

1. Description of Modified Options—Flow-through and Recirculating System Subcategories

As a result of the facility-level analysis from detailed surveys and comments, EPA re-evaluated the flow-through and recirculating system technology options for BPT, BCT, BAT, and NSPS limitations or standards from proposal. In addition to the three proposal options, EPA is considering two new options that represent changes to the proposed options. We will also continue to consider a no further regulation option.

The first new option (Option A) would, like Option 1, include primary settling. It would also include the requirement to develop and implement a BMP plan that minimizes both the discharge of drugs and chemicals and the possible escape of non-native species. Option A would also include the requirement for reporting Investigational New Animal Drugs (INADs) and extra-label use drugs as included in the proposed Option 2. The only difference between Option A and the proposed Option 2 is that Option A does not require the development and implementation of BMPs to address solids control.

Like Option 1, Option A would ensure that all covered facilities remove solids by primary settling. Based on the detailed survey data, primary settling is used at 468 out of 506 (92.5%) of all flow-through and recirculating CAAP

facilities. However, where Option 1 would require using BMPs to control solids, Option A does not. Option A would instead require BMPs to (1) address the use, storage, and disposal of drugs and chemicals and (2) minimize or prevent the release or escape of non-native species. This substitution may be appropriate for two reasons. First, many facilities have already established these practices. The detailed survey indicates that drug and chemical management practices are in use at 44% of flow-through and recirculating CAAP facilities. The practices are also used at 46% of flow-through facilities with annual production between 100,000 and 475,000 pounds. Over 90 percent of facilities producing species that would be considered non-native use escape prevention practices. Second, EPA thinks this change may be appropriate because it addresses the environmental effects that most concerned commenters. Therefore, EPA will consider Option A as the basis for BPT, BCT, BAT, and NSPS for the flow-through and recirculating subcategories with annual production greater than 100,000 pounds in the final rule. Option A would identify aspects of the facility operation that must be addressed with appropriate management practices but not specify the particular practices.

The proposed Option 3 specified additional solids removal requirements that could be accomplished through secondary solids removal treatment technologies such as microscreen

filtration or a solids polishing pond. Option 3 included a numeric TSS concentration limit of 10 mg/L maximum daily and 6 mg/L monthly average for full-flow, flow-through facilities; 69 mg/L maximum daily and 55 mg/L monthly average for offline settling at flow-through facilities; and 50 mg/L maximum daily and 30 mg/L monthly average for recirculating facilities. EPA estimates that solids polishing technologies (or some equivalent) are currently used at 264 of 506 (52.2%) of all flow-through and recirculating CAAP facilities.

The second modified option (Option B) being considered is similar to the proposed Option 3 in that it would require a greater degree of solids removal than achieved under Option A. However, Option B would offer facilities the choice to develop and implement a solids control BMP as included in Option 1 in lieu of installing secondary solids control technology, such as a second stage settling pond or a microscreen filter, and meeting numeric TSS limits. Facilities could still choose to install solids polishing technology and monitor TSS to achieve a numeric limit, but they could alternatively choose to instead implement solids control BMPs such as feed management.

Table IV.B.1 identifies the components or technologies we are considering for the proposed and modified options for flow-through and recirculating systems.

TABLE IV.B.1.—TECHNOLOGIES OR PRACTICES CONSIDERED FOR THE PROPOSED AND MODIFIED OPTIONS

Options	Technologies or practices				
	Primary settling	Solids control BMPs	Drugs and chemicals BMPs	Escape prevention	Secondary solids removal
1	√	√
2	√	√	√	√
3	√	√	√	√	√
A	√	√	√
B*	√	√	√	√	√

*Option B would include primary settling, drugs and chemicals BMPs, escape prevention, and a choice between solids control BMPs or secondary solids removal technology.

EPA seeks comment on establishing BPT, BCT, BAT, and NSPS based on any one of these options for both flow-through and recirculating systems. We also seek comment on whether EPA should establish limitations and associated BMPs.

2. Continual Discharge Subcategory

Public comment (DCNs 70137 and 70236) suggests that EPA's proposal did not clearly define recirculating systems. A variety of systems are used to produce

aquatic animals spanning a continuum from completely flow-through (single pass of water through culture tanks) to nearly complete recirculating (only small amounts of make-up water are added to offset evaporation and other losses). Closed ponds (*i.e.*, systems that do not regularly discharge) and net pens (systems located directly in the receiving water), are outside of this continuum. Many facilities operate flow-through systems with multiple uses of the water before discharge.

Oxygen may be added and solids collected between uses to provide better quality of reused water. Some facilities operate flow-through systems with process treatments that are similar to some used in recirculating systems (*e.g.*, enhanced solids removal, extensive oxygenation, and carbon dioxide stripping).

Recirculating systems may have concentrated solids effluents from solids removal processes that require additional treatment prior to discharge.