

These concentrated solids effluents from recirculating systems may be similar in quality to those discharged from quiescent zones in flow-through systems. Many recirculating systems also have an overflow or overtopping water discharge that is combined with the solids treatment effluent. Overtopping water quality is essentially the same as that of the process water in the recirculating system. The quality of the overtopping water is usually more concentrated in constituents (such as TSS, BOD, nitrogen, and phosphorus) than flow-through system bulk discharges. However, it is less concentrated in these constituents than effluents from solids treatment processes such as offline settling basins. Daily volume of discharged overtopping water is also typically less than 10% of the system volume compared to the multiple system volume exchanges per day in typical flow-through systems. Our proposal did not clearly state how the rule would cover overtopping water from recirculating systems. EPA intended overtopping water discharges to be treated like solids treatment water or combined effluents. That is, all discharges from recirculating systems would be subject to the same proposed effluent limits.

EPA may revise its proposed subcategorization scheme by combining the flow-through and recirculating subcategories into a single subcategory, called the "continual discharge" subcategory (*see* Section III.B.1). Both proposed subcategories operate with a continuous or frequent discharge of wastewater containing similar wastewater pollutants. The recirculating system wastewater discharge typically comes from two sources, backwash from solids removal and overflow water from production tanks, and has similar pollutant concentrations as offline treatment system effluents from flow-through systems. Combined recirculating system discharges (backwash from solids removal and overflow water from production tanks) are also like the wastewater discharged from offline treatment at a flow-through system.

The detailed survey data indicate that nationally 11 facilities use both flow-through and recirculating system technologies. Depending on the facility layout, wastewater from both systems may be commingled for discharge in a single effluent stream. Under the proposal, facilities that commingle recirculating and flow-through system wastewater would be subject to the recombined effluent limits that are the same as the full flow requirements for primary settling.

By combining the flow-through and recirculating systems into a single subcategory, EPA would basically apply two sets of effluent limits. One set would apply to the discharge of full flow effluents, and the other would apply to offline treatment or recirculating system effluents. The flow-through facilities would be subject to the proposed requirements (*i.e.*, remain unaffected by combining the separate subcategories into one), whereas the recirculating systems would be subject to offline treatment requirements. Offline treatment requirements had higher (less stringent) effluent concentration-based limits than the proposed recirculating system limits. They operate with a frequent continual discharge that contain similar wastewater characteristics.

EPA is also considering the same modified options (A & B) for the continual subcategory as for the separate flow-through and recirculating subcategories. Because the continual subcategory would include limits from the separate flow-through and recirculating systems, the results of the analyses for the continual subcategory would be similar to those presented for the separate subcategories. EPA would apply the same requirement for TSS in a continual discharge subcategory to discharges from stand-alone recirculating facilities and offline settling basins. EPA seeks comment on combining these two subcategories into a single subcategory.

### 3. Net Pen Subcategory

EPA is not considering changes to the proposed options for the net pen subcategory. For facilities that produce more than 100,000 pounds of aquatic animals per year, EPA proposed BPT limits based on:

- Option 3 active feed monitoring (*i.e.*, additional solids removal).
- Developing a BMP plan for solids control.
- General reporting requirements for use of certain drugs and chemicals for facilities.

EPA also proposed to establish BAT equal to BPT because no more stringent options representing BAT were available. EPA proposed to establish BCT equal to BPT because EPA did not identify any more stringent technologies representing BCT were available. Finally, EPA proposed NSPS equal to BAT because the proposed effluent limitations guidelines would be affordable and would not pose a barrier to entry for new source net pens.

## V. Revisions to the Cost, Loadings, Economic, and Benefits Models

### A. Revisions to Assumptions and Methodology Used in EPA's Cost Analyses

#### 1. Proposed Costing Approach

At proposal, EPA used a model facility approach to estimate the cost of installing or upgrading wastewater treatment to achieve the proposed requirements. As described in the preamble to the proposed regulation (67 FR 57872), EPA developed 21 model facilities (based on the USDA's Census of Aquaculture and EPA's screener survey) characterized by different combinations of production systems, size categories, species and ownership types. We developed regulatory technology options based on screener survey responses, site visits, industry and other stakeholder input, and existing permit requirements.

EPA estimated the cost for each option component for each model facility. We then calculated costs for each regulatory option at each model facility based on model facility characteristics and the costs of the option's technologies or practices corresponding to the option.

EPA estimated frequency factors for treatment technologies and existing BMPs based on screener survey responses, site visits, and sampling visits (*see* Section III.1). Baseline frequency factors represented the portion of the operations that would not incur costs to comply with the proposed requirements because they were already using the technology or practice. EPA adjusted the component cost for each model facility represented by the model to account for those facilities then EPA derived national estimates of costs by aggregating the component costs applicable to each model facility across all model facilities.

#### 2. Revised Costing Approach

EPA's detailed surveys captured information on the treatment in-place at the facility and other site-specific information (such as labor rates). EPA got additional cost information from data supplied from public comments and site visits. With the new data, EPA revised the method to estimate compliance costs. Instead of a model facility approach, EPA is presenting facility-level costs based on the available facility-specific data contained in the detailed survey responses. We then apply statistically-derived survey weights instead of the frequency factors used at proposal to estimate costs to the CAAP industry as a whole.