

- Increase analytical monitoring costs for small platers to monitor for the additional pollutants covered by part 433.

### 3. Revisions to Economic & Benefits Methodologies

For the final rule, EPA incorporated several important revisions to the economic impact and benefits methodologies from the NODA. Section V of the NODA provides a detailed discussion of all changes incorporated in the economic impact and benefits analyses after publication of the proposed MP&M rule (*see* 67 FR 38752). In addition, based on NODA comments the Agency further refined the moderate impact analysis. As previously discussed, the Economic, Environmental, and Benefits Analysis (EEBA) for the final rule provides a complete discussion of economic impact and benefits methodologies used in the final rule analyses.

#### a. Revisions Incorporated in the Economic Impact Methodology From the NODA

The major changes to the economic impact analyses incorporated from the NODA include: (1) Use of sector-specific thresholds for the moderate impact analysis tests (redefined in part c of this section); (2) use of a single test, based on net present value, to assess the potential for closures (this test excludes consideration of liquidation values for all MP&M facilities, including the 219 facilities that reported them in their response to the MP&M survey); and (3) use of estimated baseline capital outlays in the calculation of cash flow for the net present value test. Other changes to the economic impact methodology include: (1) Use of revised cost pass-through coefficients; (2) use of sector-specific price indices in updating survey data; (3) adjusting labor costs for facilities that report abnormally high labor costs; and (4) limiting post-compliance tax shields to no greater than reported baseline taxes.

#### b. Using Multiple Years of Data To Estimate Sector-Specific Moderate Impact Threshold Values

As part of its facility impact analysis, the Agency assesses whether facilities may incur moderate financial impacts—financial stress short of closure—from regulatory compliance. To assess the occurrence of moderate impacts, the Agency analyzes the change in two financial measures—(1) Pre-Tax Return on Assets (PTRA); and (2) Interest Coverage Ratio (ICR)—against threshold values (*e.g.*, after-tax compliance costs as a percentage of annual revenues)

indicating weak, but still viable, financial performance.

At proposal, EPA used single threshold values of the financial measures for all MP&M sectors. Commentors argued that EPA used thresholds without providing any supporting information regarding their predictive value, the threshold values chosen, or their applicability. EPA finds that using threshold values that vary by industry better reflects the differences in business risks and operating circumstances by industry, and will provide more robust analysis of moderate impacts. In response to comments, EPA revised this approach for the NODA to use threshold values that varied by MP&M sector. For the NODA, EPA also considered using an alternative financial measure—Pre-Tax Operating Margin—instead of PTRA for the moderate impact analysis. Since the NODA, EPA continued to review its moderate impact analysis methodology, and for the final rule analysis, decided to retain the financial impact measures used at proposal: PTRA and ICR. Pre-tax return on assets provides stronger insight into operating financial performance and is a better indicator of a business' ability to attract capital and remain viable than operating margin. However, in contrast to the NODA, EPA decided to use multiple years of data for developing the threshold values for the final rule. Using multiple years of data increases the number of observations on which the moderate impact thresholds are based and reduces the likelihood that threshold values will reflect anomalous conditions that could arise from using only a single year of data.

EPA calculated the thresholds using income and financial structure information by 4-digit SIC code from the Risk Management Association (RMA) *Annual Statement Studies* for eight years from 1994 to 2001. The RMA data set provides quartile values derived from statements of commercial bank borrowers and loan applicants for firms having less than \$250 million in total assets. EPA used the lowest 25 percentile values, by industry, from the RMA data set as the basis for the moderate impact thresholds. The RMA data set captures a limited industry segment, because the data set likely omits firms with too weak financial performance to seek bank loans and also omits firms that use the public securities markets or other non-bank sources to obtain capital. However, it is difficult to know what kind of bias, if any, is introduced into the analysis by these limitations. On balance, because EPA used impact thresholds based on the 25th percentile of values reported

for borrowers and loan applicants, EPA estimates that the basis for the moderate impact thresholds is conservative—*i.e.*, we are more likely to err in finding that a business is in moderate financial stress than in finding that a facility is not in moderate financial stress.

EPA notes that RMA did not provide data for all 4-digit SIC codes associated with an MP&M sector. Therefore, for sectors with missing data for some 4-digit SIC codes, EPA calculated the weighted average of threshold values based only on those 4-digit SIC codes for which data were provided. This treatment assumes that the financial characteristics of the omitted SIC code segments are the same as the weighted average of SIC code segments that were included in the analysis for a given MP&M sector. *See* Chapter 5 of the EEBA for the final rule for a detailed discussion of the analysis of moderate impacts.

#### c. Revisions Incorporated in the Benefits Methodology from the NODA

Major revisions to the benefits methodology incorporated from the NODA include: (1) Changes to the human health methodology; (2) use of a weight-of-evidence approach in evaluating national benefit estimates; and (3) use of revised models in the Ohio case study analysis. EPA also uses revised data on characteristics of POTWs receiving discharges from the sample MP&M facilities, as discussed in the NODA.

Two revisions to the human health benefits methodology incorporated from the NODA include: (1) Use of revised assumptions and updated model parameters in the analysis of neurological effects from lead exposure in preschool children; and (2) use of a revised drinking water intake database for estimating human health effects from consumption of contaminated drinking water. The Agency did not incorporate cancer effects from exposure to lead in the final rule analysis because these effects appeared negligible.

The use of the weight-of-evidence approach for estimating national benefits is one of the most important revisions to the benefits methodology incorporated from the NODA. As discussed in the NODA, EPA traditionally estimates national level costs and benefits by extrapolating analytic results from sample facilities to the national level using sample facility survey weights. These sample facility weights are based on sample facility characteristics only and do not account for characteristics of water bodies receiving discharges from the sample MP&M facilities or for the size of the