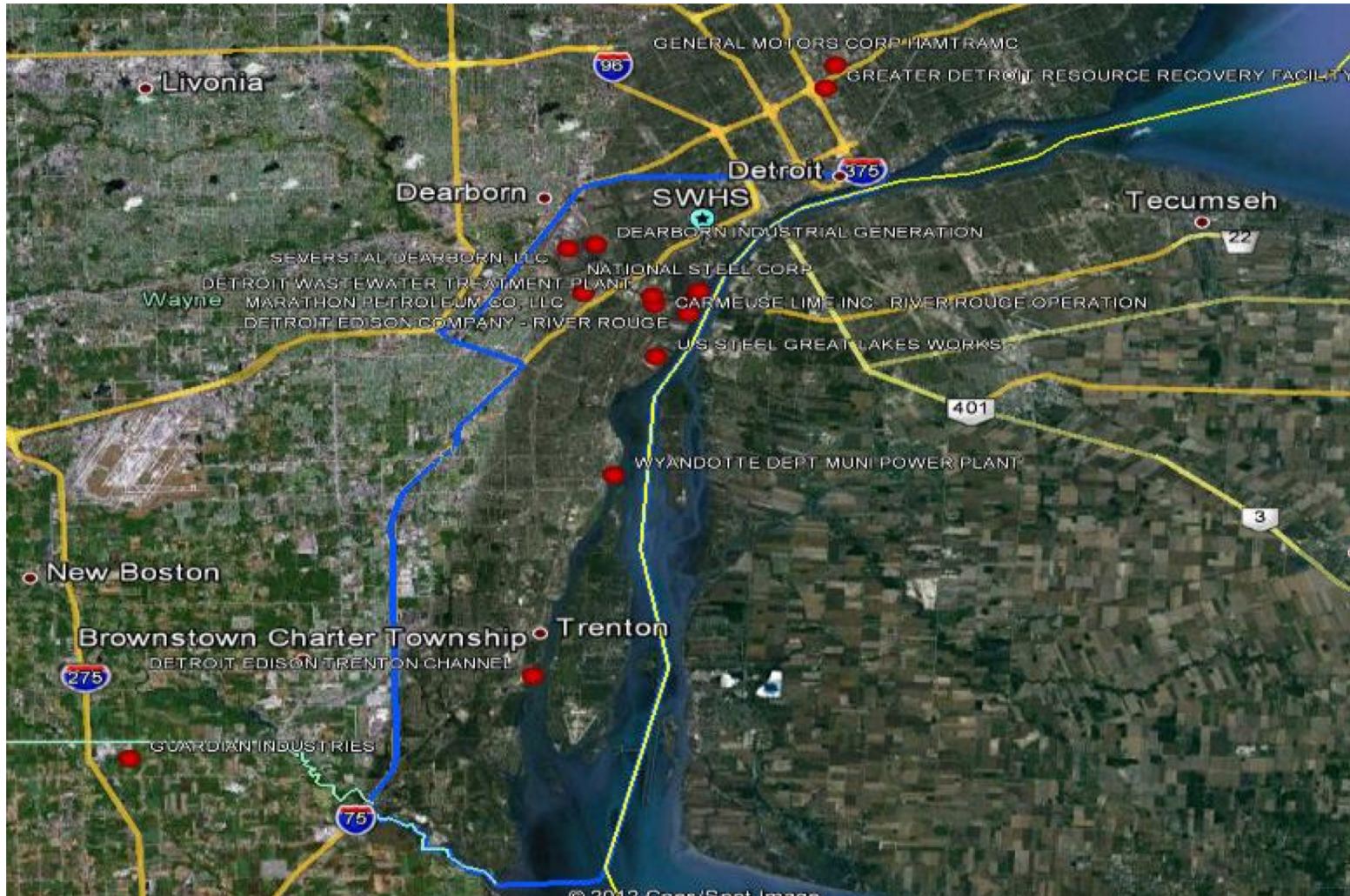
- New SO₂ NAAQS in 2010
- SWHS monitor violating NAAQS
- Large SO₂ sources in the area
- EGLE recommended partial county nonattainment area with the large sources and SWHS monitor
- EPA agreed and designated the area in 2013

Southwestern High School Monitor

Table 1. SWHS Annual & 3-year Design Value (ppb)

Year	99 th Percentile, Daily Max.	Design Value
2008	101.0	
2009	79.0	
2010	107.0	95.7
2011	84.0	90.0
2012	80.2	90.4
2013	65.6	76.6
2014	71.5	72.4

Facilities With >100 tpy Actuals

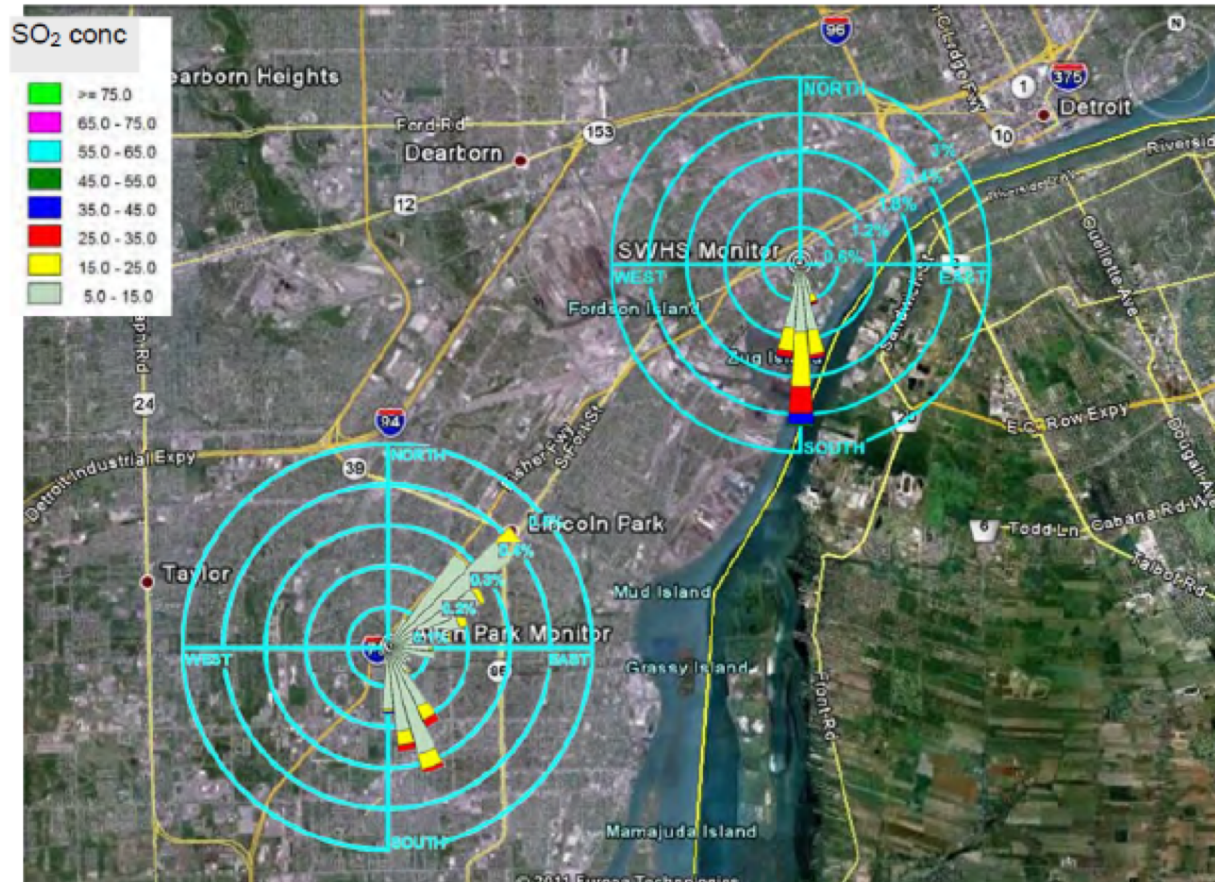


Major Sources in Nonattainment Area

- U.S. Steel - Zug Island, River Rouge (2,874.3 tpy)
 - EES Coke (1,900 tpy)
 - DTE River Rouge Power Plant (8,202.5 tpy)
 - DTE Trenton Channel Power Plant (22,426.1 tpy)
 - AK Steel/ Severstal (677.1 tpy)
 - Dearborn Industrial Generating (597.9 tpy)
 - Carmeuse Lime, Inc. (699.7 tpy)
 - Marathon (137.3 tpy)
- *DTE Monroe Power Plant (49,150.6 tpy)

Wind/Concentration Roses

Figure 5. SO₂ Concentration Roses showing Wind Direction during Hours with SO₂ Greater than 5 ppb



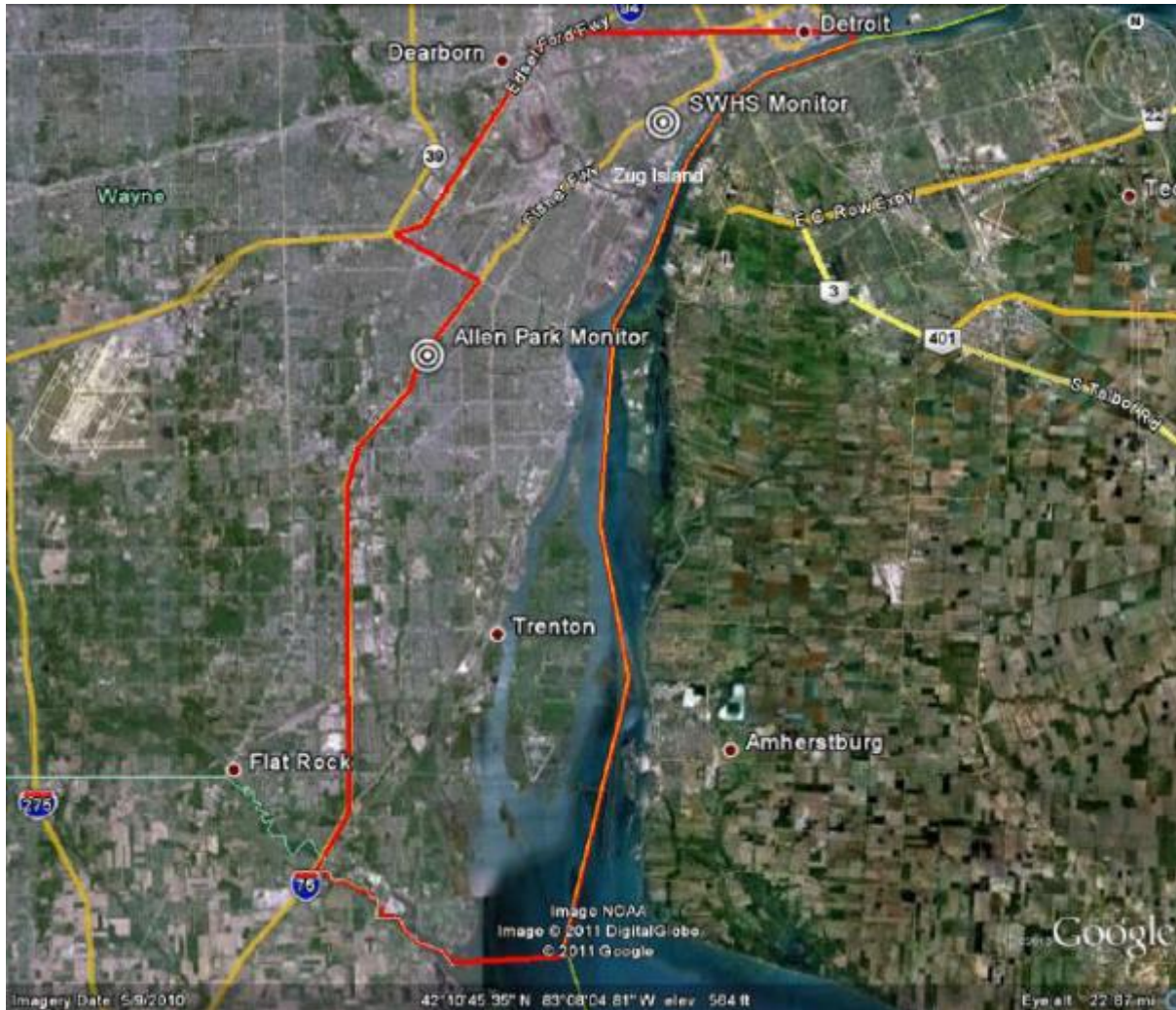
Clean Air Act Requirements

- With new NAAQS, state recommends to EPA nonattainment area if monitored violation
- SWHS monitor violates 75 ppb
- EPA designates area nonattainment in 2013
- AQD must submit SIP by April 2015
- SIP provide for compliance by fall 2018

SO₂ Nonattainment Area

- EGLE required to submit specific State Implementation Plan elements with the goal of bringing the area to attainment by the attainment date
 - Control measures, *e.g.*, rules, administrative orders, etc.
 - Nonregulatory components, *e.g.*, emissions inventory, attainment demonstration, etc.

New 1-Hour SO₂ Nonattainment Area



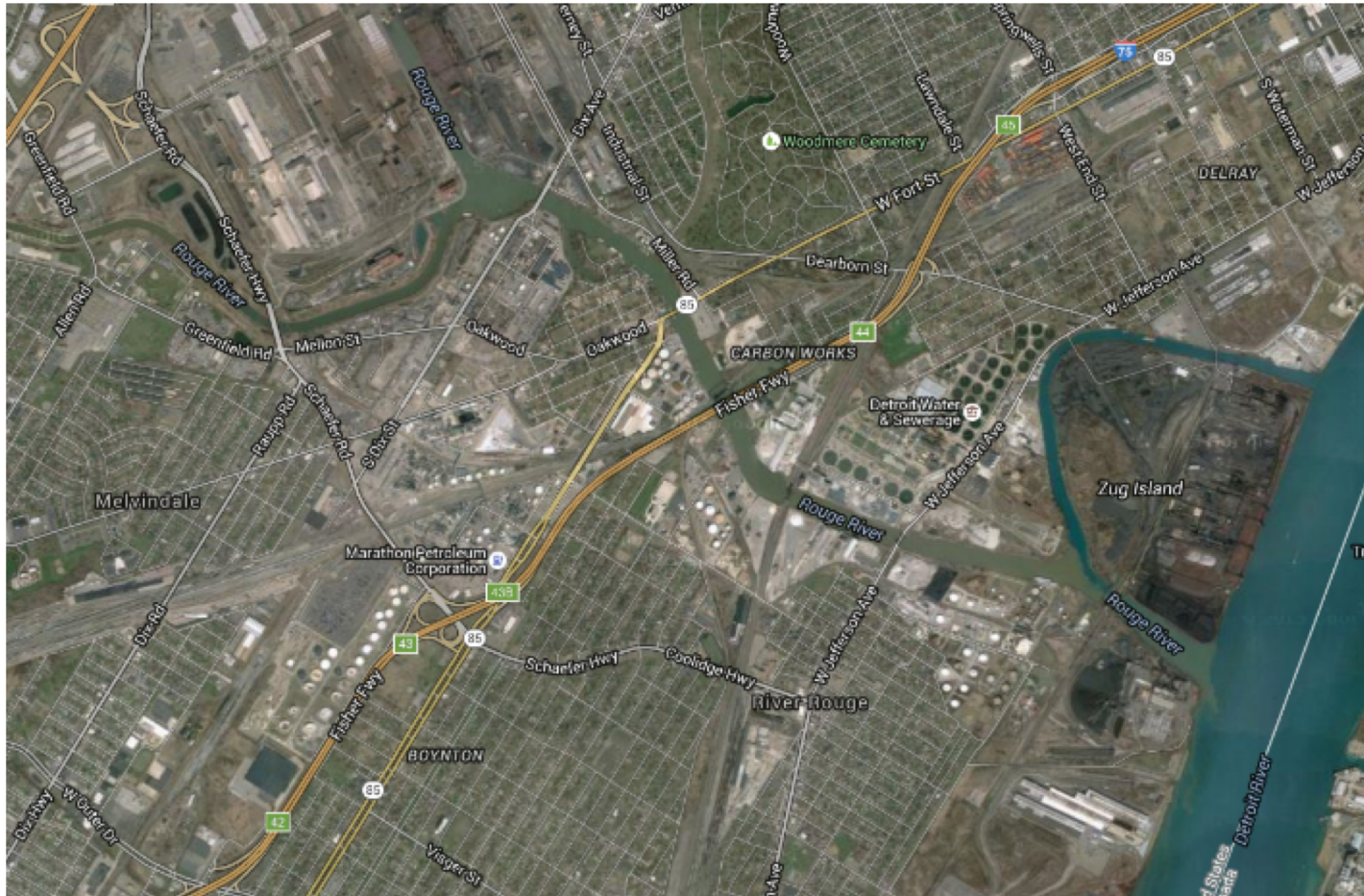
Control Strategy Development Process

- Identify the sources whose emissions are contributing to nonattainment (modeling etc.)
- Develop understanding of the affected processes (field staff, plant visits, meetings)
- Develop emission reduction strategy options (modeling, meetings with company reps)
- Final strategy controls incorporated in permits if company agreement, rules if needed

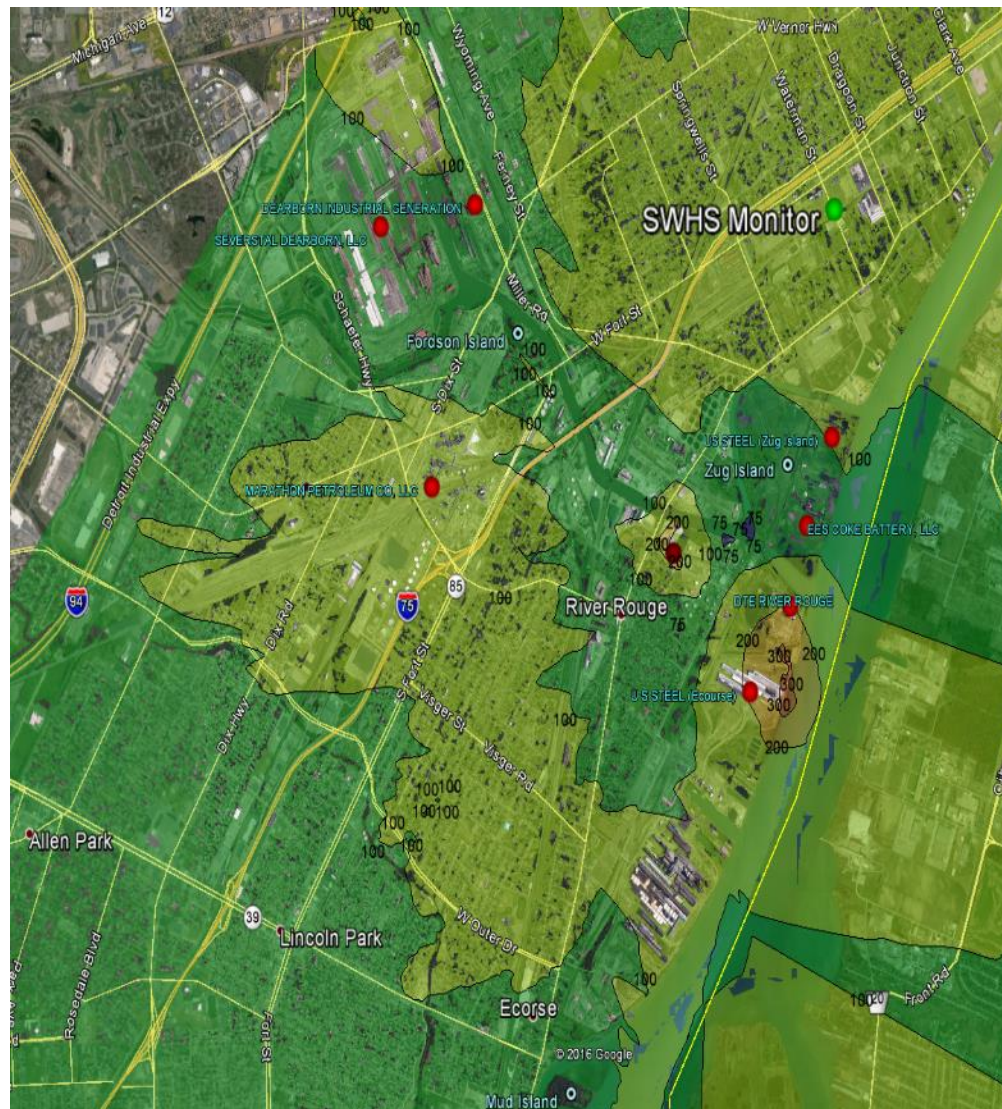
Sources Needing Control in SIP

- Carmeuse Lime - coal burned in 2 lime kilns
- US Steel - COG burned in 5 reheat furnaces and COG & BFG burned in 10 boilers
- DTE River Rouge - coal burned in boilers #2 and #3
- DTE Trenton Channel - coal burned in 4 high pressure boilers and in boiler #9A

Major SO₂ Source Area



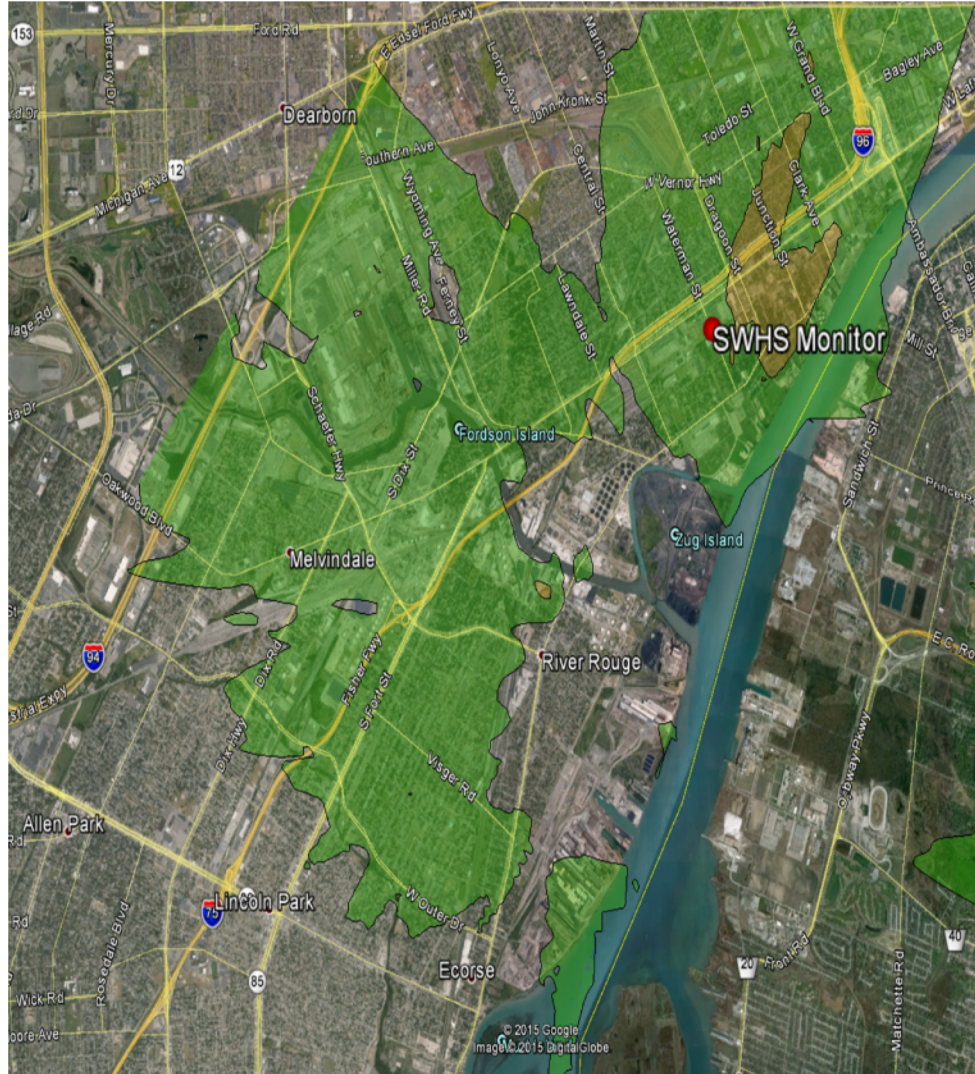
Allowable Emissions via Permit or Capacity (2010-2014 met data)



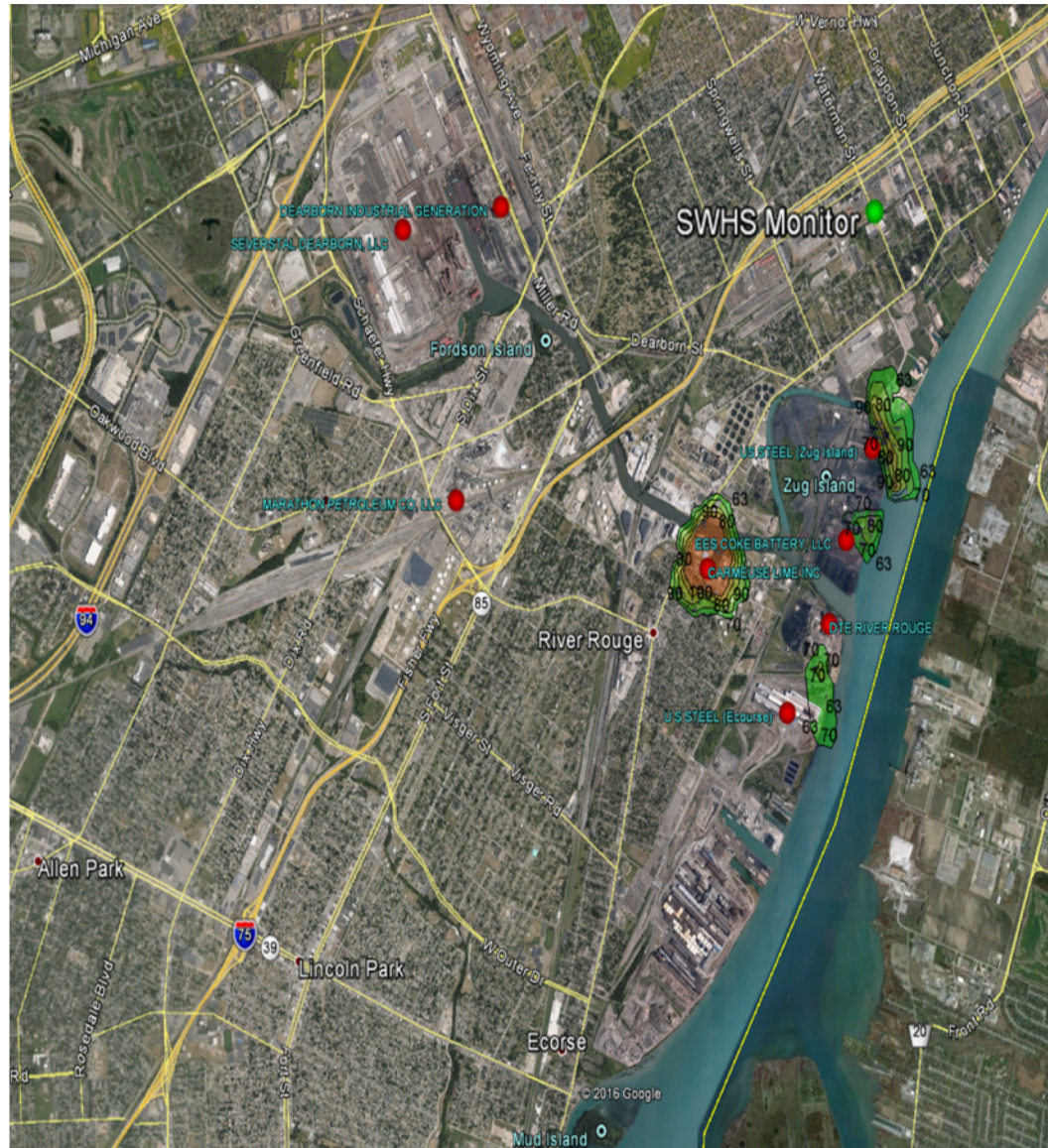
SIP Controls

- Carmeuse Lime - install 120 ft stack
- US Steel - Rule 430 (significant cuts in SO₂)
- DTE River Rouge - reduce allowable SO₂ in boilers #2 and #3 via permit
- DTE Trenton Channel - shut down 4 high pressure boilers

SIP Strategy



2014 Actual Emissions via MAERS (2014 met data)



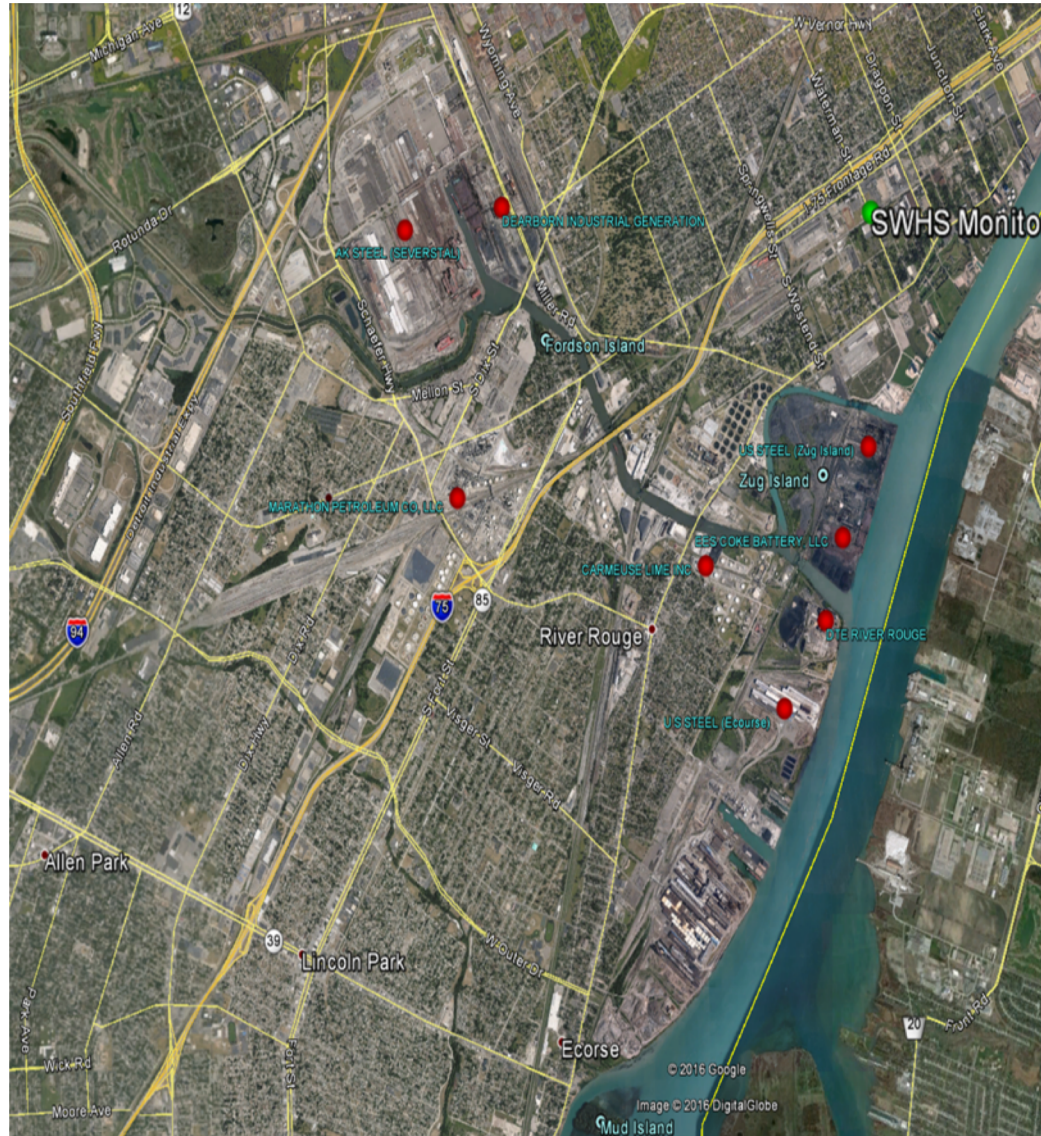
2014 Actual Emissions via MAERS (2014 met data)



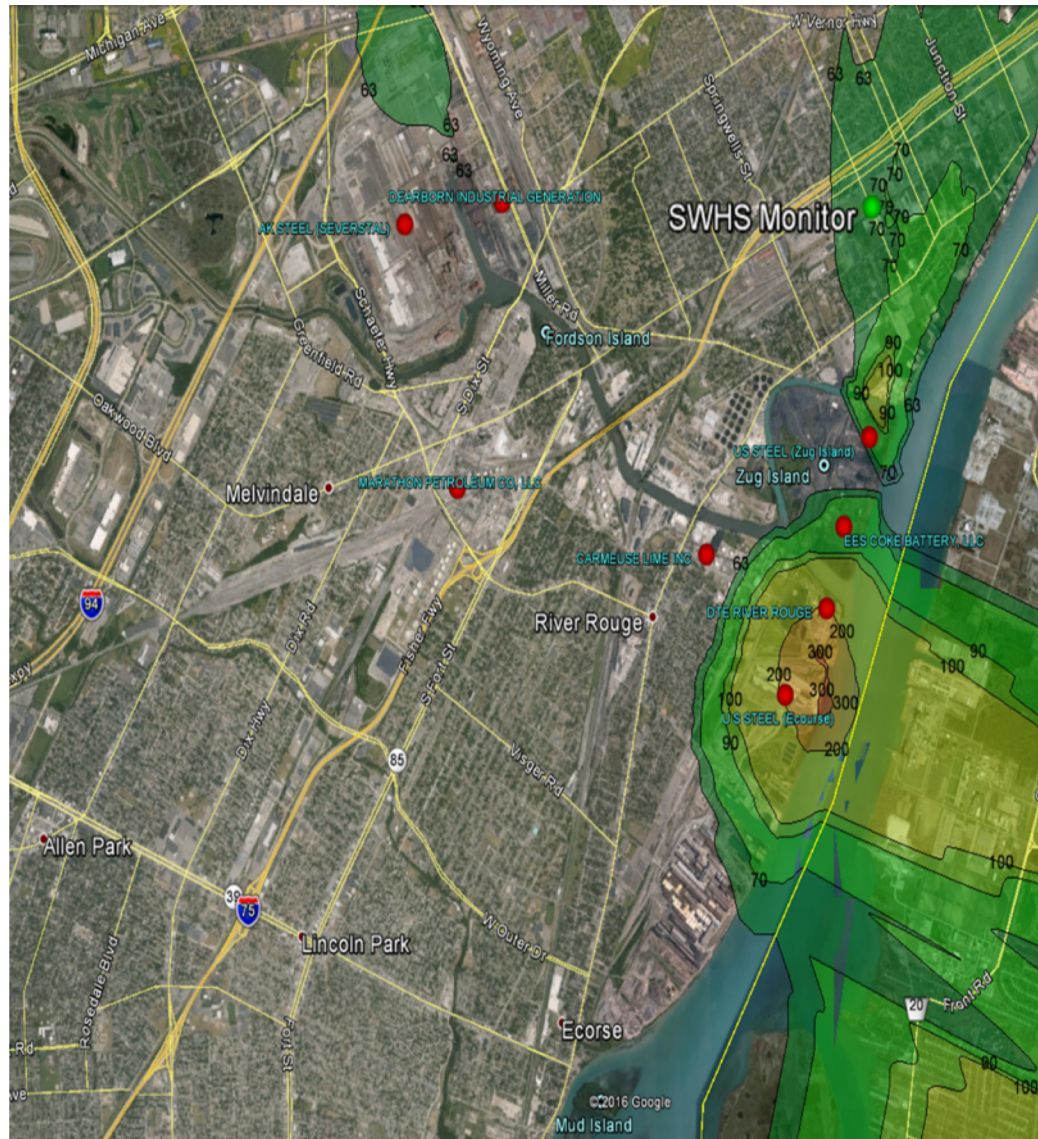
Formal SIP Review

- Public comment and hearing in fall of 2015
- Strong reaction by local residents against SIP
- EPA said wouldn't approve SIP
- EGLE does redo of SIP, DTE agrees to shut down boiler 3 at River Rouge power plant
- Rule 430 completes formal rulemaking, US Steel continues to disagree with its provisions

SIP Impacts with New Permits & Rule 430 (2010-2014 met data)



SIP Impacts with New Permits & *without* Rule 430 (2010-2014 met data)



The Rest of the Story...

- EGLE submits revised SIP to EPA June 2016
- US Steel sues EGLE over Rule 430 August 2016
- EPA does not act on SIP pending outcome of suit
- Mediation between EGLE and US Steel, ends fall 2017 with no agreement
- Judge determines Rule 430 to be unconstitutional
- EPA begins Federal Implementation Plan development in place of SIP

SIP Processing: Review and Approval

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What is a State Implementation Plan (SIP)?

It's a plan for Clean Air.

- The SIP is the federally-enforceable plan for each State which identifies how that State will attain and/or maintain the primary and secondary National Ambient Air Quality Standards (NAAQS).
- A specific plan for each nonattainment area.
- Each State is required to have a SIP which contains the control measures and strategies developed through a public process, formally adopted by the State, and submitted by the Governor's designee to EPA (which EPA must formally act on) as revisions to their plan to attain and maintain the national ambient air quality standards.

General Types of SIPs

- Infrastructure SIP (I-SIP)
 - Required from all States and Territories and are due 3 years after promulgation of new/revised standard
 - Demonstrate that States have the infrastructure to monitor air quality and regulate/enforce NAAQS
 - Demonstrate have controlled any sources contributing significantly to nonattainment or interfering with maintenance of NAAQS in other states (Good Neighbor/Transport SIP)
- Nonattainment Area SIP (NAA SIP)
 - Required from States that are part of an NAA and are due 3-4 years after designation
 - Plans to achieve and maintain attainment of the relevant NAAQS
- Maintenance SIP (Maintenance Plan)
 - Major component of a redesignation request
 - Actions to ensure that the area will meet the NAAQS for 10 years after redesignation (a 2nd 10-year maintenance SIP due prior to the end of the 1st period)
- Program SIP
 - Implements programs or parts of programs required by the CAA
 - Examples Mobile Source Inspection/Maintenance Plan, Emission Inventory, Regional Haze, Startup/Shutdown/Malfunction (SSM)

The Contents of a Typical SIP Fall into Three Categories:

- 1) State-adopted control measures which consists of either rules/regulations or source-specific requirements (e.g., orders and consent decrees);
- 2) State-submitted "non-regulatory" components (e.g., attainment plans, rate of progress plans, emission inventories, transportation control measures, statutes demonstrating legal authority, monitoring networks, etc.);
- 3) Additional requirements promulgated by EPA (in the absence of a commensurate State provision) to satisfy a mandatory section 110 or Part D (CAA) requirement.

The SIP is a Living Document

- Revised by State as necessary:
 - The CAA or court case mandates plan submittal, or
 - State/Tribe/Local can decide to revise its own SIP.
- Addresses unique air pollution problems in State.
- Keeping SIP updated is a continuous process.
- SIP revisions are adjustments to state/local air quality rules to provide for attainment and/or maintenance of the NAAQS (section 110 of Clean Air Act)

The SIP Process

- **SIP Development**

- State authorities develop SIPs in response to
 - New or revised NAAQS
 - SIP Calls
 - New or revised State regulations
 - Changes in attainment status

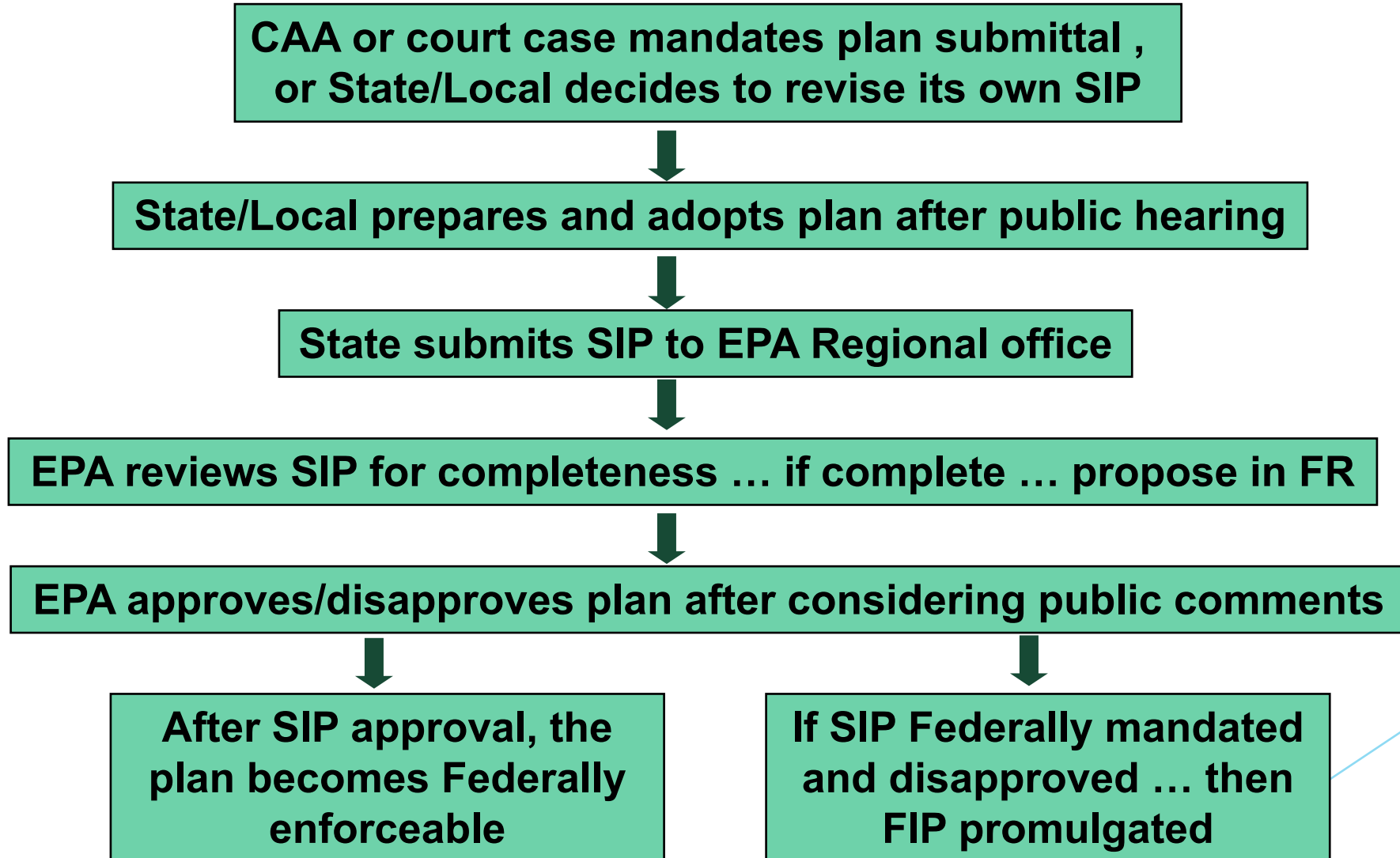
- **SIP Adoption and Submittal**

- Authority: Governor or his/her designee.
 - Generally delegated to Environmental Secretary or equivalent.

- **SIP Review Approval**

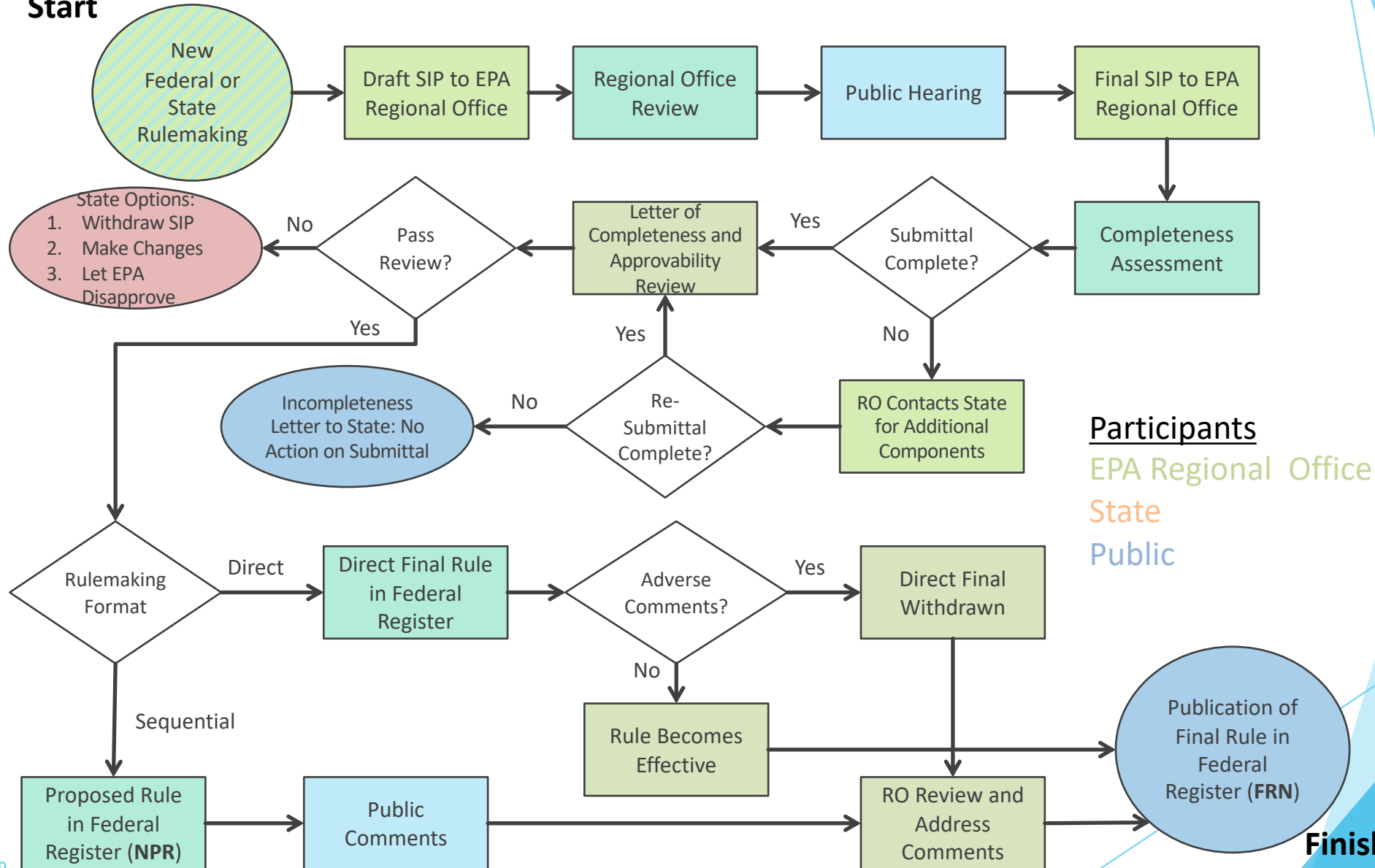
- EPA Regional Administrators (RA) are delegated the authority to receive, return, approve, or disapprove SIPs

SIP Process



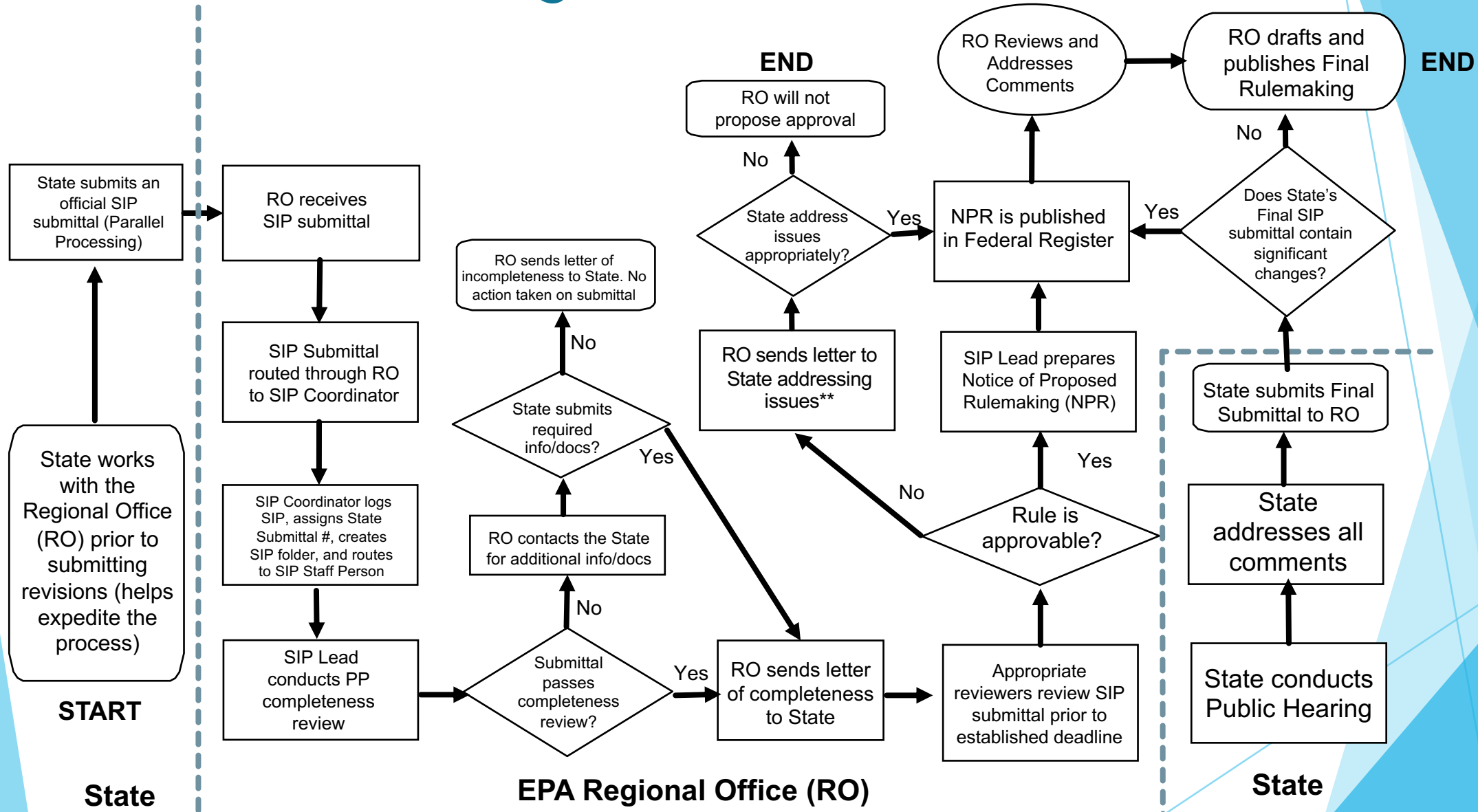
Typical SIP Process Flow Diagram

Start

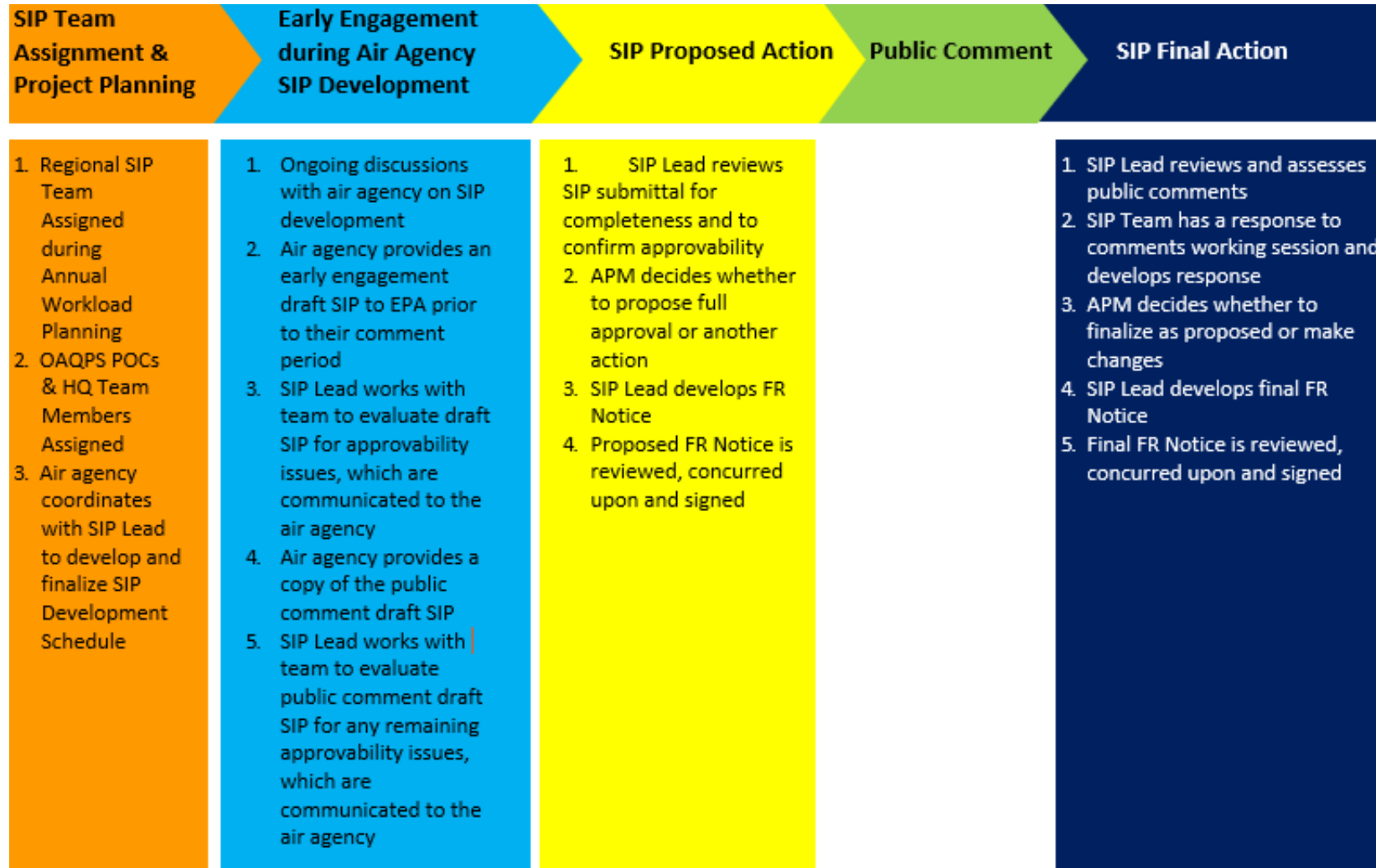


Finish

Parallel Processing Submittals



SIP Lean Process Overview

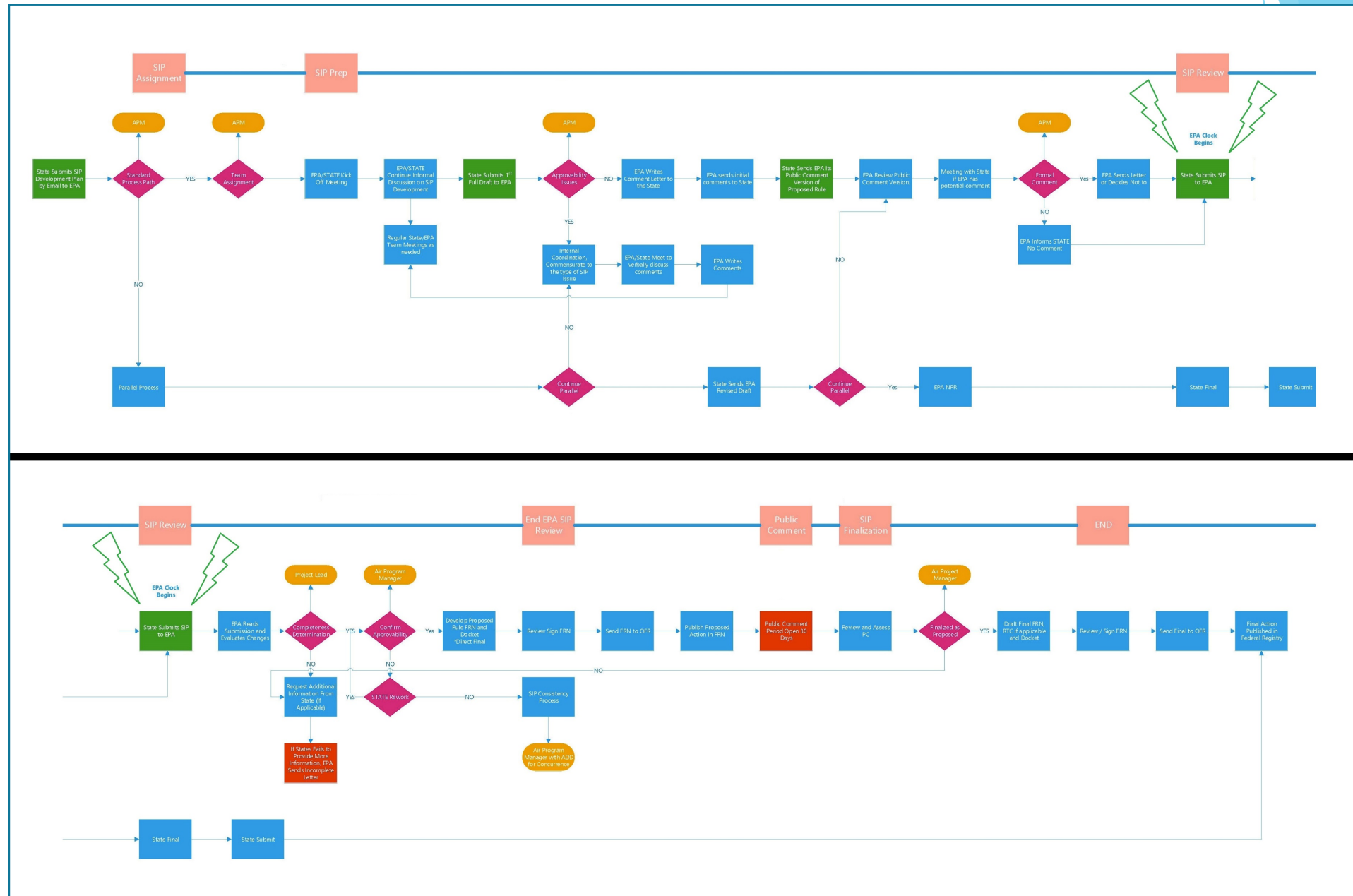


Benefits of Early Engagement

Once the Lean Process is fully implemented, the following benefits are anticipated:

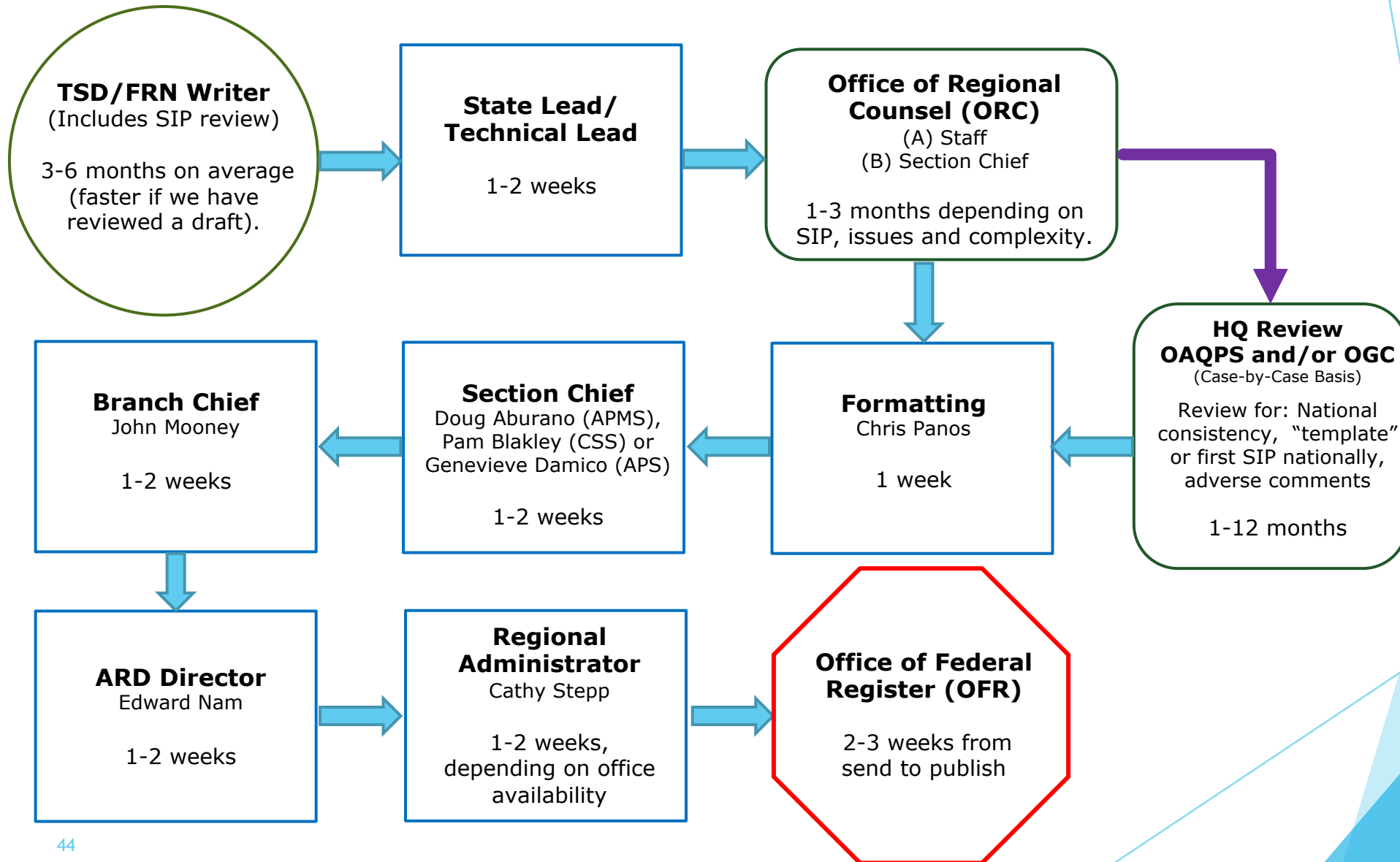
- *Less re-work for Air Agencies and EPA.* The commitment to early engagement supports the principles of cooperative federalism and will further strengthen EPA's partnership with air agencies.
- *Faster action on SIPs once they are submitted to EPA.* Earlier engagement with air agencies and clearer guidance from EPA is anticipated to result in quicker EPA action on submitted SIPs, using fewer resources, and to prevent additional SIPs from becoming backlogged.
- *Greater regulatory certainty.* Prompter action by EPA on submitted SIPs should provide more regulatory certainty for regulated sources.

SIP Process Flow Chart



Federal Register Notice Review Process

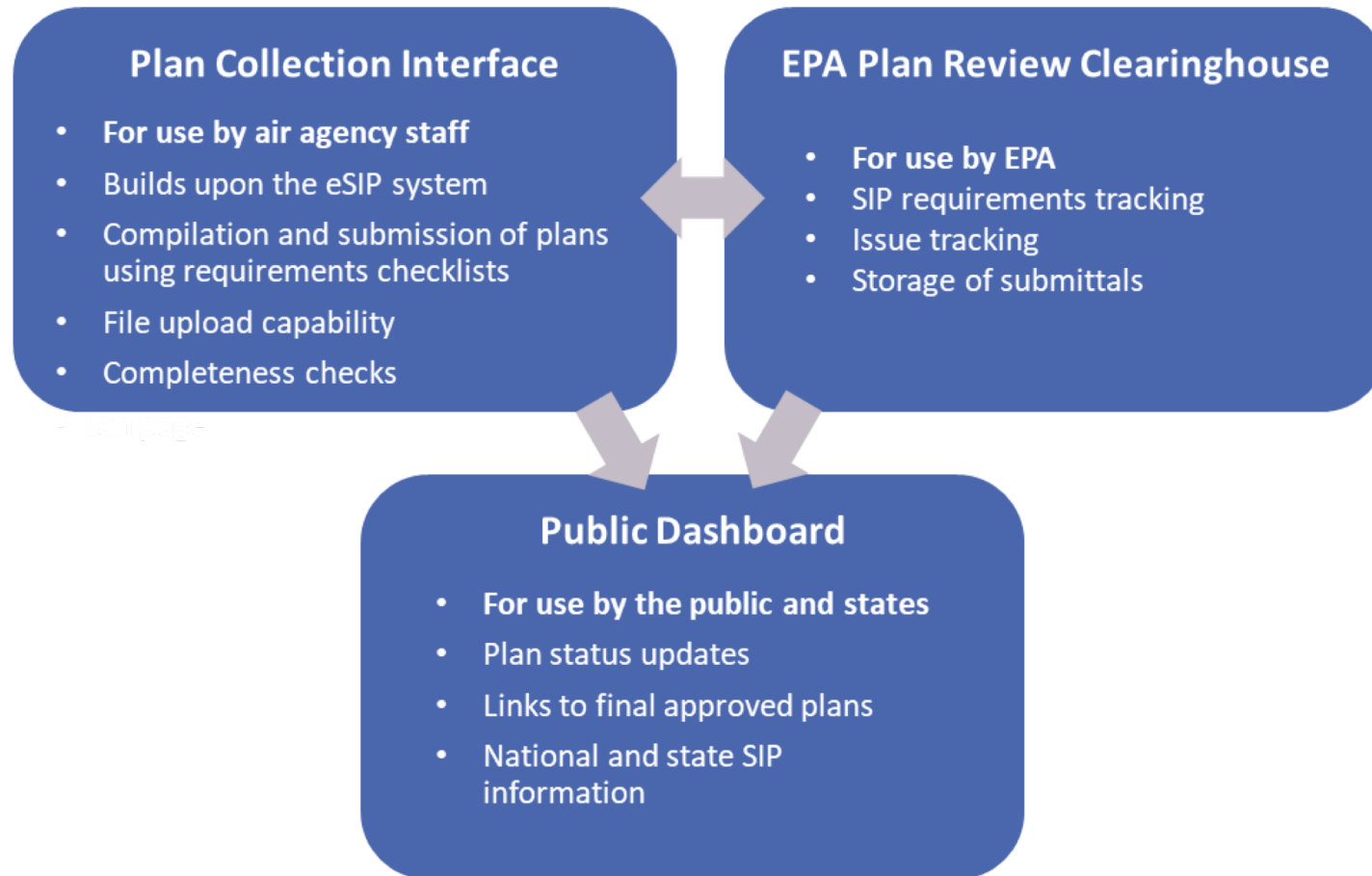
(times are averages depending on the SIP, issues identified, and complexity)



SIP Submission Requirements

- **Copyrighted Material:** State shall identify any copyrighted material in the Plan submission
- **Confidential Business Information (CBI):** State shall not include any CBI materials in the SIP submission. If this material is necessary to justify the control requirements and emissions limitations established in the plan, State must clearly identify such material as CBI
- **All Electronic Option** via the State Plan Electronic Collaboration System (SPeCS): States have the option to submit plans using EPA's new electronic web-based SIP submission system
- **One Paper Copy Option:** If the single paper plan submission is selected, the paper plan must be accompanied by an electronic duplicate, preferably as a word searchable PDF file.

SPeCS for SIPs: Users and Major Components



Benefits of SPeCS for SIPs

- Provide a modernized user experience similar to e-commerce sites
- Provide air agencies the ability to send comprehensive, immediate, and secure electronic submissions to EPA
- Save time and financial resources currently spent on plan printing, shipping, filing, and storage
- Provide an organized, consistent approach to collecting and reviewing plan information that should lead to faster and more efficient plan processing
- Enhance tracking of compliance with Clean Air Act and regulatory requirements
- Save substantial time by eliminating data entry in multiple systems
- Provide easy access to updated data and management reports to the public, states, and EPA

Steps in the SIP Approval Process

- Completeness
- Rulemaking
 - Parallel Processing (concurrent with state approval)
 - Proposal and Final (Sequential)
 - Direct Final with Proposal Associated with DFR.

Completeness Determination

- Appendix V of 40 CFR Part 51 sets the minimum criteria for determining whether a State submittal is an official submittal for purposes of review.
 - Inform State within 60 days of receipt but no later than 6 months of completeness determination.
 - 6 months after submittal deemed complete by operation of law.
- Completeness determination is not a determination of approvability.
- A submittal determined incomplete is not an official submittal.
- Two parts to a completeness determination:
 - Administrative materials
 - Technical support

Rulemaking Options

- Sequential Rulemaking
 - Most common
 - Notice of Proposed Rulemaking (NPR) → 30-day public comment period → Final Rulemaking Notice (FRN)
- Direct Final Rulemaking
 - Used for noncontroversial SIP revisions
 - Direct Final Rule (DFR) published at same time as the NPR
 - Effective 60 days after publication unless adverse public comments received in the first 30 days
 - If relevant adverse comments are received during the public comment period, the DFR is withdrawn and EPA must publish a new FRN for the SIP revision

Rulemaking Options (continued)

- Parallel Processing

- Formal request from State to EPA with strict requirements on the form and content of the request
- Used when a State believes that there will be no changes to the proposed rule at the time it becomes final
- Parallel processes
 - State: Sends EPA proposed rule and conducts public hearings and addresses comments to develop a final SIP revision
 - EPA: Publishes the proposed State rule as NPR
- If the State adopts a different final rule than what was proposed by EPA for parallel processing, EPA may withdraw the NPR and proceed with NPR → Public Comment → FRN

Actions EPA can take on a SIP

- Letter
 - “Complete” finding
 - Letter Notice
- Rulemaking
 - Conditional Approval
 - Limited Approval/Disapproval
 - Partial Approval/Disapproval
 - Full Disapproval
 - OMB Informal Review Required
 - IF CAA Mandated SIP - 2 Year FIP Clock
 - Full Approval

Letter Notice

- EPA sends a letter to the affected states and parties rather than a notice-and-comment rulemaking to approve truly insignificant SIP actions.
- No notice will be published in the Federal Register prior to sending final letter notice approvals to the state and affected parties.
- The letter to the state will be EPA's final action approving such minor SIP revisions.
- The effective date of the letter notice approvals will be the date of the letter to the state.
- The Agency will periodically publish a summary list of all letter notice actions in the Federal Register to keep the general public informed of SIP matters.
- Letter notices approvals will, however, remain subject to the potential judicial review until sixty days after the date of the summary Federal Register notice.
- Categories of SIP action appropriate for letter notice include: recodification involving no substantive changes; minor technical amendments; typographical corrections; address changes; and similar non-substantive matters.
- Rarely used.

Conditional Approval

- Under section 110(k)(4) of the Act EPA may conditionally approve a plan based on a commitment from the State to adopt specific enforceable measures within 1 year from the date of approval. If the State fails to meet its commitment within the 1-year period, the approval is treated as a disapproval.
- Regions should not use conditional approvals without reaction from HQ as to whether such an approach is appropriate.

Partial Approval

- Section 110(k)(3) of the amended Act addresses the situation in which an entire submittal, or a separable portion of a submittal, meets all applicable requirements of the Act. In the case where a separable portion of the submittal meets all the applicable requirements, partial approval may be used to approve that part of the submittal and disapprove the remainder. It is important that the two parts of the submittal be separable.
- EPA has frequently taken a partial approval approach in the past to process groups of rules that are submitted together. EPA can approve some of the rules and disapprove the rest as long as the rules that are disapproved do not affect those that are approved. The disapproval of any part of a required SIP submittal starts the clocks for sanctions and FIP's.

Limited Approval

- In some cases, a submittal may contain certain provisions that meet the applicable requirements of the Act along with other provisions that do not meet the requirements, and the provisions are **not** separable. Although the submittal may not meet all the applicable requirements, EPA may want to consider whether the submittal as a whole has a strengthening effect on the SIP. If that is the case, limited approval may be used to approve a rule that strengthens the existing SIP as representing an improvement over what is currently in the SIP and as meeting **some** of the applicable requirements of the Act.
- The Act does not expressly provide for limited approvals. Rather, EPA is using its "gap-filling" authority under section 301(a) of the Act in conjunction with the section 110(k)(3) approval provision to interpret the Act to provide for this type of approval action.
- Through a limited approval, EPA would concurrently, or within a reasonable time thereafter, disapprove the rule under the relevant provision(s) of Part D for not meeting **all the** applicable requirements of the Act.

Distinction Between Limited and Partial Approval

- A key distinction between the limited approval and a partial approval is that under a limited approval EPA's approval action goes to the entire rule.
- In a limited approval, although portions of a rule prevent EPA from finding that the rule meets a certain requirement of the Act, EPA believes that the rule, as a whole, strengthens the SIP. Therefore, EPA approves the entire rule -- even those portions that prohibit full approval.
- Likewise, when EPA issues the limited disapproval, the disapproval applies to the entire rule as failing to meet a specific requirement of the Act.
- The rule remains a part of the SIP, however, under the limited disapproval, because the rule strengthens the SIP. The disapproval only applies to whether the submittal meets a specific requirement of the Act and does not affect incorporation of the rule into the approved, federally enforceable SIP.

Full Disapproval

- Triggers informal Office of Management and Budget (OMB) review.
- If CAA mandated SIP - FIP/Sanction Clocks started

Incorporation by Reference

- The purpose of IBR is to make specific documents federally-enforceable or defensible without printing them in their entirety in the FR.
- To avoid reprinting State regulations, the OFR has granted EPA authority to incorporate by reference State regulations and source-specific documents (e.g., permits, consent orders, etc.) as part of the approved SIP.
- The State regulation is identified in the regulatory text as being incorporated into the SIP. Material that is incorporated by reference is specifically referenced in the regulatory text of a rulemaking document and that material is then made reasonably available to those affected by such action. All IBR materials are on file at the OFR and the Regional Office.

What can be IBR'd

- The following documents are the specific parts of a State submittal that are acceptable for IBR. They are:
 - Regulations;
 - Variances;
 - Consent/Secretarial/Board/Commission/Administrative Orders;
 - Official letters from a State:
 - containing compliance schedules
 - indicating how a program will be implemented until a regulation is adopted (as distinguished from interpreting an existing regulation)
 - that are referenced and relied on in Consent/Secretarial/Board/Commission/Administrative Order
 - Source-specific permits;
 - Legislative authority not already incorporated by reference; and
 - RFP curves.

What can not be IBR'd

- Materials Not Accepted for IBR The following materials are not acceptable for IBR:
 - SIP narrative (except for the specific page on which the RFP curve or SIP-required commitments or schedules are printed);
 - State request for proposal which specifies the tasks of a prospective contractor;
 - Public hearing documents;
 - Transcripts;
 - Public certifications;
 - Modeling or monitoring data;
 - Negative declarations; and
 - Commitment letters.
- The OFR does not view the type of documents listed above as being regulatory. These types of documents can be listed under "Additional material."