



COUNSEL TO GREAT COMPANIES

4C Health / Safety / Environmental Conference

# Flaring Circa 2019: Increasingly Stringent Requirements to Reduce or Eliminate Refinery Flaring

April 3, 2018

**LeAnn Johnson Koch**

[leannjohnson@perkinscoie.com](mailto:leannjohnson@perkinscoie.com)

(202) 654-6209

# Immediate Changes to the Rule, as it relates to flares . . . finalized July 13, 2016

- **AFPM/API seek changes to the rule to correct errors and clarify rule and deadline requirements.**
- **Final rule changes with respect to flaring:**
  - Added a definition of “force majeure”
  - Clarified PRD requirements
    - Preventative measures are required for each PRD that releases to a flare
    - Rule requires a detailed description of each PRD, its type, and the preventative measures implemented

# Informal Clarifications, Responses to API/AFPM Questions

## April 2017

- Flaring instrumentation does not have to be located in unsafe or infeasible locations. Table 13
- Liquid seal monitoring is acceptable to demonstrate no flow to the flare. 40 CFR 63.670(i)(4)
- Orifice flow calculations and/or manual measurements in combination with engineering calculations, to characterize purge gas allowed provided flow rate is determined and included in calculations for flare tip velocity or combustion zone net heating value. 40 CFR 63.670(i)(4)

# Petitions for Reconsideration, Proposed Changes

## April 2018

- **Definition:** flare purge gas may include gas needed for safety reasons other than to prevent backflow
- **Definition:** assist air and assist steam are not flare supplemental gas; “supplemental natural gas” will be changed to “supplemental gas”
- **Air Assisted Flare NHV Limit:** flares whose only assist air is from perimeter assist air entrained in lower and upper steam at the flare tip and with a flare tip diameter of 9 inches or greater to comply only with the NHVcz operating limit and not the NHVdil operating limit.
- **Air Assisted Flare Flow Rate:** steam-assisted flares with perimeter assist air and a flare tip diameter of less than 9 inches, use the steam flow rate and the maximum design air-to-steam ratio of the steam tube’s air entrainment system for determining the flow rate of this assist air.
- **Air Assisted Flare Fan Curve Monitoring:** adding provisions to allow for continuously monitoring fan speed or power and using fan curves for determining assist air flow rates.
- **Initial Visibility Demonstration:** initial 2-hour visible emissions demonstration conducted first time regulated materials are routed to the flare.

# Petitions for Reconsideration, Proposed Changes

## April 2018

- **Daily Visibility Demonstration:** daily 5-minute observations must only be conducted on days flare receives regulated material; additional monitoring is specific to cases when visible emissions are observed while regulated material is routed to the flare. 40 CFR 63.670(h)(1)
- **PRD Prevention Measures:** must consider, but not necessarily implement, prevention measures in §63.648(j)(3)(ii)(A) through (E) as part of the minimization assessment; correct reference in 40 CFR 63.670(o)(1)(ii)(B) from “§63.648(j)(5)” to “§63.648(j)(3)(ii)(A) through (E).”
- **Smokeless Capacity:** establish smokeless capacity in 15-minute block average 40 CFR 63.670(o)(1)(iii)(B); exceedance of smokeless capacity based on 15-minute block average. 40 CFR 63.670(o)(3)(i)
- **Vent Gas Flow Meter Accuracy:** certification of compliance for flare vent gas flow meter accuracy requirements can be made based on the typical range of flare gas compositions expected for a given flare.

# Petitions for Reconsideration, Certain NGO Issues Not Yet Resolved

## NGOs objects to limited flaring exemptions:

- “EPA also proposed to require flares to operate without visible smoke emissions at all times. *Id.* at 36,904-12. But the finalized rule allowed exemptions”
  - “Up to two smoking emission events at every flare every three years.”
  - “Particular exemptions from standards for “*force majeure*” events, just another name for a malfunction.”

# Refinery Sector Rule, eliminates startup, shutdown and malfunction (SSM) exemptions

- **DC Circuit Court Rulings, Sierra Club v. EPA (2008) and NRDC v. EPA (2014):**
  - Mact 112(d) standards apply at all times, including SSM
  - MACT 112(d) affirmative defenses to liability for excess emission events in state implementation plans (SIP) are not allowed
- **EPA Response:**
  - SIP call, 36 states must remove SSM exemptions in SIPs
  - Clarifies policy on SSM exemptions
  - Revises NSPS and NESHAP standards, creating limits that apply at all times

# EPA Clarifies Policy on Startup and Shutdown

## Startup and Shutdown are part of the normal operation of a source

- Should be accounted for in the design and implementation of the operating procedure for the process and control equipment.
- Careful planning will eliminate violations of emissions limits during startup and shutdown.
  - Excess emissions during startup and shutdown result from a malfunction only if caused by a sudden and unforeseeable breakdown in equipment.
  - Excess emissions could not have been prevented through prudent planning and design and bypassing was unavoidable to prevent loss of life, personal injury, or severe property damage.

# EPA Clarifies Policy on Malfunctions

## EPA will take action to enforce based on:

- Evidence of good faith efforts to minimize emissions during malfunction including preventative measures, corrective actions, and root cause
- Whether the release was sudden, infrequent, not reasonably preventable, not the result of poor maintenance or careless operation
- Sources may raise all available defenses

# New Requirements for Flares, January 30, 2019

## New Operating Limits, below the smokeless capacity

- Continuously lit pilot, no visible emissions, combustion zone operating limits, flare tip velocity limits, monitoring, recordkeeping, and reporting

## New Work Practice Standards for Emergency Flaring, above the smokeless capacity

- flare management plan, minimization, root cause, corrective action, and reporting for exceeding the smokeless capacity with visible emissions or flare tip velocity exceedances

## New Monitoring, Recordkeeping and Reporting Requirements

## New (maybe) “General Duty” Requirements

# Work Practice Standards for Emergency Flaring

## New flare management plan requirements if a flare has the potential to exceed its smokeless capacity

- root cause triggered by exceeding the smokeless capacity and visible emissions are present for more than 5 mins in 2 hours OR maximum flare tip velocity exceeded
- Emergency flaring work practice standard is violated if: root cause is operator error or poor maintenance, repeat root cause in 3-years, 3 flaring events in 3 years regardless of cause

# Flare Management Plan (FMP) Strategies

## NSPS, subpart Ja and MACT CC

- Some overlap with FMP requirements in NSPS, subpart Ja and MACT CC, but many new and different requirements under MACT CC.
- A single FMP could be used for both. Ensure that the FMP:
  - contains all required information;
  - contains a robust minimization assessment and schedule of compliance if necessary;
  - does not include extraneous information, e.g., summaries of the rules requirements, date of NSPS modification, checklists and logs of modifications to the FMP; and
  - develop a process to review and update the FMP; resubmit only as required by the regulations.

# Timing for Compliance: Minimization Measures and Implementation of Minimization Procedures

- Refiners may secure an extension of time to comply when additional time is needed to install controls. 40 CFR § 63.6(i)(4)
  - Requests for extension must be submitted 120 days prior to the compliance deadline – October 1, 2018
- Flare Management Plans may provide more time for the implementation of minimization measures and implementation of minimization procedures
  - “. . . include a schedule for the prompt implementation of any selected measures **that cannot reasonably be completed** as of that date.” 40 CFR 63.670(o)(1)(ii)
  - “. . . together with a schedule for the prompt implementation of any procedures that cannot reasonably be implemented as of the date of submission of the flare management plan.” 40 CFR 63.670(o)(1)(vii)

# Plan for Compliance Pre January 30, 2019

- Use the lead time, before January 30, 2019, to identify trouble spots
- Seek site-specific operating limits if needed
- Identify minimization alternatives that cannot be implemented by January 30, 2019; add to FMP
- Identify SS procedures that cannot be implemented by January 30, 2019; add to FMP
- Watch for rule modifications in response to petitions for reconsideration that may provide greater flexibility (or less)

# General Defense Strategies

## Post January 30, 2019

- Periodically review and update Startup and Shutdown procedures and Flare Management Plan
- Be guided by SIP provisions offering enforcement discretion for SSM events; document compliance
- Be guided by EPA policy on SSM emissions; document compliance with the policy to mitigate enforcement risk

# Questions?

[LeAnnJohnson@perkinscoie.com](mailto:LeAnnJohnson@perkinscoie.com)

(202) 654-6209