EPA-State NPDES SNC National Compliance Initiative

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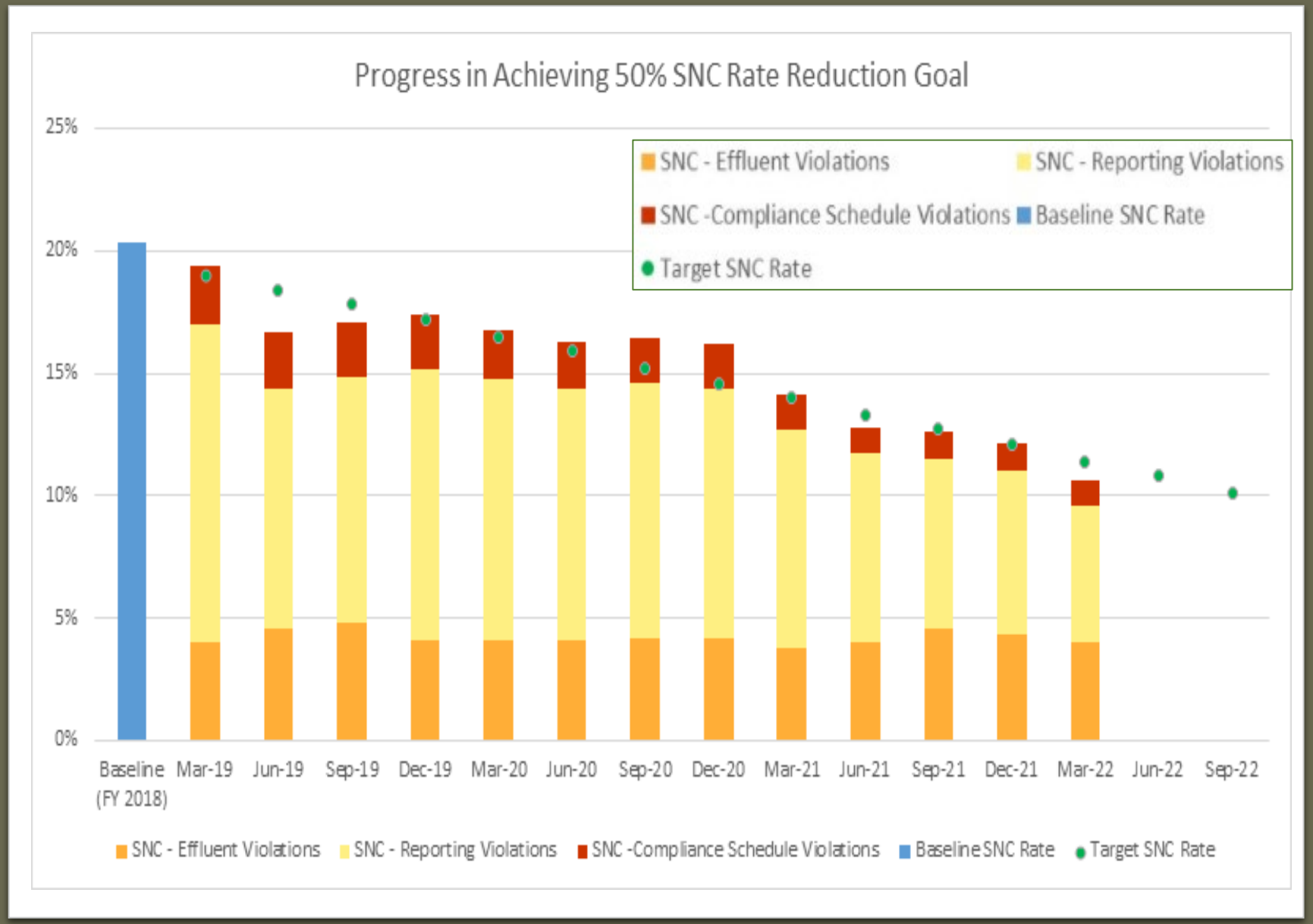
AGENDA

I. Where we do we stand today in reducing NPDES SNC?
II. What are current areas of focus for the SNC NCI?
III. Examples where state/EPA investments in reducing SNC have paid off
IV. Offer of assistance from the SNC NCI
V. Q&A: 5 minutes

Where we do we stand today in reducing NPDES SNC?

Progress in Reducing the NPDES SNC Rate

- Primary Goal: Reduce the Significant Non-Compliance (SNC) rate among NPDES individually permitted facilities by 50% over five years (FY 2018-FY 2022).
  - National SNC Rate Baseline (FY2018): 20.3%
  - National SNC Rate Goal (FY2022): 10.1%
  - National FY22 Q1 SNC Rate Target: 11.4%
  - National FY22 Q1 SNC Rate Actual: **10.6%**



Current National NPDES SNC Rate:

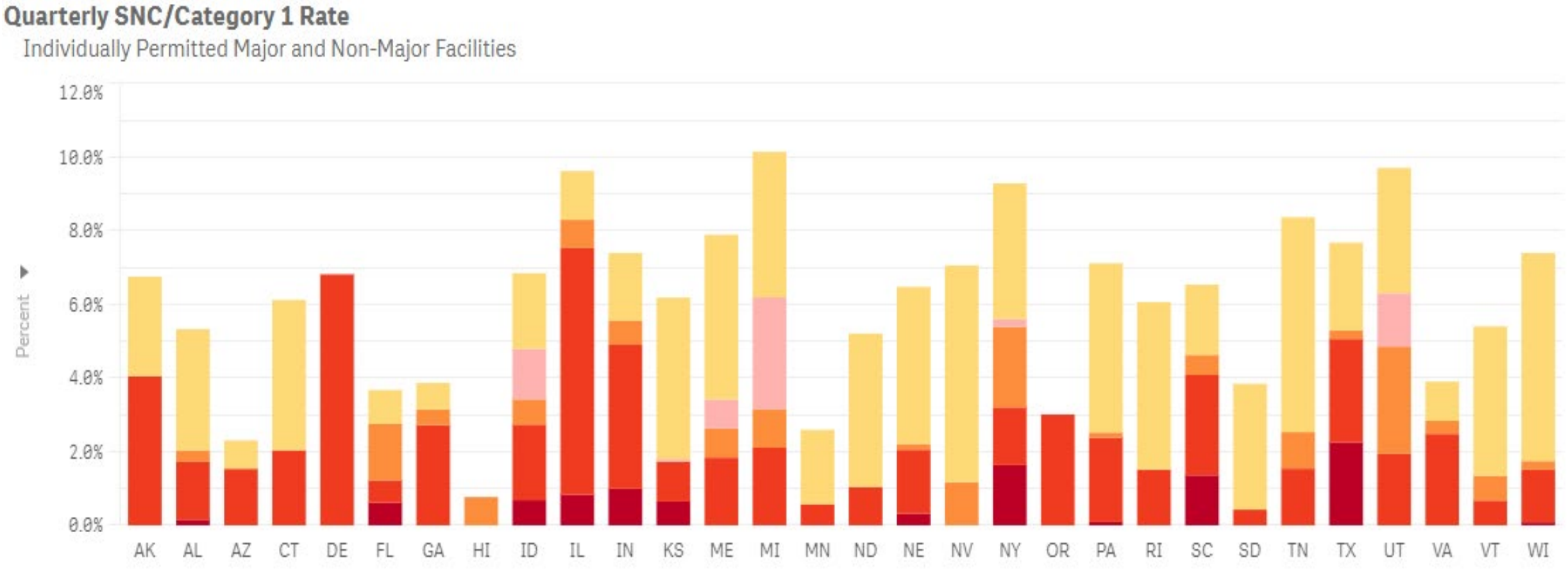
10.6%

(FY22 Q1)

How Have We Attained an SNC Rate of 10.6%?

- A numerical compliance rate goal that we can use to measure progress (more or less) in real time.
  - Including the ability to see/know where we have reliable data and where we don't.
- A solid EPA-state partnership supported by ACWA
  - Based on a general agreement about the value of the NCI goal.
  - Supported by a high level of information sharing and participation from all parties.
- A national cadre of state and EPA NPDES regulators with a common dedication to improving compliance and readiness to share their knowledge, experience, tools with each other.
- Multiple actions undertaken by EPA and multiple states *(a few of which will be described in later slides)*

How Have We Attained an SNC Rate of 10.6%?



Currently, thirty states have attained an SNC rate at or below the FY 2022 end-of-year goal rate of 10.1%

What are current areas of focus for the SNC NCI?

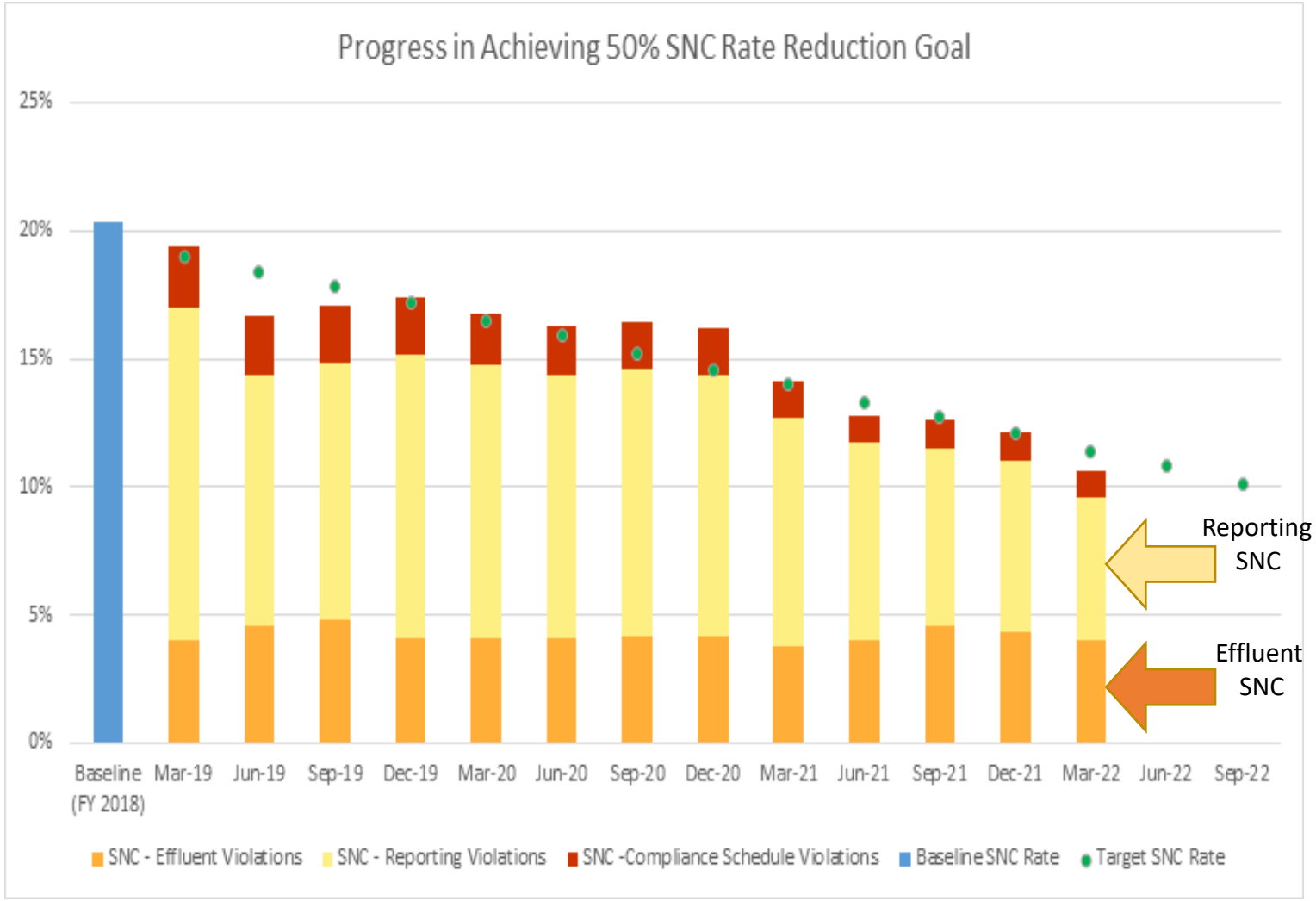
SNC Work Still to Do: Still States with a High SNC Rate

- Nine states with SNC rate of 15% or higher with various SNC drivers.
  - Data transfer still drives SNC for several states.
- States marked in green show a downward trend in SNC rate.
- States marked in pink show a flat trend.
- Note: No state with a high SNC rate shows an upward trend!

State	EPA Region	SNC % (FY20 Q4)	SNC % (FY21 Q1)	SNC % (FY21 Q2)	SNC % (FY21 Q3)	SNC % (FY21 Q4)	SNC % (FY22 Q1)	SNC % (FY20 Q4 - FY 22 Q1)	SNC driver
WA	10	91%	90%	89%	88%	88%	**31%**		DMR non-receipt (data transfer)
WV	3	48%	43%	39%	41%	33%	**30%**		DMR non-receipt (data transfer) and EA linking
Virgin Islands	2	28%	23%	23%	30%	26%	**28%**		DMR + effluent
WY	8	35%	24%	27%	24%	29%	**25%**		DMR non-receipt (data transfer)
MO	7	30%	30%	23%	18%	17%	**16%**		Effluent and DMR
KY	4	19%	17%	16%	17%	17%	**16%**		Effluent + DMR
IA	7	21%	19%	18%	18%	19%	**15%**		DMR + schedule (data transfer)
CO	8	18%	17%	17%	16%	19%	**15%**		Schedule + effluent
LA	6	15%	15%	15%	15%	15%	**15%**		Effluent

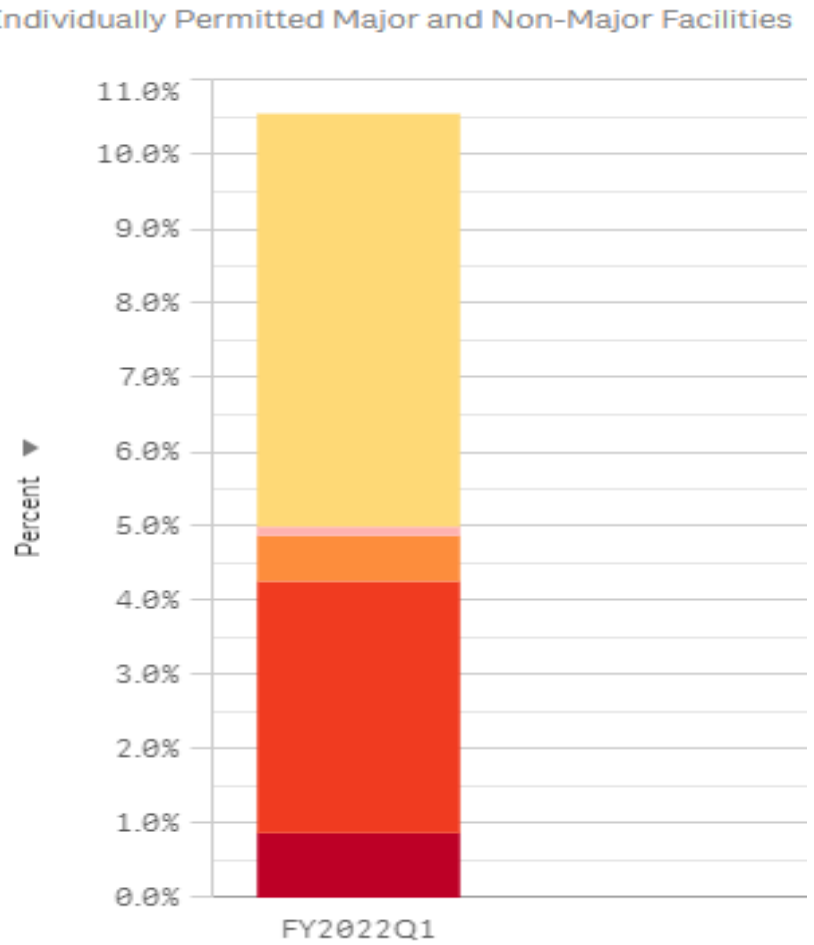
SNC Work Still to Do: SNC NCI Goal 2

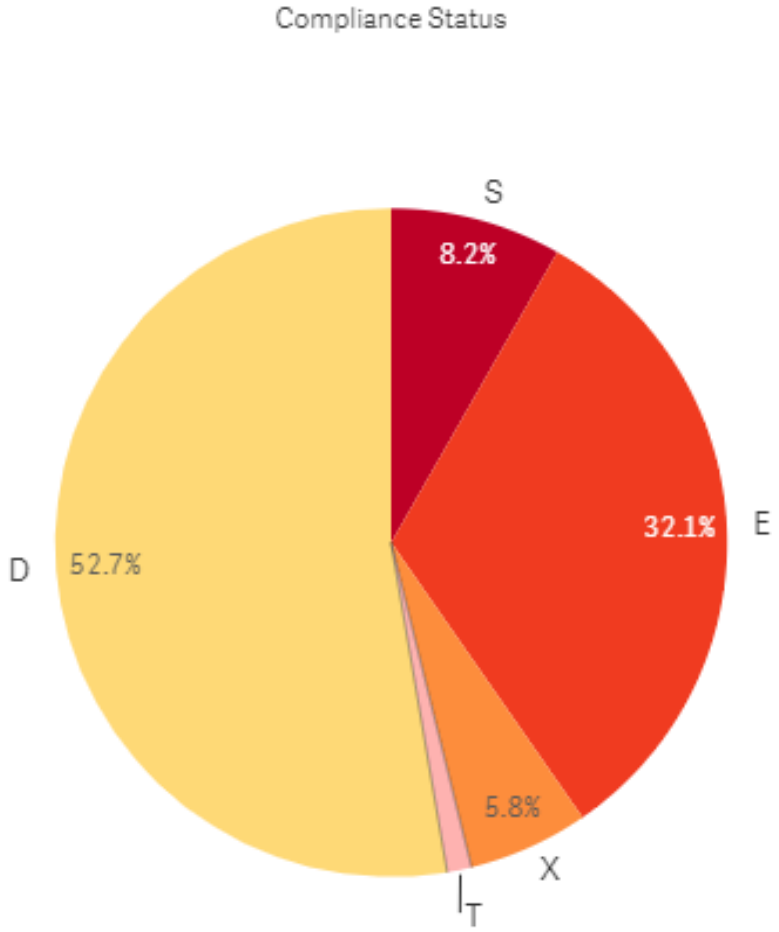
- SNC NCI Goal 2: *"Assure that high priority SNC facilities with the most significant violations are timely and appropriately resolved."*
- As we have reduced the data transfer and DMR non-submittal components of the SNC rate (yellow), the effluent violation component has become more prominent (orange).
- Evident that the level of effluent violation SNC has NOT improved over the course of the NCI.
- The SNC NCI now is bringing more focus to effluent violation SNC through:
  - Continuing quarterly EPA Region-State SNC meetings.
  - Continued use of "Top 200 SNC List" at quarterly meeting discussions.
  - New quarterly reporting by Regions on plan for addressing the "worst" 10-15 SNC/Region.



Effluent violation SNC now represents about 38% of all SNC

Code	Status	Level	Description
S	Noncompliant	SNC/Cat. 1	Enforcement action or permit compliance schedule event violation - more than 90 days late
E	Noncompliant	SNC/Cat. 1	Effluent violations of monthly average limits
X	Noncompliant	SNC/Cat. 1	Effluent violations of non-monthly average limits
T	Noncompliant	SNC/Cat. 1	Enforcement action or permit compliance report violation > 30 days late
D	Noncompliant	SNC/Cat. 1	Reporting violation - non-receipt of DMR





SNC Work Still to Do: Small Municipal WWTP SNC

POTWs: Currently represent 34% of all SNCs – largest single sector

- 11.3% SNC rate

Minor POTWs: Currently represent 29% of minor facility SNCs

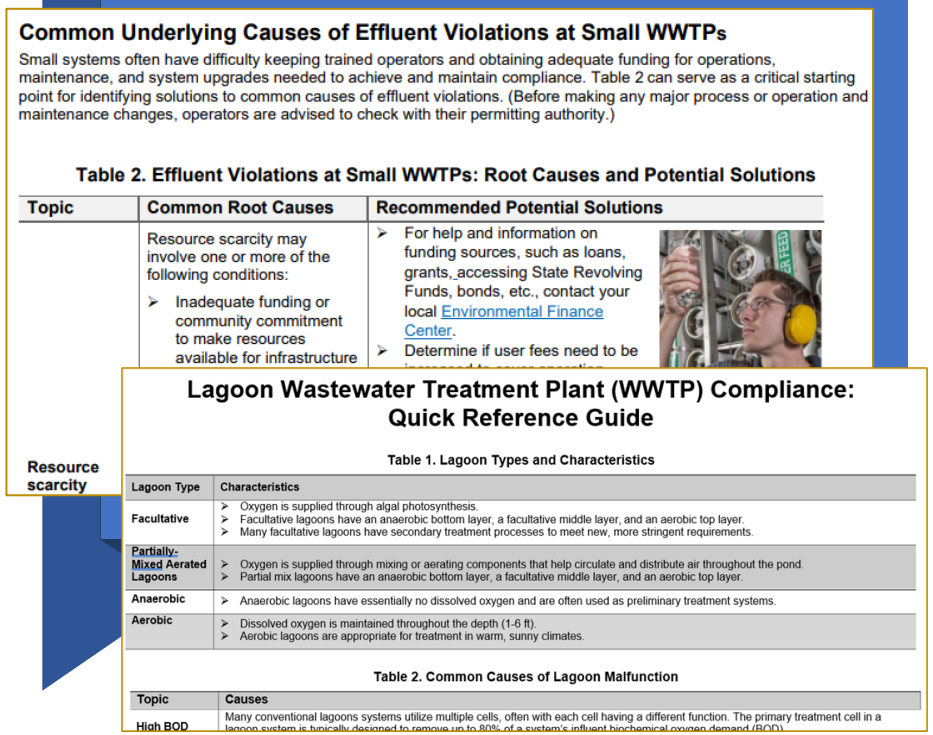
- 12.7% SNC rate

- Figures do not account for minor POTWs that are covered under a general permit.

- Figures do not account for private systems treating domestic sewage.

SNC NCI Actions to Respond to Small Municipal WWTP Non-Compliance

EPA COMPLIANCE ADVISORY — OFFICE OF ENFORCEMENT AND COMPLIANCE ASSURANCE



Common Underlying Causes of Effluent Violations at Small WWTPs

Small systems often have difficulty keeping trained operators and obtaining adequate funding for operations, maintenance, and system upgrades needed to achieve and maintain compliance. Table 2 can serve as a critical starting point for identifying solutions to common causes of effluent violations. (Before making any major process or operation and maintenance changes, operators are advised to check with their permitting authority.)

Table 2. Effluent Violations at Small WWTPs: Root Causes and Potential Solutions

Topic	Common Root Causes	Recommended Potential Solutions
Resource scarcity	Resource scarcity may involve one or more of the following conditions: ➢ Inadequate funding or community commitment to make resources available for infrastructure	➢ For help and information on funding sources, such as loans, grants, accessing State Revolving Funds, bonds, etc., contact your local Environmental Finance Center. ➢ Determine if user fees need to be

Lagoon Wastewater Treatment Plant (WWTP) Compliance: Quick Reference Guide

Table 1. Lagoon Types and Characteristics

Lagoon Type	Characteristics
Facultative	➢ Oxygen is supplied through algal photosynthesis. ➢ Facultative lagoons have an anaerobic bottom layer, a facultative middle layer, and an aerobic top layer. ➢ Many facultative lagoons have secondary treatment processes to meet new, more stringent requirements.
Partially-Mixed Aerated Lagoons	➢ Oxygen is supplied through mixing or aerating components that help circulate and distribute air throughout the pond. ➢ Partial mix lagoons have an anaerobic bottom layer, a facultative middle layer, and an aerobic top layer.
Anaerobic	➢ Anaerobic lagoons have essentially no dissolved oxygen and are often used as preliminary treatment systems.
Aerobic	➢ Dissolved oxygen is maintained throughout the depth (1-6 ft). ➢ Aerobic lagoons are appropriate for treatment in warm, sunny climates.

Table 2. Common Causes of Lagoon Malfunction

Topic	Causes
High BOD	Many conventional lagoons systems utilize multiple cells, often with each cell having a different function. The primary treatment cell in a lagoon system is typically designed to remove up to 80% of a system's influent biochemical oxygen demand (BOD)

- Two Small Municipal WWTP Compliance Advisories:
  - *1) "Compliance Tips for Small, Mechanical Wastewater Treatment Plants" (March 2022)*
    - *https://www.epa.gov/sites/default/files/2021-04/documents/compliancetips-smallmechanicalwwtps.pdf?VersionId=_qVC8YvqM1Sv2i8ENf7iI1krdfwGPW2y*
  - *2) "Compliance Tips for Small Wastewater Treatment Lagoons with Clean Water Act Discharge Permits" (to be issued and distributed shortly)*
- *Lagoon Compliance Manual (Under development)*
  - *Review of draft by EPA and state workgroup members coming shortly.*

Reducing SNC Series of Symposia and Workshops:

Symposium on Improving Small Municipal WWTP Compliance

- Planning a symposium focused on improving small municipal WWTP compliance
- Currently in planning stage:
  - 3-day symposium followed later by a practical workshop
  - Probably the first week in June 2022
  - Planning Committee is meeting: EPA (OECA, OW and Regions), State and ACWA NPDES experts.
- Will examine the root causes of municipal WWTP noncompliance and how to best respond given these causes.

Topic Areas to be Covered:

a. Financial assistance to solve
   a. Infrastructure failure
   b. Acquisition of new/additional equipment/ technology
   c. O&M funding problems
      i. Asset Management
b. Operational/Technical assistance
   a. Operator training
   b. Process control
c. Assistance in obtaining/retaining capable certified operator
   a. Certified operator training programs
   b. Support for certified operator training programs
d. Regionalization
e. NPDES permit or enforcement order compliance schedule, WQS flexibilities (e.g., WQS variances)
f. Enforcement action

Reducing SNC Series of Symposia and Workshops:

Symposium on Improving Small Municipal WWTP Compliance (continued)

- Intent of the symposium is to share and increase:
  1. Our (EPA, state, tribes, academics) understanding and knowledge about the multiple drivers of municipal WWTP noncompliance.
  2. Our knowledge of practices and approaches for determining the driver(s) of noncompliance at work for a particular WWTP - so that the appropriate response can be identified and applied.
  3. Our understanding of the range of options and resources available to address each driver of WWTP noncompliance.
  4. Our understanding of how to apply the identified options/resources in a way that is most likely to produce a successful outcome (compliance) from the action taken?

SNC NCI Work Still to Do:

New Data Completeness Focus:

1. Enforcement actions
2. EA-Violation linking
3. Inspections

- SNC NCI has focused for the last few years on working with states to get complete NPDES permit limit and discharge monitoring report (DMR) data in EPA's compliance data system (ICIS-NPDES).
  - We continue to work with several states on this.
- Data completeness focus is expanding to examine state enforcement action (EA), EA to violation linking, and inspection data in ICIS-NPDES.
  - Problem for SNC – EA's can resolve SNC only if they are in ICIS-NPDES and are linked to the SNC violations.

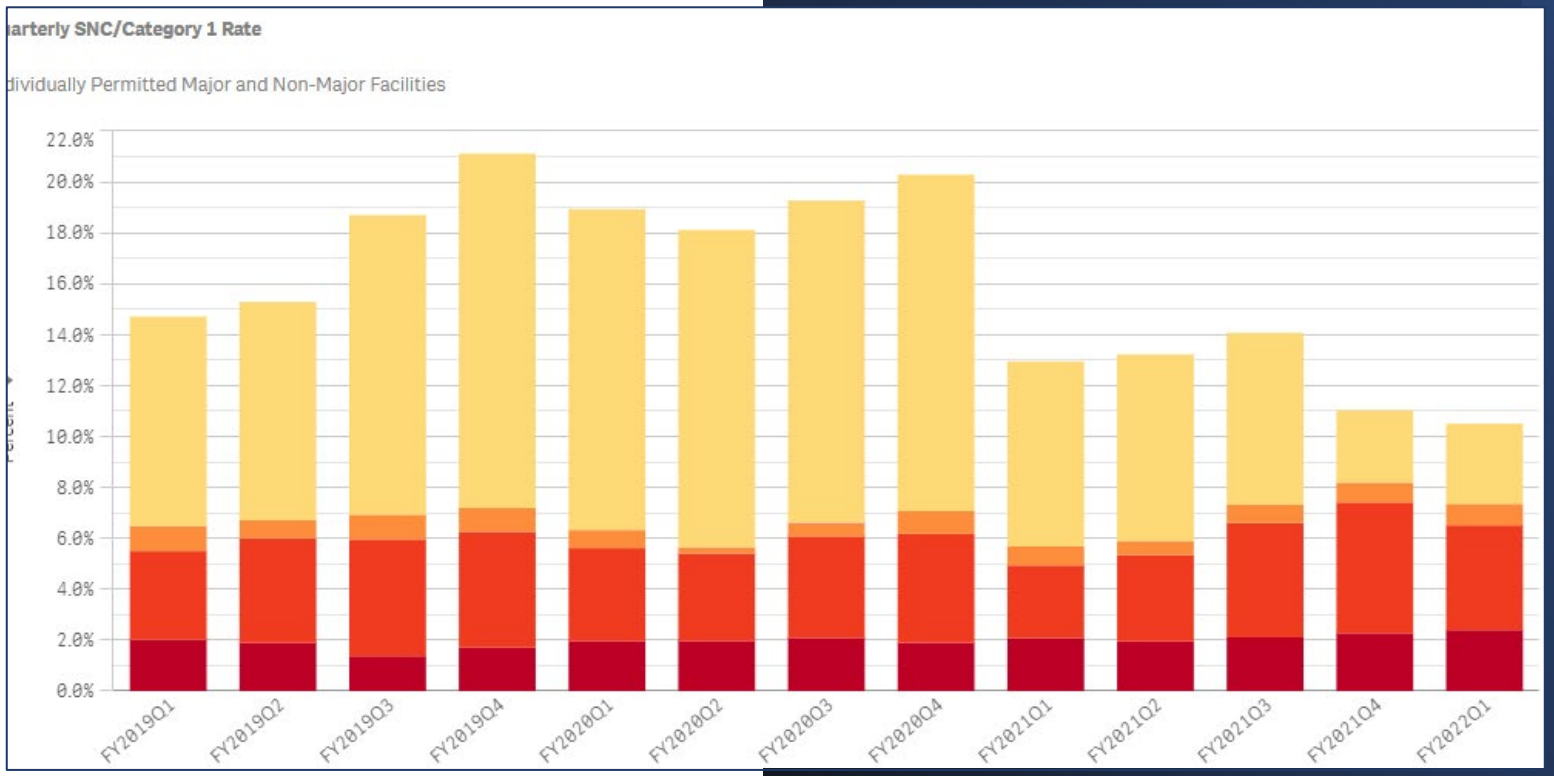
Examples Where State/EPA Investments in Reducing SNC Have Paid Off

Two EPA-State SNC NCI Symposia - 2019 and 2020

- The SNC NCI held two symposia for EPA and state NPDES regulators
  - 2019 in Atlanta
  - 202 in Dallas
- Focused on NPDES compliance problems and solutions to these problems that had been implemented by EPA or states
- Facilitated discussion among NPDES regulators from across the country about common problems and approaches for solving these problems.
- Resulted in new ideas and creation of new tools:
  - E.g., the SNC Early Warning Dashboard that allows EPA and states to identify facilities that are one violations away from SNC.
  - Workshop that brought together states with high levels of DMR non-submittal with states that had had this problem and solved it.
    - 13 states wrote workplans based on input from the workshop.

Solving Ohio's Data Transfer Problem and Ohio's New Notice Program

- 2019 – Ohio EPA ran into trouble transferring NPDES data from its state system to EPA/ ICIS-NPDES.
- 2020 - EPA Region 5 worked with Ohio to successfully solve this data transfer problem.
- 2021 – Ohio implemented a late DMR notification program that greatly reduced DMR non-submittal SNC (yellow portion of bar).



Solving Washington State's NPDES Data Transfer Problems

- 2019 – Washington State brought a new NPDES data system on-line which did not communicate with EPA/ICIS-NPDES.
- 2020 - 2021 EPA Region 10 and OECA's contractor worked with WA to solve this data transfer problem.
- 2022 –Phase 1 of the effort to flow WA's data to ICIS NPDES was concluded, reducing WA's SNC rate from 80+% to about 30% – phase 2 underway now.

EPA Region 2 – New York State Collaboration on Notifications to Permittees that are Close to SNC

- EPA Region 2 works with NY to use the SNC Early Warning Dashboard to prevent occurrence of SNC.
- Region 2 worked with NY to develop letter to permittee close to SNC.
- R2 provides a list of the facilities to receive the email notification to NY for review prior to transmitting.
- Email notifications are sent directly to the contacts listed within the facility's NetDMR account, along with the associated state contact.
- Email notifications are sent to facilities one effluent exceedance away from SNC (or new SNC for a different parameter)
  - Piloted in NY in 2020; majors and minors
  - Notifications generated monthly; data is exported from a R2 Qlik application developed from the Early Warning Effluent Sheet.
  - Notification email includes compliance assistance resource attachments.
  - Does not request a response from the facility.

Offer of Assistance from the SNC NCI

- EPA management and staff stand ready to provide assistance to any state looking for help with some aspect of reducing their SNC rate:
  - Have provided EPA contractor support to several states in moving their data to ICIS-NPDES.
  - Have brought states together to talk where he identify a common problem that another state has solved or knows something about.
  - Have worked closely with ACWA
    - To better understand states' challenges;
    - To obtain state input;
    - To provide funding for state travel - back when we used to travel.

Qs & As

*** FIRST, ANY QUESTIONS ABOUT THE SNC NCI THAT YOU ALL MAY HAVE? ***

<u>SNC NCI Questions</u>

How has the SNC NCI impacted the NPDES compliance and enforcement program in your state?

Has the SNC NCI been beneficial, important and, if so, how?

What elements of the SNC NCI would your state like to see us (EPA and states) keep doing long term, do differently, stop doing?