

and environmental benefits analyses and methodologies. This section of today's final rule summarizes the changes to the EPA Cost & Loadings Model and the changes in the economic impacts and benefits analyses methodologies. This section also discusses EPA's decisions regarding selection of facilities with "BAT" treatment technologies.

#### 1. Changes to the EPA Cost & Loadings Methodology for MP&M Options

##### a. General Methodology Changes

Based on comments to the proposed rule and considerations discussed in the NODA (*see* 67 FR 38756), EPA made significant changes to the EPA Cost & Loadings Model used to estimate compliance costs and pollutant reductions at the national level for the technology options considered for today's final rule. EPA included all of the changes identified in the NODA (*e.g.*, review of survey discharge status and reviewed additional industry-supplied data) into the analyses for the final rule. EPA also stated in the NODA that we would also examine other potential changes in response to comments after publication of the NODA but before the final rule (*see* DCN 17804, section 16.0). This section provides additional information on EPA's final analyses with respect to these potential changes and any changes identified by NODA comments.

##### b. Assignment of Treatment-in-Place (TIP) Credit

EPA developed a computerized Cost & Loadings Model to estimate compliance costs and pollutant loadings for the various technology options. EPA estimates the baseline pollutant loadings (*i.e.*, pollutant loading prior to compliance with the MP&M regulations) from model facilities based on actual TIP at those facilities as determined by the site's response to EPA's questionnaire. EPA calculates the pollutant loads removed by the technology option under consideration as the difference between the pollutant loadings estimated for the option and the pollutant loadings estimated for the baseline conditions.

In general, commentors stated that EPA failed to extend proper TIP credit to facilities in the MP&M survey questionnaire database and overestimated pollutant discharge loadings. Based on comments received on the proposal and NODA, EPA has re-evaluated its assignment of TIP credit used for estimating baseline pollutant

loadings for the final rule and has concluded that additional technologies are equivalent (or better than) the BAT technology options in the proposal and the NODA.

In the NODA, EPA assumed that end-of-pipe ion exchange would achieve cyanide removals equivalent to alkaline chlorination, a proposed BAT technology basis. Therefore, EPA set cyanide treatment credit for process lines with ion exchange as equivalent to alkaline chlorination. Commentors requested that EPA also provide credit for in-process ion exchange for cyanide removal and for metals removal. EPA reviewed the information supporting these comments and concluded that ion exchange, whether in-process or end-of-pipe would provide pollutant reductions that are equivalent to the corresponding BAT technology option. Therefore, for the analyses supporting the final rule, EPA provided TIP credit for all streams receiving end-of-pipe or in-process ion exchange treatment for cyanide and metals.

EPA also reviewed its NODA assumptions regarding TIP credit for gravity thickening and filter presses. In the NODA, EPA assumed that facilities with sludge thickening or a filter press had both components in place. Upon closer review of the survey questionnaires, EPA finds that facilities may pump their sludge directly from a clarifier to a filter press without using a sludge thickening step. Consequently, EPA no longer assumes all facilities using filter presses also operate gravity thickeners. EPA notes that it is equating "sludge thickening tanks" and "sludge dryers" with gravity thickening. For facilities indicating only gravity thickening or filter press, EPA has estimated costs associated with the addition of the necessary equipment.

At proposal EPA did not assume that facilities that indicated some form of oily wastewater treatment (*e.g.*, oil-water separator) would be performing chemical emulsion breaking (and receive TIP credit for chemical emulsion breaking) prior to oil water separation if they have emulsified oils. For the final rule analyses, EPA reviewed all questionnaires to ensure that the same TIP assignments were given to Phase I and Phase II questionnaire facilities. Based on this review, EPA is assuming for the final rule that facilities that indicated some form of oily wastewater treatment (*e.g.*, oil-water separator) are performing chemical emulsion breaking prior to oil-water separation if they have emulsified oils.

#### c. Pollutant Loadings Baseline for MP&M Options for Metal-Bearing Wastewater Subcategories

EPA received many comments on its estimation of baseline pollutant loadings and reductions for the various options. For treated streams, EPA estimated zero pollutant removals for pollutants that are already present in low concentrations (*i.e.*, are present at a concentration below the technology option long term average (LTA). For untreated streams, EPA estimated baseline loadings and pollutant removals based on unit operation pollutant concentrations, and did not adjust for local or Federal regulatory limits on the facility. Many commentors were concerned that EPA's use of unit operation-specific average concentrations to model the concentration of untreated wastewater streams would overestimate current pollutant loadings at facilities, particularly those currently regulated by parts 413 or 433 and at facilities that do not treat their wastewaters due to low initial concentrations. In the NODA, EPA presented information on corrections and other revisions made to the costs and pollutant loadings model, and solicited comment on a sensitivity analysis which assumed at baseline that all MP&M facilities currently regulated by existing effluent guidelines (*i.e.*, 40 CFR parts 413 and 433) are not discharging pollutant concentrations above their applicable effluent limitations guidelines and standards (*see* 67 FR 38762).

For the final rule, EPA implemented two strategies to estimate baseline loadings and removals more accurately for untreated, low concentration streams at model facilities. First, EPA evaluated discharge monitoring report (DMR) data available for direct discharger model facilities. If all pollutant concentrations measured, as indicated from the DMR data, were below the technology option limits, EPA estimated zero pollutant removals for the model facility. Second, EPA considered regulatory limits on the model facility. EPA assumed the pollutant concentrations discharged from each stream at sites regulated under part 433 were at least meeting the monthly average limits set by part 433.

Table IV-2 summarizes the new method and how EPA estimated baseline pollutant concentrations for its pollutant reduction estimates associated with the final rule MP&M technology options.