

Compliance During the NSPS/EG and NESHAP Transition Period

July 15, 2021



Today's Panelists



Robert Gardner, PE, BCEE,
Nat'l Expert on Solid Waste
Collection, Routing, Rate Studies,
& Finance



Patrick Sullivan, PE, BCES,
Nat'l Expert on Clean Air Act -
NPS/EG, NESHAP



Arthur Jones, Vice President,
Landfill Operations, Maintenance
and Monitoring Regional Manager



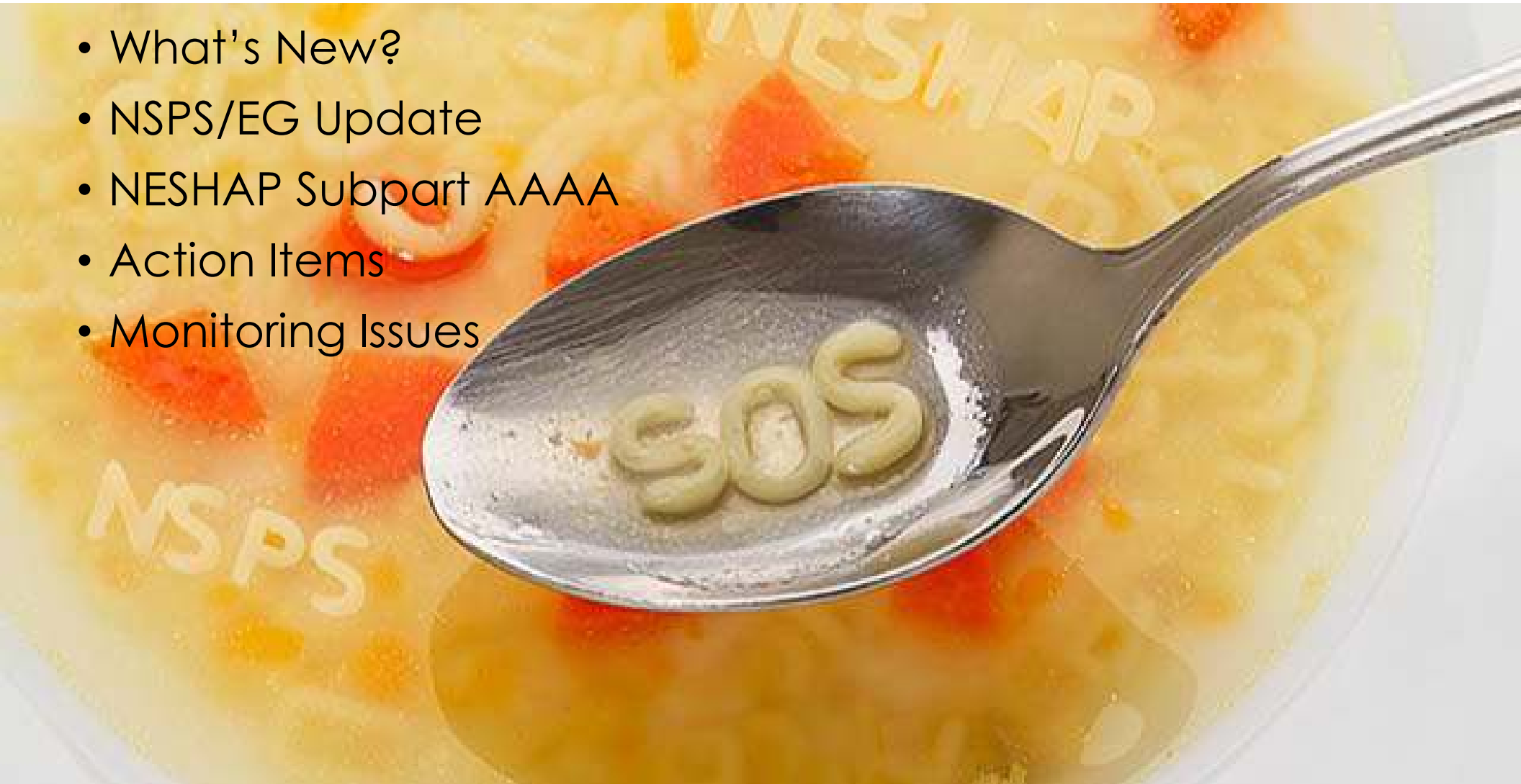
Josh Roth, PE, Vice President,
Project Director, Landfill Gas Group

SCS ENGINEERS

SCS ENGINEERS

Our Agenda – Leave No Noodle Behind

- What's New?
- NSPS/EG Update
- NESHAP Subpart AAAAA
- Action Items
- Monitoring Issues



What's New?

RULE	EFFECTIVE	APPLIES	TRIGGER DATE	DESIGN CAPACITY	EMISSIONS TRIGGER
NSPS XXX	Variable	New Landfills as Defined in Rules	Built or Modified after 7/17/14	$\geq 2.5\text{M Mg}$ or 2.5M m^3	NMOC $\geq 34\text{ Mg/yr.}$
EG OOO	6/21/2021	Existing NSPS WWW/EG Cc/EG GGG Landfills in States w/o Approved Rules	Built or modified before 7/17/14	$\geq 2.5\text{M Mg}$ or 2.5M m^3	NMOC $\geq 34\text{ Mg/yr.}$
EG Cf	Variable	Depends on a State's Effective Rule Date	Built or Modified before 7/17/14	$\geq 2.5\text{M Mg}$ or 2.5M m^3	NMOC $\geq 34\text{ Mg/yr.}$
NESHAP AAAA	9/27/2021	All Landfills with GCCS Under NSPS or EG Rules	Rule – 3/20/2020 Changes Effective - 9/27/2021	$\geq 2.5\text{M Mg}$ or 2.5M m^3	NMOC $\geq 50\text{ Mg/yr.}$



NSPS/EG Update

SCS ENGINEERS

Transition to New NSPS/EG

Already transitioned into NSPS Subpart XXX.

or

Subject to Federal Plan (Part 62, Subpart OOO): June 21, 2021.

or

Subject to EPA approved State EG Cf rule;

and

Title V permit already accounts for Rule changes, or former NSPS or EG rule conditions are taken out of Title V permit, or other Agency agreement.

New NSPS/EG is not fully replaced by NESHAP Subpart AAAA; only the “major compliance provisions.” Sites opt into those.

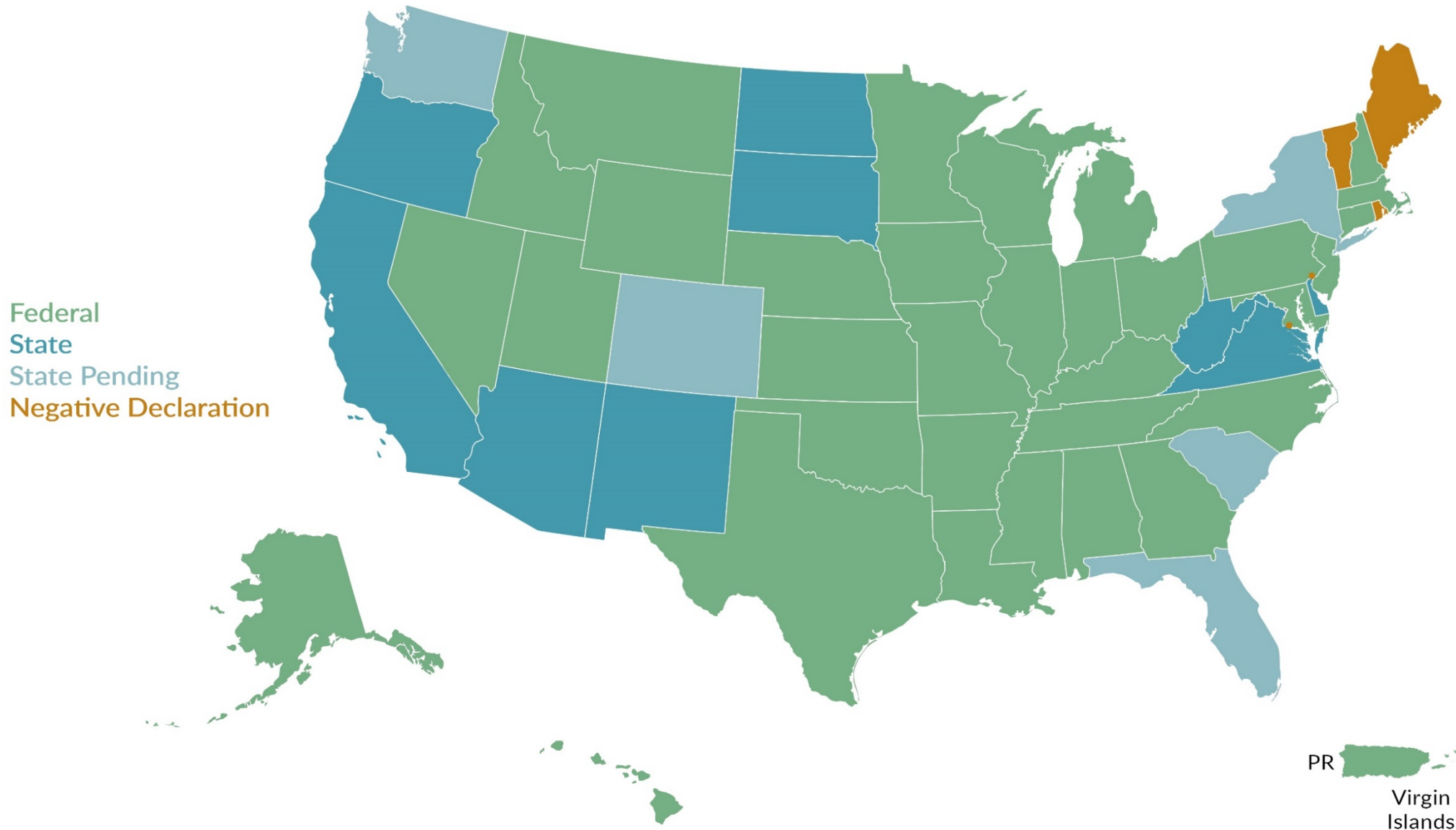
Other elements of the NSPS Subpart XXX or EG Subparts Cf, or OOO will remain effective, liquids reporting for example.

New version of NESHAP Subpart AAAA effective on Sep-27-21.

Summary of EG Subpart 000 Landfills

Legacy Controlled	Closed Landfill	All Others
No 30-month phase in period for landfills already subject to the full GCCS requirements under an existing NSPS or EG rule	Closure Report Submitted pre 9/27/17 Closure	Initial Design Capacity and NMOC Rate Reports due 9-19-21
	Retains 50 Mg/yr. NMOC threshold	Comply with 30-month timeline for GCCS installation
Compliance on 6-21-21	Compliance on 6-21-21 as applicable	Variable

Which EG Rule Applies Where?



State Plans as of July 15, 2021

State Approved	State Pending	Neg. Declaration
Arizona plan covering Pinal County and another covering the state (does not cover Maricopa or Pima counties)	Colorado	Maine
California (partial approval, partial disapproval)	Florida	Philadelphia, PA
Delaware	New York	Rhode Island
New Mexico plan covering Albuquerque – Bernalillo County and another covering the state	South Carolina state rules effective 8/23/2019, no status on state plan	Vermont
North & South Dakota	Washington State	Washington, DC
Oregon		
Virginia		
West Virginia		

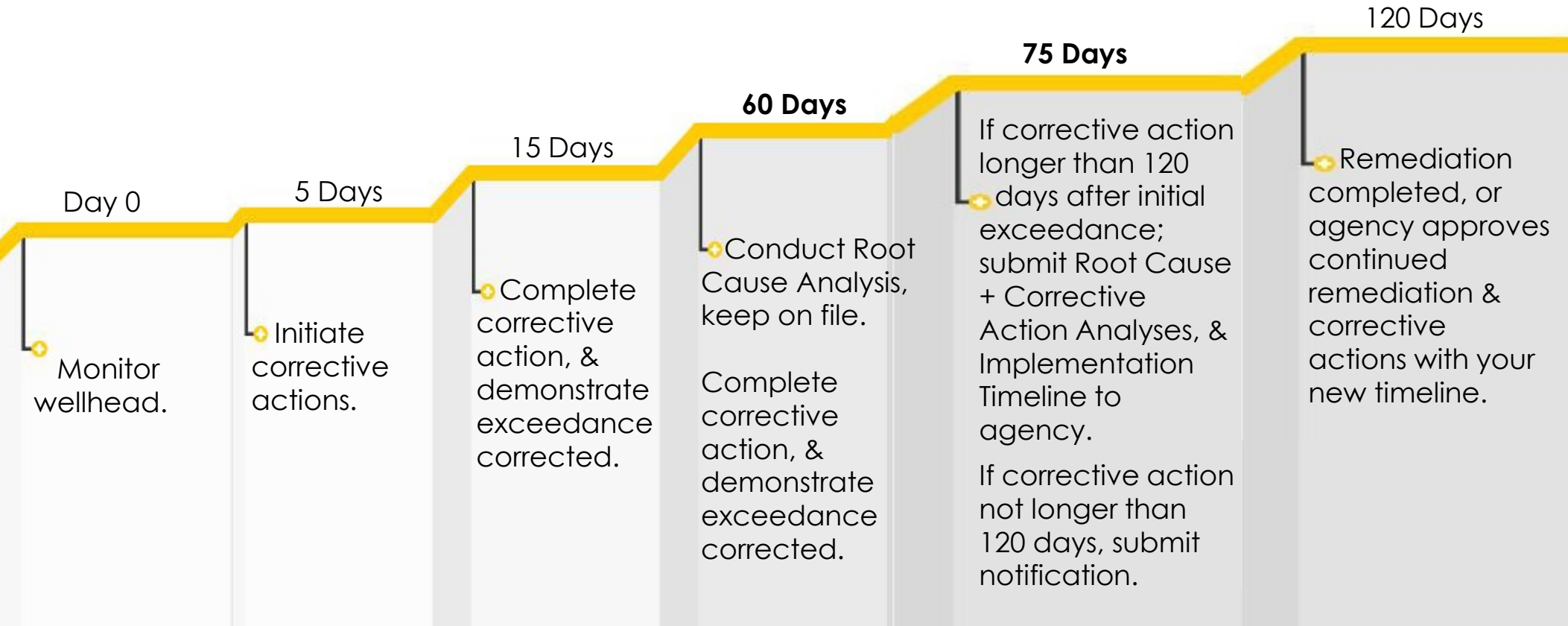
Your Compliance Project Manager can answer question specific to each state, city, or county.

Key Elements Common to XXX/Cf/OOO

- Changes to Wellhead Standards
 - Oxygen Standard Removed (must still monitor monthly),
 - Temperature Standard Remains 131° F,
 - Pressure Standard Unchanged,
 - 10-12% O2 Span and Annual Temperature Probe Calibration.

Key Elements continued

Root Cause/Corrective Action Analysis Requirements



Conditions: Temp > 131°F or Lack of Vacuum

Key Elements continued

- Changes to SEM Requirements
 - Penetration Monitoring,
 - GPS Coordinates of Exceedances (5 decimal places, 4 meters),
 - Next event must include the above.
- Liquids Addition Reporting
 - Have recirculated leachate/disposed liquid wastes at all within past 10 years.

Key Elements continued

- All Control Device and GCCS Downtime Reported
 - No 1-hour and 5-day thresholds.
- SSM Exemption – Eliminated
 - Comply with work practice standard—1 hour criteria,
 - Allowable malfunction/maintenance for monitoring devices,
 - Document downtime, restarts, and repairs.
- Treatment Systems (LFGE Plants)
 - Treatment System Monitoring Plan Required; due May-22-22, or sooner if AAAA,
 - “Treated” gas that is not used (flared) now subject to requirements.

General Reminders

- When full GCCS not yet triggered under any NSPS/EG rule, or for recently triggered requirements:
 - Continue the 30-month timetable under that specific rule,
 - Comply with the applicable NSPS or EG rule and the new NESHAP if above 50 Mg/yr. when the final compliance date is met,
 - The compliance clock will not change.
- If subject to the GCCS requirements of an existing NSPS or EG rule:
 - EPA made clear that a site cannot re-evaluate NMOC emissions to see if readings are below the 34 Mg/yr. threshold for applicability of the new NSPS or EG rule.



NESHAP AAAAA

SCS ENGINEERS

NESHAP AAAAA

- Not a New Rule – Been Around Since 2003
 - Many sites (> 50 Mg NMOC) subject for years,
 - Currently imposes SSM Plan requirements.
- Many New Changes Effective Sep-27-21
- Timing = Immediate (no “phase in”) unless you are currently within 30-month GCCS design and construction phase of NSPS or EG rule.

NESHAP AAAA Before September 27, 2021

- Continue to comply with existing requirements under Subpart AAAA along with applicable NSPS/EG rule,
- Track SSM events,
- Maintain SSM plan,
- Prepare/submit semi-annual SSM reports.

NESHAP AAAA Applicability

- All landfills subject to the GCCS control requirements of any NSPS or EG rule and over 50 Mg/year of NMOC,
- Major HAP sources,
- Co-located with a major HAP source.

NESHAP AAAA Applicability continued

- If less than 50 Mg but over 34 Mg/year, you can:
 - Comply with NSPS XXX, EG Cf, or EG OOO as applicable,
 - Continue to complete NMOC emission reporting to demonstrate that NESHAPs AAAA is not applicable.
 - If Tier 2 necessary to stay under 50 Mg, the cost of a probe study is probably not worth it. If Tier 2 can be done from GCCS, then it may be cost effective.
 - Note new Method 25C (December 2020)
- OR
- Opt into NESHAPs AAAA

NESHAP's New Wellhead Enhanced Monitoring

Temperature 131-145°F	146-164°F	+165°F	+170°F & CO 1,000+ ppm
Not an Exceedance	<p>Increased monitoring - weekly 7 days after first reading +145°.</p> <p>Include: wellhead CO, oxygen, methane, & temperature.</p>	<p>Increased monitoring + perform annual downwell temp. monitoring every 10 feet.</p>	<p>Taken at wellhead or any downwell reading & CO >1,000 ppmv must submit a <i>24-Hour High Temperature Report</i> to Administrator.</p> <p>Actions to reduce temperature < 170°F completed within 15 days.</p>
	<p>Can shift to monthly if 4 consecutive CO readings <100 ppm.</p> <p>EPA Method 10, stack method, industry submitted alternative.</p> <p>Can stop with HOV approval or temp. back to less than 145°.</p> <p>Observe for evidence of SSO (smoke, smoldering, ash, well damage, etc.)</p>		

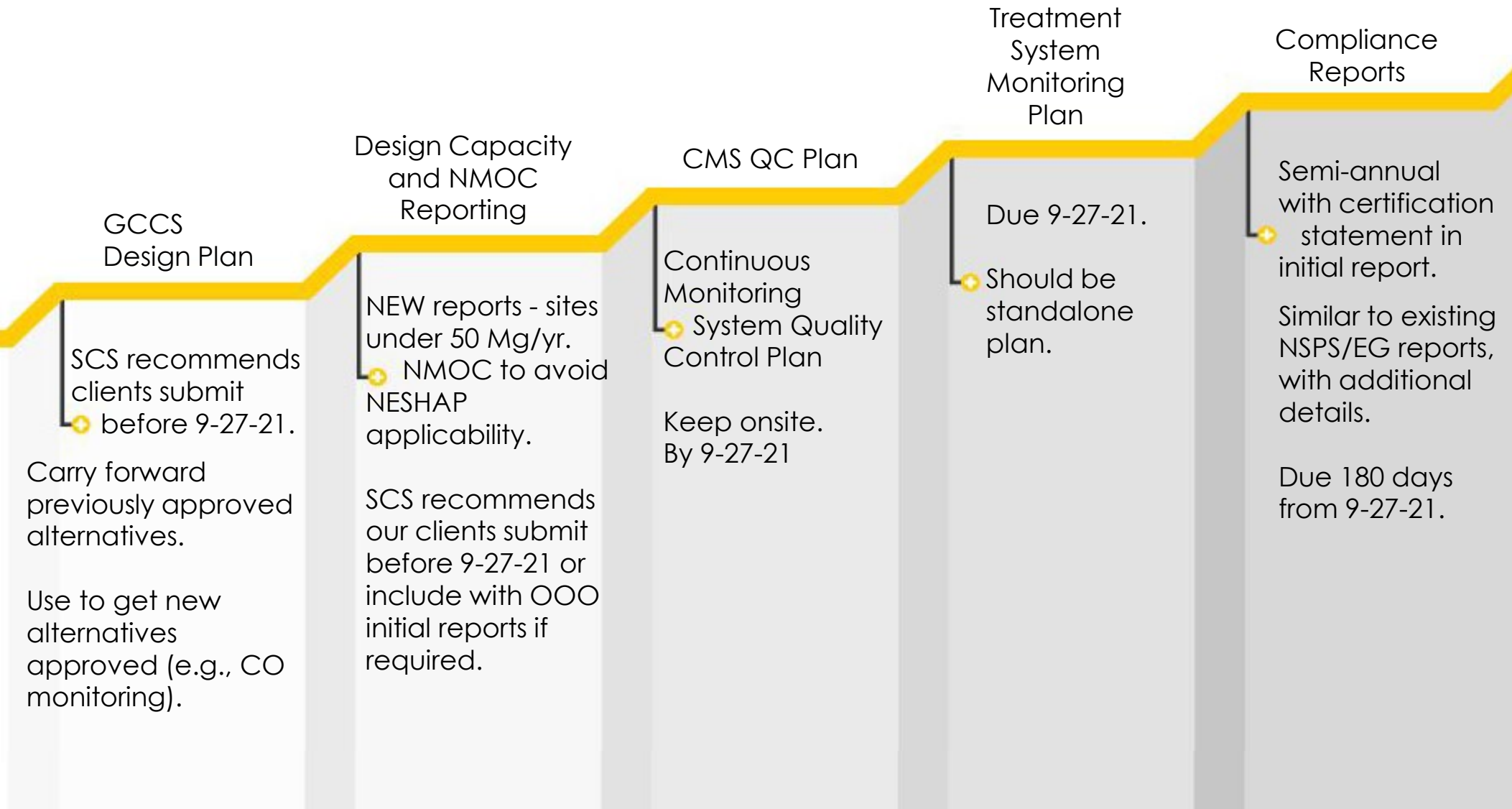
NESHAP – Flare Minimum Temperature

- SSM events are no longer excluded from 3-hour block average,
- Requirement is for “operating” temperature,
- Cool-down period after shutdown is not operating so can be excluded,
- Warm-up period after startup is “operating” and must be included in the average
 - Biggest concern is multiple startups during same block,
 - Consider increased set points to compensate and make sure to re-set the set points after a source test,
 - Consider limiting the number of automatic restarts if it becomes a problem.

Work Practice Standard/Loss of SSM Requirements

- SSM plan no longer required, and no tracking of SSM events, but
 - Confirm whether SSM tracking is required under state/local rules.
- Consistent with loss of SSM exemption under new NSPS/EG
 - No semi-annual SSM reports.
- Unofficial SSM recordkeeping and reporting may be useful to track events for future compliance determinations.

NESHAP – Reports and Plans





Action Items

SCS ENGINEERS

Planning and Tracking Recommendations

- Determine applicable NSPS or EG rules and site status.
- Confirm NMOC emission rates and determine which sites are:
 - Equal to or over 50 Mg/yr
 - Between 34 and 50 Mg/yr
 - Below 34 Mg/yr
 - When they are likely to exceed limits
- Confirm sites already transitioned into NSPS XXX.

Planning and Tracking continued

- Confirm sites in jurisdictions with approved EG Cf rules (State Plans) and an effective date/timeline or keep tracking pending plans.
- Confirm sites in jurisdictions with no EG Cf rule at all and are now subject to Federal Plan for EG (OOO) as of Jun-21-21, and start complying.
- Sites in mid 30-month transition into NSPS XXX, EG Cf, or EG OOO:
 - If site never triggered NSPS/EG GCCS requirements, confirm all future compliance dates and continue on the original 30-month path.
 - Note additional increments of progress are required under EG OOO.
 - 20 month: award construction contract;
 - 24 month: start construction.

Planning and Tracking continued

- For sites that have already been complying with the full NSPS/EG GCCS requirements of an old rule and are subject to Subparts XXX or Cf and still within the 30-month phase-in period.
 - Can continue to comply with the older NSPS and EG rule until Sep-27-21, unless EPA finalizes the NESHAP Corrections Rule.
 - The NESHAP Corrections Rule: April 2021 proposed regulation that clarifies several NESHAP requirements,
 - Track the issuance and effective date of the April 2021 NESHAPs corrections.
 - Confirm whether/how EPA has addressed the 30-month phase-in with the rulemaking

Planning and Tracking continued

- Confirm whether SSM tracking and reporting will still be required by permit or state/local requirement after Sep-27-21.
- Determine how NSPS, EG, and NESHAPs rules are included or referenced in Title V permit and where changes, if any, will be needed to accommodate changing status.
- Consider closeout reports for old NSPS/EG and submit final SSM report.

Planning and Tracking continued

- Survey and compile listing of HOVs and approved alternatives for each site; confirm the ones to continue under the new rules.
- Evaluate sites with high wellhead temperature issues.
 - Identify sites and wells at those sites with temperatures over 145 F, 165 F, and 170 F without approved HOVs, as different requirements are triggered at each level.
 - Identify any reaction landfills with very high gas temperatures.
 - Consider new HOVs if appropriate.



Field Issues and Corrective Actions

SCS ENGINEERS

Identifying Penetrations

- Penetrations are any component that penetrates through the cover into the waste.
- The preamble to the OOO rule states the following are not considered penetrations:
 - Survey stakes, litter fencing, flags, trees and utility poles.
- The problem, the exemptions are not listed in the actual rule.



Lessons Learned

If it penetrates the cover, test it.

- Testing and correcting is easier and costs less.
- Penetration monitoring has been going on in California since 2011 and we've learned a few things:
 - Common exceedance locations: wells, leachate risers, below to above grade pipe transitions, condensate sumps, and valve vaults.
 - Unusual locations: signposts, large diameter long rebar stakes for holding pipe in place, cones used for identifying roads, trash fence poles, areas around buried solidification bins.



Inspections

Inspectors are thorough.

- Inspectors may perform testing that exceeds the rule requirements.
 - Keep a calibrated unit on site during inspections.
- Well Boots are a common issue,
- Mounded soil can be a magnet,
- Bottom Line - Everything is fair game.



Solutions

If you believe it may be a penetration, test it and fix it

- Keep Bentonite on site, it may be needed.
- Add a new seal when raising wells.
- You may need to add seals to above/below grade pipe transitions.
- Walk your pipelines where rebar or pipe is used to pin the piping.



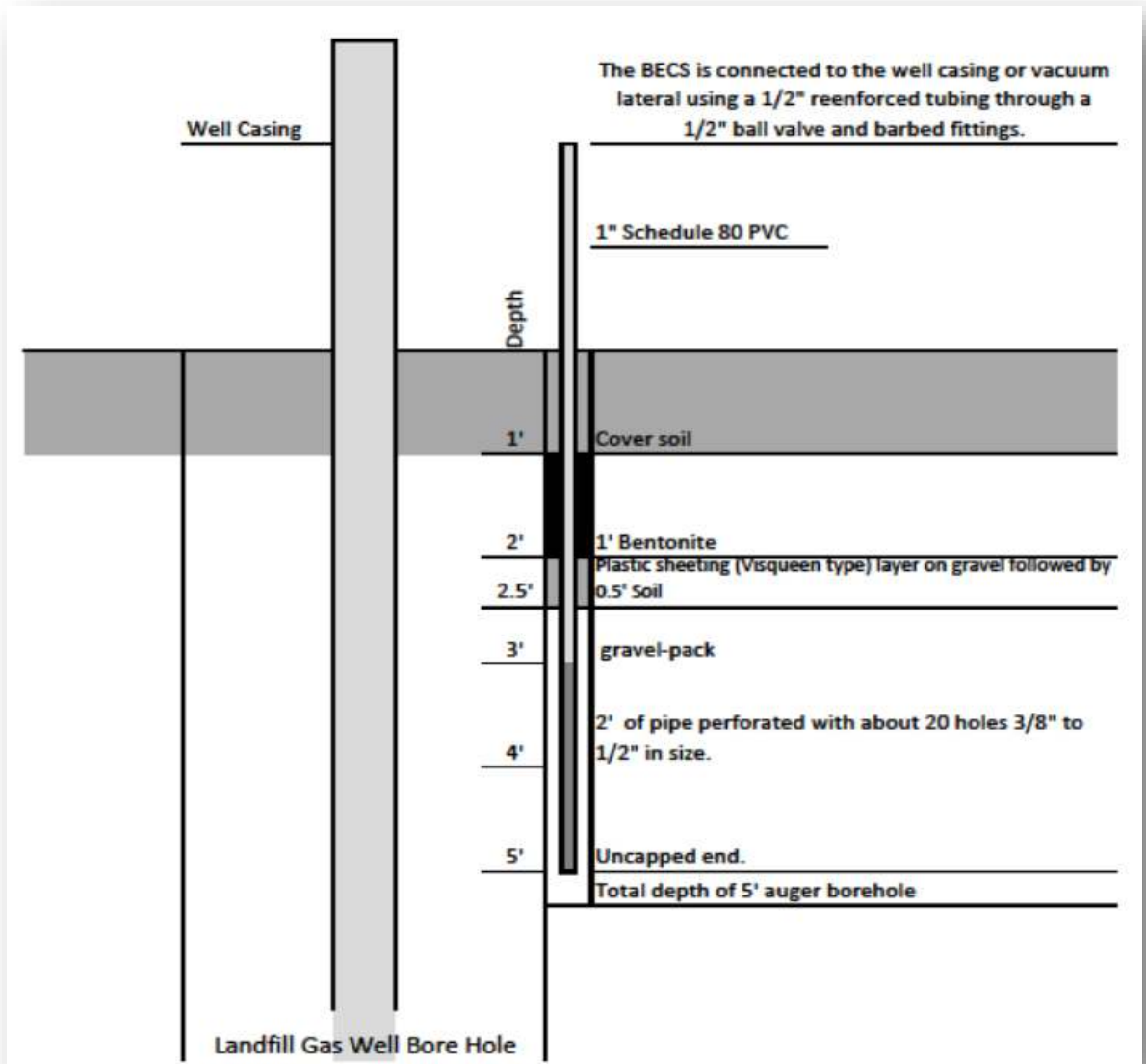
Solutions continued

- Soil mounding around the well – this can be short term; drying out may allow escaping gas.
- Use of well boots – pipe connection maintenance is essential.



Solutions continued

- Use of emissions control systems at some wells and penetrations.
- Best solution is aggressive monitoring and repair.





Panelists, Field Services, and your Compliance Project Managers are always ready to answer more specific questions – find them on our [staff directory](#), or contact service@scsengineers.com.