FACT SHEET

FINAL PETROLEUM REFINERY SECTOR RISK AND TECHNOLOGY REVIEW AND NEW SOURCE PERFORMANCE STANDARDS
SUMMARY OF CHANGES BETWEEN PROPOSAL AND FINAL

This final rulemaking reflects feedback received from the more than 200,000 comments received. Comments were submitted by a number of stakeholders including industry, environmental organizations and environmental justice groups and state and local agencies. The changes in the final rulemaking are a result of the comments received and the analyses conducted between proposal and final signature of this rulemaking.

Emission reductions

- At proposal EPA estimated that when fully implemented the provisions in this rule would result in a reduction of 5,600 tons per year of toxic air pollutants, and 52,000 tons per year of volatile organic compounds (VOC). In this final rulemaking, EPA is projecting that when fully implemented this rulemaking would result in a reduction of 5,200 tons per year of air toxic pollutants, and 50,000 tons per year of volatile organic compounds.
    - The changes between proposal and final in emission reductions are not because of less strict control requirements, rather they are a result of changes made in a separate action (that occurred since the June 30, 2014 proposed rulemaking) that revised refinery emission factors for cokers.
- At proposal EPA projected that after the application of the proposed standards for cokers and storage tanks, toxic air pollutant emissions such as benzene, toluene and xylene would be reduced by approximately 1,800 tons per year (tpy) and volatile organic compound emissions would be reduced by approximately 19,000 tpy. In the final rulemaking EPA projects that toxic air pollutant emission reductions in pollutants such as benzene, toluene and xylene would be reduced by approximately 1,300 tpy and volatile organic compound emissions would be reduced by approximately 17,000 tpy. The changes are a result of the changes made in how the EPA estimates coker emissions.
- In the proposed rule EPA projected that the proposed amendments for flaring would result in reductions of 3,800 tons per year of HAP and 33,000 tons per year of VOC. In the final rulemaking EPA projects that the final operational requirements for flaring will result in reductions of 3,900 tons per year of HAP and 33,000 tons per year of VOC.
- In the final rulemaking EPA projects to eliminate emissions of greenhouse gasses equivalent to approximately 660,000 tons per year of CO_2.

Risk assessment

- In the final rulemaking EPA conducted a sensitivity analysis to evaluate the impact of facility-specific changes to the emissions inventory submitted by companies during the comment period. We also conducted the sensitivity analysis to account for releases from pressure release devices and emergency flares.
- The emission reductions from this final rule will result in over 1.4 million fewer people being exposed to cancer risks from refineries of more than 1-in-1 million. This represents a 15-20 percent reduction in cancer incidence associated with refinery emissions.

Flare Combustion Efficiency

- The final flare operating requirements maintain the emission reductions anticipated at proposal while simplifying the compliance approach for refiners.
- The EPA is keeping flare operating requirements the same as proposed except we are:
    - Simplifying the requirements to a single net heating value operating limit in the flare combustion zone of greater than or equal to 270 British Thermal Units per standard cubic foot.
    - Allowing refiners to use a higher adjusted hydrogen heating value provided that they have a system to monitor for hydrogen.
    - Allowing refiners to choose between either a 15 minute feed forward or a 15 minute block average to demonstrate compliance.
    - Allowing refiners to use limited sampling to demonstrate compliance for non-variable flare gas compositions.

Fenceline Monitoring

- The final fenceline monitoring requirements will be implemented sooner than anticipated at proposal and will achieve the same degree of control of fugitives as the proposal.
- The EPA is keeping the final requirements the same as proposed for fenceline monitoring except the EPA is:
    - Including specifications for alternative monitoring technologies.
    - Providing clarifications on monitor siting and analytical procedures.
    - Providing the incentive to reduce fugitive emissions with the option for less monitoring for sample locations that consistently remain below 10% of the fenceline benzene concentration trigger.
    - Reducing the implementation time from three years after promulgation to two years.
    - Requiring reporting on a quarterly rather than on a semiannual basis.
    - EPA will work with stakeholders on how to communicate the results of the monitoring to the public.

Delayed Cokers

- Emission reductions from delayed cokers in the final rule have been reduced as a result of revisions to the coker emission estimation methodology and not due to a change in the standard; therefore the final rule maintains the emission reductions that would have been achieved in practice at proposal.
- The EPA is keeping the final requirements as proposed with allowing for additional flexibility by:
    - Allowing for averaging to meet 2 psig across coke drums within all delayed coking units at a facility.
    - Setting a new source MACT floor of 2.0 psig on a per-coking cycle basis (i.e.., no facility-wide coke drum averaging).
    - Revising emissions based on the revised refinery emission factors and costs to account for additional information received from commenters.

Elimination of Malfunction Exemptions

- In the proposed rule EPA eliminated startup, shutdown and malfunction (SSM) exemptions and required that refineries comply at all times. In the final rule EPA establishes work practice standards for pressure relief devices (PRDs) and emergency flaring that includes proactive

requirements (e.g., improved process control, instrumentation, operator training, staged relief) and root cause analysis and corrective action.

- EPA's final rule will require facilities to make changes in operations and practices to prevent PRD releases and emergency flaring, rather than building more flares to control releases. These standards are expected to reduce the magnitude and frequency of PRD and emergency flaring events, yielding reductions in HAP emissions, and it will do so without the negative secondary impacts associated with requiring more flares.