

capacity reduction technologies such as cooling towers.

EPA has not yet examined other new information suggesting that site-specific factors may affect the costs of retrofitting wet towers at existing power plants. For example, in October 2002, the Department of Energy (DOE) provided EPA with a study analyzing the costs of retrofitting wet cooling towers at four facilities (*see* DCN W-00-32, 316(b) Phase II, comment 2.11). The study found costs at these facilities would be higher than EPA estimated for similar facilities in its proposal record. EPA invites comment on the data contained in the DOE study, and will consider these data as the Agency makes decisions for the final rule. In January 2003, the DOE/National Energy Technology Laboratory (NETL) provided EPA with an addendum to their October 2002 (*see* DCN W-00-32, 316(b) Phase II, comment 2.14). In that addendum, DOE determined that three out of four facilities would likely require plume abatement technologies that could double the capital costs of the cooling tower portion of a retrofit project. In February 2003, DOE provided additional information indicating that one plant located on brackish waters in a densely populated urban area that is considering a cooling tower retrofit may install a reverse osmosis system to reduce particulate salt emissions (*see* "Astoria Repowering Project Article X Supplement," Reliant Energy, November 12, 2002). EPA notes that some other facilities located on brackish water using cooling towers do not use such systems to reduce particulate emissions (*see* DCN 4-2553). The Agency requests comment on whether site-specific factors other than those addressed in the Agency's derivation of cost estimates for the waterbody/capacity-based option at proposal could increase or lower the costs of retrofitting a wet cooling tower at an existing plant.

C. Facility-Level Costing Options

In order to implement the revised costing approach (*see* section IV.B. above), the Agency necessarily changed its approach to developing costs at the model facility level. This approach focuses as much as possible on site-specific characteristics for which the Agency obtained data through the 316(b) questionnaire. In addition, EPA utilized available geographic information, including detailed topographic mapping and overhead satellite imagery, to better utilize site-specific characteristics of each model facility's intake(s) to inform decisions on the proper costing modules projected for compliance. "Technology Costing

Module Applications for Model Facilities," provides the background and explanation of the Agency's approach to model facility level costing.

EPA's approach to model facility-level costing may be described as follows. In order to project upgrades to technologies as a result of compliance with the proposed rule, the Agency utilizes as much information as is available about the characteristics of the hundreds of facilities within the scope of the proposed rule. By incorporating as many site-specific features as possible into the design and implementation of its costing approach the Agency has been able to capture a representative range of compliance costs at what it deems "model facilities." However, the Agency did not have and will never have the opportunity to visit and study in detail all of the engineering aspects of each facility complying with this rule (over 400 facilities could incur technology-related compliance costs as a result of this rule). Therefore, although the Agency has developed costs that represent EPA's best effort to develop a site-specific engineering assessment for a particular facility, this assessment does not incorporate certain peculiarities that only long-term study of each facility would bear out. Hence, the Agency refers to its approach as a "model" facility approach.

In selecting technology modules for each model facility, EPA departed from its traditional least cost approach. This is because, while the Agency is confident that the suite of available technologies can achieve compliance with the proposed performance generally (60–90% reduction in entrainment and 80–95% reduction in impingement relative to the calculation baseline) EPA lacks sufficient data to determine the performance of each technology on a site-specific basis. The Agency thus selected the best performing technology (rather than the least costly technology) that was suitable for each site, in order to ensure that the technology on which costs were based would in fact achieve compliance at that site. EPA recognizes that this approach may entail a greater degree of cost conservatism than is typical in regulatory analyses, and that this may have implications for the cost-cost comparison provisions in the proposed rule. EPA requests comment on its revised approach for selecting model facility cost modules.

EPA believes that its modular approach to deriving costs of technologies and the costs to install and operate technologies incorporates sufficient flexibility to derive costs that reflect a broad range of applications. To

ensure that the Agency does not underestimate the costs of the rule, EPA has approached the compliance costing effort with great conservatism. When there is uncertainty or the data are inconclusive, EPA has favored conservative approaches to costs (that is, higher than average). Therefore, the Agency is confident that the compliance costs represented in the analyses accompanying this Notice of Data Availability represent conservative estimates for the range of model facilities represented. However, for a particular facility, the costs may be higher or may be lower than would actually be realized.

D. Clarifications and Corrections

Estimating Design Intake Flows for Short Technical Questionnaire Facilities

At proposal, the Agency utilized a statistical methodology based on linear regression to assess the design intake flow information for facilities that responded to the short technical questionnaire. Because the Agency initially asked short technical respondents for only their actual annual intake flow for the reporting year, it was necessary to obtain design intake flow information for the purpose of accurately assessing compliance costs. The Agency did not include the statistical methodology for estimating design intake flows for short technical questionnaire facilities and its results in the record for the proposed rule. The Agency continues to use this methodology for this Notice of Data Availability and hereby includes the supporting information in the record (*see* DCN 5-2501).

V. IPM Analyses

At proposal, EPA used an electricity market model, the Integrated Planning Model 2000 (IPM® 2000), to identify potential economic and operational impacts of various regulatory options considered for proposal.³ EPA conducted impact analyses at the market level, by North American Electric Reliability Council (NERC) region,⁴ and for facilities subject to the

³ For a detailed description of the IPM 2000 *see* Chapter B3 of the Economic and Benefits Analysis (EBA) document in support of the proposed rule (DCN 4-0002; <http://www.epa.gov/ost/316b/econbenefits/b3.pdf>).

⁴ The ten NERC regions modeled by the IPM are: ECAR (East Central Area Reliability Coordination Agreement), ERCOT (Electric Reliability Council of Texas), FRCC (Florida Reliability Coordinating Council), MAAC (Mid-Atlantic Area Council), MAIN (Mid-America Interconnected Network, Inc.), MAPP (Mid-Continent Area Power Pool), NPCC (Northeast Power Coordination Council), SERC (Southeastern Electricity Reliability Council), SPP