page numbers reference 80 Fed. Reg. 64661 (Oct. 23, 2015)

## I. <u>General Information (64663)</u>

- A. Executive Summary (64663)
  - 1. Introduction (64663)
  - 2. Purpose of This Rule (64664)
  - 3. Summary of Major Provisions (64665)
    - a. Overview (64665)
    - b. Opportunities for states (64665)
    - c. Main elements (64666)
    - d. Determining the BSER (64666)
    - e. CO<sub>2</sub> state-level goals and subcategory-specific emission performance rates (64667)
      (1) Final CO<sub>2</sub> goals and emission performance rates (64667)
      - (2) Interim CO<sub>2</sub> emission performance rates and state-specific goals (64667)
    - f. State plans (64667)
      - (1) Plan approaches (64667)
      - (2) State plan components and approvability criteria (64668)
      - (3) Timing and process for state plan submittal and review (64669)
      - (4) Timing for implementing the  $CO_2$  emission guidelines (64669)
      - (5) Community and environmental justice considerations (64670)
      - (6) Addressing employment concerns (64670)
      - (7) Electric system reliability (64671)
      - (8) Outreach and resources for stakeholders (64671)
  - 4. Key Changes from Proposal (64672)
    - a. Overview and highlights (64672)
    - b. Outreach, engagement and comment record (64672)
    - c. Key changes (64673)
      - (1) Mandatory reduction period beginning in 2022 and a gradual glide path (64673)
      - (2) Revised BSER determination (64673)
      - (3) Uniform emission performance rates (64674)
      - (4) State plan approaches (64675)
      - (5) Emission trading programs (64675)
      - (6) Extension of plan submittal date (64675)
      - (7) Provisions to encourage early action (64675)
      - (8) Provisions for electric system reliability (64676)
      - (9) Approaches for addressing employment concerns (64676)
      - (10) Community and environmental justice considerations (64676)
  - 5. Additional Context for This Final Rule (64677)
    - a. Climate change impacts (64677)
    - b. The utility power sector (64677)
  - 6. Projected National-Level Emission Reductions (64679)
  - 7. Costs and Benefits (64679)
- B. Organization and Approach for This Final Rule (64682)

## II. Background (64682)

- A. Climate Change Impacts from GHG Emissions (64682)
  - 1. Public Health Impacts Detailed in the 2009 Endangerment Finding (64682)
  - 2. Public Welfare Impacts Detailed in the 2009 Endangerment Finding (64683)
  - 3. New Scientific Assessments and Observations (64683)
  - 4. Observed and Projected U.S. Regional Changes (64686)
- B. GHG Emissions from Fossil Fuel-Fired EGUs (64688)
- C. Challenges in Controlling Carbon Dioxide Emissions (64689)
- D. The Utility Power Sector (64690)
  - 1. A Brief History (64690)
  - 2. Electric System Dispatch (64693)
  - 3. Reliability Considerations (64693)
  - 4. Modern Electric System Trends (64694)
- E. Clean Air Act Regulations for Power Plants (64696)
  - 1. Title IV Acid Rain Program (64696)

page numbers reference 80 Fed. Reg. 64661 (Oct. 23, 2015)

- 2. Transport Rulemakings (64696)
  - a. NOx SIP Call (64696)
  - b. Clean Air Interstate Rule (CAIR) (64696)
  - c. Cross-state Air Pollution Rule (CSAPR) (64696)
- 3. Clean Air Mercury Rule (64697)
- 4. Mercury Air Toxics Rule (64697)
- 5. Regional Haze Rule (64697)
- F. Congressional Awareness of Climate Change in the Context of the Clean Air Act Amendments (64698)
- G. International Agreements and Actions (64699)
- H. Legislative and Regulatory Background for CAA Section 111 (64700)
- I. Statutory and Regulatory Requirements (64702)
- J. Clean Power Plan Proposal and Supplemental Proposal (64703)
- K. Stakeholder Outreach and Consultations (64704)
  - 1. Public Hearings (64704)
  - 2. State Officials (64704)
  - 3. Tribal Officials (64705)
  - 4. U.S. Territories (64706)
  - 5. Industry Representatives (64706)
  - 6. Electric Utility Representatives (64706)
  - 7. Electricity Grid Operators (64706)
  - 8. Representatives from Community and Non-governmental Organizations (64706)
  - 9. Environmental Justice Organizations (64706)
  - 10. Labor (64706)
  - 11. Other Federal Agencies and Independent Agencies (64707)
- L. Comments on the Proposal (64707)

#### III. <u>Rule Requirements and Legal Basis (64707)</u>

- A. Summary of Rule Requirements (64707)
- B. Brief Summary of Legal Basis (64709)

#### IV. Authority for This Rulemaking, Definition of Affected Sources, and Treatment of Source Categories (64710)

- A. EPA's Authority Under CAA Section 111(d) (64710)
- B. CAA Section 112 Exclusion to CAA Section 111(d) Authority (64710)
  - 1. Structure of the CAA and Pre-1990 Section 112 Exclusion (64711)
  - 2. The 1990 Amendments to the Section 112 Exclusion (64711)
  - 3. The Senate Amendment is Clear and Unambiguous (64712)
  - 4. The House Amendment (64712)
    - a. The House amendment is ambiguous (64712)
    - b. The EPA's Interpretation of the House Amendment (64714)
  - 5. The Two Amendments are Easily Reconciled and Can Be Given Full Effect (64715)
- C. Authority To Regulate EGUs (64715)
- D. Definition of Affected Sources (64715)
- E. Combined Categories and Codification in the Code of Federal Regulations (64717)

#### V. The Best System of Emission Reduction and Associated Building Blocks (64717)

- A. The Best System of Emission Reduction (BSER) (64718)
  - 1. Legal Requirements for BSER in the Emission Guidelines (64718)
    - a. Introduction (64718)
    - b. CAA requirements and court interpretation (64719)
    - c. Key elements of interpretation (64719)
      - (1) System of Emission Reduction (64720)
      - (2) "Adequately Demonstrated" (64720)
      - (3) "Best" (64720)
        - (a) Costs (64720)
        - (b) Non-Air Health and Environmental Impacts (64721)
        - (c) Energy Considerations (64721)
        - (d) Amount of Emissions Reductions (64721)

page numbers reference 80 Fed. Reg. 64661 (Oct. 23, 2015)

- (e) Sector- or Nationwide Component of Factors in Determining the BSER (64721)
- (4) Achievability of the Emission Limitation in the Emission Guidelines (64722)
- (a) Technical feasibility (64722)(5) Expanded Use and Development of Technology (64722)
- (5) Expanded Use and Development of Tec (6) EDA Discussion ((4722))
- (6) EPA Discretion (64722)
- d. Approach to the source category and subcategorizing (64723)
- 2. The BSER for This Rule—Overview (64723)
  - a. Summary (64723)
  - b. The EPA's review of measures for determining the BSER (64724)
  - c. State establishment standards of performance and source compliance (64726)
  - d. Identification of the BSER measures (64727)
    - (1) Measures that reduce individual affected EGU's CO<sub>2</sub> emission rates 64727)
    - (2) Measures available because of the integrated electricity system (64728)
      - (a) Substituting generation from lower-emitting affected EGUs for generation from higher-emitting affected EGUs (64728)
      - (b) Substituting increased generation from new low- or zero-carbon generating capacity for generation from affected EGUs (64729)
        - (i) Increased generation from new RE generating capacity (64729)
        - (ii) Increased and preserved generation from nuclear generating capacity (64729)
        - (iii) Generation from new NGCC units (64729)
      - (c) Increasing demand-side EE to avoid generation and emissions from fossil fueled-fired EGUs (64730)
    - (3) Further analysis to quantity the BSER (64730)
  - e. Actions that individual affected EGUs could take to apply or implement the building blocks (64731)
    - (1) Improvement in  $CO_2$  emission rate at the unit (64731)
    - (2) Actions to implement measures in building blocks 2 and 3 (64731)
      - (a) Investment in measures in building blocks 2 and 3 (64731)
      - (b) Reduced generation (64732)
      - (c) Emissions trading (64733)
  - f. The role of emissions trading (64733)
  - g. Measures that reduce CO<sub>2</sub> emissions or CO<sub>2</sub> emission rates but are not included in the BSER (64735)
  - h. Ability of EGUs to implement the BSER (64735)
  - i. Subcategorization (64736)
- 3. Changes From Proposal (64736)
  - a. Interpretations of CAA section 111 (64736)
  - b. Approach to quantification of emission reductions from increased RE generation (64737)
  - c. Exclusion from the BSER of emission reductions from use of under-construction or preserved nuclear capacity (64737)
  - d. Exclusion from the BSER of emission reductions from demand-side EE (64738)
  - e. Consistent regionalized approach to quantification of emission reductions from all building blocks (64738)
  - f. Uniform CO<sub>2</sub> emission performance rates by technology subcategory (64741)
  - g. Establishment of a 2022-2029 interim compliance period (64743)
  - h. Refinements to stringency for individual building blocks (64744)
- 4. Determination of the BSER (64744)
  - a. Building block 1 (64745)
  - b. Building block 2 (64745)
  - c. Building block 3 (64747)
  - d. Combination of all three building blocks (64748)
  - e. Other combinations of the building blocks (64751)
  - f. Achievability of emission limits (64751)
- 5. Actions Under the BSER That Sources Can Take To Achieve Standards of Performance (64752)
  - a. Use of BSER measures to achieve an emission rate-based standard (64753)
    - (1) Building block 1 (64753)
    - (2) Building block 2 (64753)
    - (3) Building block 3 (64753)
    - (4) Reduced generation (64753)
    - (5) Emissions trading approaches (64754)

page numbers reference 80 Fed. Reg. 64661 (Oct. 23, 2015)

- b. Use of BSER measures to achieve a mass-based standard (64754)
  - (1) Building block 1 (64754)
  - (2) Reduced generation (64754)
  - (3) Emissions trading approaches (64754)
- 6. Use Of Non-BSER Measures To Achieve Standards of Performance (64755)
  - a. Non-BSER measures that reduce CO<sub>2</sub> emissions per MWh generated (64755)
    - (1) Heat rate improvement at affected EGUs other than coal-fired steam EGUs (64756)
    - (2) Carbon capture and storage at affected EGUs (64756)
    - (3) Fuel switching to natural gas at affected EGUs (64756)
    - (4) Fuel switching to biomass at affected EGUs (64756)
    - (5) Waste heat-to-energy conversion at affected EGUs (64756)
  - b. Non-BSER measures that reduce CO<sub>2</sub> emissions by reducing fossil fuel-fired generation (64756)
    - (1) Demand-side EE (64756)
    - (2) New or uprated nuclear generating capacity (64757)
    - (3) Zero-emitting RE generating technologies not reflected in the BSER (64757)
    - (4) Non-zero-emitting RE generating technologies (64757)
    - (5) Waste heat-to-electricity conversion at non-affected facilities (64757)
    - (6) Reduction in transmission and distribution line losses (64757)
- 7. Severability (64758)

#### B. Legal Discussion of Certain Aspects of the BSER (64758)

- 1. The EPA's Authority To Determine the BSER (64758)
- 2. Approach to Subcategorization (64759)
- 3. Building Blocks 2 and 3 as a "System of Emission Reduction" (64760)
  - a. Overview (64760)
    - b. System of emission reduction as a broad range of measures (64762)
      - (1) Plain meaning and context of "system of emission reduction" (64762)
      - (2) Other indications that the BSER provisions encompass a broad range of measures (64763)
        - (a) Scope of CAA section 111(d)(1) (64763)
        - (b) Legislative history of CAA section 111 (64763)
          - (i) Breadth of "system of emission reduction" (64763)
          - (ii) Reliance on actions taken by other entities (64765)
        - (c) Consistency of a broad interpretation of CAA section 111 with the overall structure of the CAA (64766)
      - (3) Comments and responses (64766)
  - c. Deference to interpret the BSER to include building blocks 2 and 3 (64768)
    - (1) Consistency of building blocks 2 and 3 with the structure of the utility power sector (64768)
      - (a) Integration of the utility power sector (64768)
      - (b) Significance of integrated utility power sector for the BSER (64769)
    - (2) Current implementation of measures in building blocks 2 and 3 (64769)
    - (3) Reliance in CAA Title IV on building block measures (64770)
      - (a) Overview (64770)
      - (b) Title IV provisions (64770)
      - (c) Title IV legislative history (64771)
    - (4) Reliance on RE measures to reduce CO<sub>2</sub> (64771)
    - (5) Other EPA actions that rely on building block measures (64772)
    - (6) Other rules that relied on actions by other entities (64772)
      - (a) Third-party transactions (64772)
      - (b) Emissions trading (64773)
      - (c) NSPS rules for EGUs that depend on the integrated grid (64773)
    - (7) Consistency with the purposes of the Clean Air Act (64773)
      - (a) Purpose of protecting public health and welfare (64773)
      - (b) Purpose of encouraging pollution prevention (64775)
      - (c) Purpose of advancing technology to control air pollution (64775)
      - (d) Response to commenters concerning purpose (64775)
    - (8) Constraints on the BSER—treatment of building block 4 and response to comments concerning precedents (64776)
      - (a) Emission reductions from affected sources (64776)

page numbers reference 80 Fed. Reg. 64661 (Oct. 23, 2015)

- (b) Controls or measures that affected EGUs can implement (64776)
- (c) "Adequately demonstrated" (64776)
- (d) "Best" in light of "cost . . . nonair quality health and environmental impact and energy requirements" and EPA's past practice and current policy (64777)
- (e) Constraints for new sources (64779)
- 4. Relationship Between a Source's Implementation of Building Blocks 2 and 3 and Its Emissions (64779)
- 5. Reduced Generation and Implementation of the BSER (64779)
  - a. Background (64780)
  - b. Well-established use of reduced generation to comply with environmental requirements (64780)
  - c. Other aspects of reduced generation (64781)
  - d. Comments concerning limiting principles (64782)
- 6. Reasons That This Rule Is Within the EPA's Statutory Authority and Does Not Represent Over-Reaching (64782)
- Relative Stringency of Requirements for Existing Sources and New, Modified, and Reconstructed Sources (64785)

#### C. Building Block 1—Efficiency Improvements at Affected Coal-Fired Steam EGUs (64787)

- 1. Summary of Measures Comprising the BSER in Building Block 1 (64787)
  - a. Measures under building block 1—heat rate improvements (64787)
  - b. Changes from the proposal (64790)
- 2. Costs of Heat Rate Improvements (64791)
- 3. Response to Key Comments (64791)

#### D. Building Block 2—Generation Shifts Among Affected EGUs (64795)

- 1. Demonstration of Ability to Reduce CO<sub>2</sub> Emissions Through Shifting Generation (64795)
  - a. Background of utility power sector (64795)
  - b. Trends in generation shifts from coal-fired to natural gas-fired sources (64795)
  - c. Mechanisms for dispatch shifts from coal-fired to natural gas-fired generation (64796)
- 2. Amount and Timing of Generation Shift (64797)
- 3. Basis for Magnitude of Generation Shift (64799)
  - a. Technical feasibility of NGCC units to generate at 75% of their capacity (64799)
  - b. Historical generation shifts to NGCC generation (64799)
  - c. Reliability (64800)
  - d. Natural gas infrastructure (64800)
  - e. Natural gas production (64800)
  - f. Transmission planning and construction (64801)
  - g. Regulatory flexibility (64801)
- 4. Cost (64801)
- 5. Major Comments and Responses (64802)

## E. Building Block 3—New Zero-Emitting Renewable Generating Capacity (64803)

- 1. History of RE Development (64803)
- 2. Trends in RE Development (64803)
- 3. Importance of Increasing Use of RE (64804)
- 4. Access to RE by Owners of Affected EGUs (64804)
- 5. REC Markets (64806)
- 6. Quantification of RE Generation Potential for BSER and Major Comments (64806)
- 7. Feasibility of RE Development (64809)
- 8. Cost of CO<sub>2</sub> Emission Reductions From RE Generation (64810)

#### VI. Subcategory-Specific CO2 Emission Performance Rates (64811)

- A. Overview (64811)
- **B.** Emission Performance Rate Requirements (64811)
  - 1. Final Emission Performance Rate Requirements (64811)
  - 2. Interim Emission Performance Rates (64812)
- C. Form of the Emission Performance Rates (64812)
  - 1. Rate-Based Guidelines (64812)
    - a. Rationale for rate-based guidelines (64812)
    - b. Net vs. gross MWh (64812)
    - c. Output-weighted performance rates for all affected EGUs (64812)

page numbers reference 80 Fed. Reg. 64661 (Oct. 23, 2015)

d. Severability of building blocks (64813)

## D. Emission Performance Rate-Setting Equation and Computation Procedure (64813)

- 1. Inventory of Likely Affected EGUs (64813)
- 2. Data Year (64814)
- 3. Adjustments That the EPA Made to the 2012 Data (64815)
- 4. Equations (64815)

## VII. Statewide CO2 Goals (64820)

- A. Overview (64820)
- B. Reconstituting Statewide Rate-based CO<sub>2</sub> Emission Performance Goals From the Subcategory-Specific Emission Performance Rates (64821)
- C. Quantifying Mass-Based CO<sub>2</sub> Emission Performance Goals From the Statewide Rate-Based CO<sub>2</sub> Emission Performance Goals (64822)
- D. Addressing Potential Leakage in Determining the Equivalence of State-Specific CO<sub>2</sub> Emission Performance Goals (64822)
- E. State Plan Adjustments of State Goals (64823)
- F. Geographically Isolated States and Territories With Affected EGUs (64825)

## VIII. State Plans (64826)

- A. Overview (64826)
- **B.** Timeline for State Plan Performance and Provisions To Encourage Early Action (64828)
  - 1. Timeline for State Plan Performance (64828)
  - 2. Provisions To Encourage Early Action (64829)

## C. State Plan Approaches (64832)

- 1. Overview (64832)
- 2. "Emission Standards" State Plan Type (64833)
  - a. Rate-based approach (64833)
    - (1) Rate-based emission standards based on operational or other standards (64834)
    - (2) Additional considerations for rate-based approach (64834)
  - b. Mass-based approach (64834)
    - (1) Mass-based emission standard applied to individual affected EGUs (64834)
    - (2) Mass-based emission standard with a market-based emission budget trading program (64835)
    - (3) Mass-based emission standards based on operational or other standards (64835)
- 3. "State Measures" State Plan Type (64835)
  - a. Requirements for state measures under a state measures type plan (64836)
  - b. Considerations for the backstop included in a state measures type plan (64836)
- 4. Summary of Comments on State Plan Approaches (64837)
- 5. Multi-State Plans and Multi-State Coordination (64838)
  - a. Summary of comments on multi-state plans (64838)
  - b. Multi-state coordination through a joint emission goal (64839)
  - c. Multi-state coordination among states retaining individual state goals (64839)
  - d. Multi-state plans that address a subset of EGUs in a state (64840)
- 6. Legal Bases and Considerations for State Plan Types and Approaches (64840)
  - a. Legal basis for emission standards approach (64840)
  - b. Legal basis for emissions trading in state plans (64840)
  - c. Legal basis for state measures plan type (64841)
  - d. Legal considerations with proposed portfolio approach (64843)
  - e. Legal basis for multi-state plans (64843)

## D. State Plan Components and Approvability Criteria (64843)

- 1. Approvability Criteria (64843)
- 2. Components of a State Plan Submittal (64844)
  - a. Components required for all state plan submittals (64844)
    - (1) Description of the plan approach and geographic scope (64844)
    - (2) Applicability of state plans to affected EGUs (64844)
    - (3) Demonstration that a state plan will achieve CO<sub>2</sub> emission performance rates or state CO<sub>2</sub> emission goal (64844)
      - (a) State plan type designs that require a projection of  $CO_2$  emission performance (64845)

page numbers reference 80 Fed. Reg. 64661 (Oct. 23, 2015)

- (b) Methods and tools (64845)
- (c) Required documentation of projections (64845)
- (d) Additional projection requirements under a rate-based emission standards plan (64846)
- (e) Additional projections requirements for a state measures plan (64846)
- (4) Monitoring, reporting and recordkeeping requirements for affected EGUs (64847)
- (5) State reporting and recordkeeping requirements (64847)
- (6) Public participation and certification of hearing on state plan (64848)
- (7) Supporting documentation (64848)
  - (a) Legal authority (64848)
  - (b) Technical documentation (64849)
  - (c) Programmatic plan milestones and timeline (64849)
  - (d) Reliability (64849)
- b. Additional components required for the emission standards plan type (64849)
  - (1) Identification of interim period emission performance rates or state goal (for 2022–2029), interim step performance rates or interim state goals (2022–2024; 2025–2027; 2028–2029) and final emission performance rates or state goal (2030 and beyond) (64849)
  - (2) Identification of federally enforceable emission standards for affected EGUs (64849)
  - (3) Demonstration that each emission standard is quantifiable, non-duplicative, permanent, verifiable and enforceable (64850)
  - (4) State reporting requirements (64850)
- c. Additional components required for the state measures approach (64851)
  - (1) Identification of interim state mass goal (for 2022–2029), interim step state mass goals (2022–2024; 2025–2027; 2028–2029) and final state mass goal (2030 and beyond) (64851)
  - (2) Identification of federally enforceable emission standards for affected EGUs (if applicable) (64851)
  - (3) Identification of backstop of federally enforceable emission standards (64851)
  - (4) Identification of state measures (64852)
  - (5) State reporting requirements (64852)
  - (6) Supporting documentation (64852)
    - (a) Demonstration that each state measure is quantifiable, non-duplicative, permanent, verifiable and enforceable (64852)
- d. Legal basis for the components (64853)
  - (1) General legal basis (64853)
  - (2) Legal considerations with changes to affected EGUs (64853)
  - (3) Legal considerations regarding design, equipment, work practice or operational standards (64854)
  - (4) Legal basis for engagement with communities (64854)
- 3. Components of the Federally Approved State Plan (64854)

## E. State Plan Components and Approvability Criteria (64855)

- 1. Overview (64855)
- 2. State Plan Submittal and Timing (64855)
- 3. Components of an Initial Submittal and 2017 Update (64856)
- 4. Multi-State Plan Submittals (64859)
- 5. Process for EPA Review of State Plans (64860)
- 6. Failure To Submit a Plan (64861)
- 7. State Plan Modifications (64861)
  - a. Modifications to an approved state plan (64861)
  - b. Modifications to interim and final CO<sub>2</sub> emission goals (64861)
- 8. Plan Templates and Electronic Submittal (64861)
  - a. Submittal of an editable version of federally enforceable plan components (64862)
  - b. Revisions to an approved plan (64862)
  - c. Electronic submittal (64862)
  - d. Plan templates (64862)
- 9. Legal Basis Regarding State Plan Process (64863)
  - a. Initial submittals and extensions (64863)
  - b. State plan modifications (64864)

## F. State Plan Performance Demonstrations (64864)

- 1. Compliance Periods, Monitoring and Reporting Requirements for Affected EGUs (64864)
- 2. Plan Performance Demonstrations (64865)

page numbers reference 80 Fed. Reg. 64661 (Oct. 23, 2015)

- Consequences if Actual Emission Performance Does Not Meet the CO<sub>2</sub> Emission Performance Rates or State CO<sub>2</sub> Emission Goal (64866)
  - a. Legal basis for corrective measures (64868)
- 4. Out-Year Requirements: Maintaining or Improving the Level of Emission Performance Required by the Emission Guidelines (64869)
  - a. Legal basis for maintaining emission performance (64869)

## G. Additional Considerations for State Plans (64869)

- 1. Consideration of a Facility's "Remaining Useful Life" and "Other Factors" (64869)
  - a. Statutory and regulatory backdrop (64870)
  - b. Our proposal regarding the implementing regulations (64870)
  - c. How these emission guidelines permit states to consider remaining useful life and other facility-specific factors (64870)
  - d. Why remaining useful life and other facility-specific factors do not warrant adjustments in the guidelines' performance rates and state goals (64871)
  - e. Response to key comments on remaining useful life (64871)
  - f. Legal considerations regarding remaining useful life (64873)
- 2. Electric Reliability (64874)
  - a. Summary of key comments (64876)
  - b. Final rule flexibility (64876)
  - c. Considering reliability during state plan development process (64876)
  - d. State plan modifications (64877)
  - e. Reliability safety valve (64877)
  - f. Coordination among federal partners (64879)
  - g. Analyses of the reliability impacts of the proposal (64879)
- 3. Consideration of Effects on Employment and Economic Development (64881)
- 4. Workforce Considerations (64881)
- 5. Tenth Amendment Legal Considerations (64881)
- 6. Title VI (64882)

#### H. Resources for States to Consider in Developing Plans (64882)

- I. Considerations for CO2 Emission Reduction Measures that Occur at Affected EGUs (64883)
  - 1. Actions Without Additional Accounting and Reporting Requirements (64883)
  - 2. Actions With Additional Accounting and Reporting Requirements (64883)
    - a. Application of CCS (64883)
    - b. Application of CCU (64884)
    - c. Application of biomass co-firing and repowering (64884)
      - (1) Considerations for use of biomass in state plans (64885)
      - (2) Additional considerations and requirements for biomass fuels (64886)
      - (3) Biomass co-firing (64886)
      - (4) Biomass repowering (64886)

#### J. Additional Considerations and Requirements for Mass-Based State Plans (64887)

- 1. Accounting for CO<sub>2</sub> Emission Reduction Measures in Mass-Based State Plans (64887)
- 2. Use of Emission Budget Trading Programs (64887)
  - a. State plan provisions required for a mass-based emission budget trading program approach (64887)
  - b. Requirement for emission budget trading programs to address potential leakage (64887)
  - c. Emission budget trading programs to ensure achievement of a state CO<sub>2</sub> goal (64890)
  - d. Addressing emission budget trading programs with broader source coverage and other flexibility features (64891)
  - e. Considerations for mass-based emission budget trading programs (64892)
    - (1) Allowance allocation (64892)
    - (2) Facility-level compliance (64892)
- 3. Multi-state coordination: Mass-based emission trading programs (64892)
  - a. Considerations for linked emission budget trading programs (64893)
    - (1) Links among emission trading programs that only include affected EGUs or affected EGUs and applicable new fossil fuel-fired EGUs (64893)
    - (2) Links with emission budget trading programs that include a broader set of emission sources (64893)
- K. Additional Considerations and Requirements for Rate-Based State Plans (64894)
  - 1. Adjustments to CO<sub>2</sub> Emission Rates in Rate-Based State Plans (64894)

page numbers reference 80 Fed. Reg. 64661 (Oct. 23, 2015)

- a. Measures taken to adjust the CO<sub>2</sub> emission rate of an affected EGU (64894)
  - (1) General accounting approach for adjusting a CO<sub>2</sub> emission rate (64895)
  - (2) General eligibility requirements for resources used to adjust a CO<sub>2</sub> emission rate (64896)
    - (a) Eligibility date for installation of RE/EE and other measures and MWh generation and savings (64896)
    - (b) Demonstration that measures substitute for grid generation (64897)
    - (c) Geographic eligibility (64897)
      - (i) Measures that occur in states with mass-based plans (64897)
      - (ii) Measures that occur in states, including areas of Indian country, that do not have affected EGUs (64898)
      - (iii) Measures that occur outside the U.S. (64898)
  - (3) RE (64899)
    - (a) Hydroelectric power (64899)
    - (b) Biomass (64899)
    - (c) Waste-to-energy (64899)
  - (4) DSM (64900)
  - (5) Energy storage (64900)
  - (6) Transmission and distribution (T&D) measures (64901)
  - (7) Demand-side EE, including water system efficiency (64901)
  - (8) Nuclear power (64901)
  - (9) Combined heat and power (CHP) units (64902)
  - (10) WHP (64902)
- b. Measures that may not be used to adjust a CO<sub>2</sub> emission rate (64903)
- c. Measures that reduce CO<sub>2</sub> emissions outside the electric power sector (64903)
- 2. Requirements for Rate-Based Emission Trading Approaches (64904)
  - a. Issuance of ERCs to affected EGUs (64904)
  - b. Issuance of ERCs for RE, demand-side EE, and other measures (64906)
  - c. Tracking system requirements (64907)
  - d. Effect of improperly issued ERCs (64907)
  - e. Banking of ERCs (64907)
  - f. Considerations for ERC issuance (64907)
  - g. Program review (64908)
- 3. EM&V Requirements for RE, Demand-Side EE, and Other Measures Used To Adjust a CO<sub>2</sub> Rate (64908)
  - a. Discussion of proposed EM&V approach and public comment (64908)
  - b. Requirements for EM&V and M&V submittals (64909)
  - c. Skill certification standards (64910)
- 4. Multi-State Coordination: Rate-Based Emission Trading Programs (64910)
- L. Treatment of Interstate Effects (64911)

#### IX. Community and Environmental Justice Considerations (64914)

- A. Proximity Analysis (64915)
- B. Community Engagement in State Plan Development (64916)
- C. Providing Communities With Access to Additional Resources (64916)
- D. Federal Programs and Resources Available to Communities (64917)
- E. Multi-Pollutant Planning and Co-Pollutants (64918)
- F. Assessing Impacts of State Plan Implementation (64918)
- G. EPA Continued Engagement (64919)

## X. Interactions With Other EPA Programs and Rules (64919)

- A. Implications for the New Source Review Program (64919)
- B. Implications for the Title V Program (64920)
- C. Interactions With Other EPA Rules (64921)
  - 1. Mercury and Air Toxics Standards (MATS) (64921)
  - 2. Cross-State Air Pollution Rule (CSAPR) (64921)
  - 3. Requirements for Cooling Water Intake Structures at Power Plants (316(b) Rule) (64921)
  - 4. Disposal of Coal Combustion Residuals From Electric Utilities (CCR Rule) (64921)
  - 5. Steam Electric Effluent Limitation Guidelines and Standards (SE ELG Rule) (64922)

page numbers reference 80 Fed. Reg. 64661 (Oct. 23, 2015)

- 6. Other EPA Rules (64922)
- 7. Final Rule Flexibilities (64923)

#### XI. Impacts of This Action (64924)

- A. What are the air impacts? (64924)
- B. Endangered Species Act (64925)
- C. What are the energy impacts? (64927)
- D. What are the compliance costs? (64927)
- E. What are the economic and employment impacts? (64928)
- F. What are the benefits of the final goals? (64928)

#### XII. Statutory and Executive Order Reviews (64933)

- A. Executive Order 12866: Regulatory Planning and Review, and Executive Order 13563: Improving Regulation and Regulatory Review (64933)
- B. Paperwork Reduction Act (PRA) (64936)
- C. Regulatory Flexibility Act (RFA) (64936)
- D. Unfunded Mandates Reform Act (UMRA) (64936)
- E. Executive Order 13132: Federalism (64937)
- F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments (64938)
- G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks (64939)
- H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use (64940)
- I. National Technology Transfer and Advancement Act (NTTAA) (64940)
- J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations (64940)
- K. Congressional Review Act (CRA) (64941)

## XIII. Statutory Authority (64941)

#### **Regulatory Text (64941)**