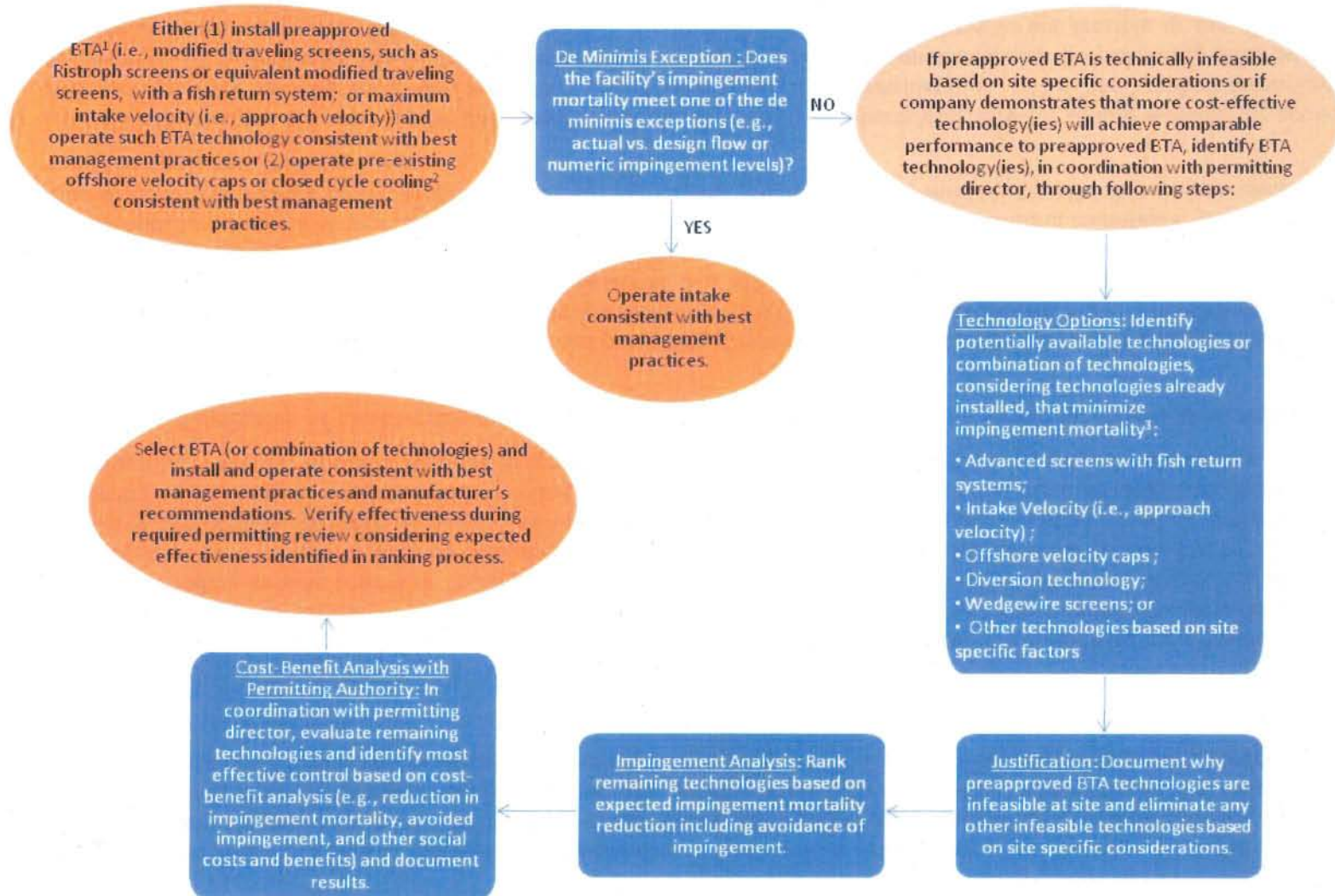


## Appendix C

### Impingement Mortality Decision Tree for BTA Technology Requirements



### **Impingement Mortality Decision Tree for BTA Technology Requirements**

This decision structure provides a logical and consistent mechanism to make a BTA determination for a facility. With the preapproved option and obligation to operate that technology consistent with best management practices, we anticipate that the vast majority of facilities will install the preapproved BTA technology. For the small subset of facilities where advanced screens or minimal intake velocity is not technically practical, this decision process ensures BTA is installed at the facility based on site specific considerations.

#### **Notes**

1. Preapproved BTA include: modified traveling screens, such as Ristroph screens or equivalent modified traveling screens, with a fish return system or maximum intake velocity (i.e., approach velocity). Pre-existing offshore velocity caps or closed-cycle cooling (including cooling towers or cooling ponds that were not themselves considered to be waters of the U.S. at the time that they were built) would be deemed compliant with the impingement mortality standards under section 316(b). Thus, units that have pre-existing offshore velocity caps or closed-cycle-cooling; have or install modified traveling screens such as Ristroph screens, or equivalent modified traveling screens, with a fish return system; or that meet the maximum intake velocity (i.e., approach velocity) would be required to operate those technologies consistent with best management practices.
2. The proposed definition of closed-cycle recirculating cooling system at 40 CFR 125.92 should be revised as recommended in Appendix B.
3. In identifying all BTA technologies, the facility and permitting director should consider any applicable examples included in a database EPA establishes to illustrate the expected performance of BTA technologies at specific sites. These examples should be based on a robust data set and reflect different situations that will affect impingement such as different water bodies, fragile species, facility sizes, and seasonal dynamics. The expected performance should be based on both fish mortality and biomass, and account for actions that prevent fish impingement. This database would facilitate permitting authorities' identification and assessment of alternatives to the preapproved BTA technologies. These examples would not establish a national standard that would be applicable to all facilities.
4. Cost-Benefit Analysis Criteria – In the cost-benefit analysis, the facility and permitting director should evaluate the economic and environmental impacts associated with each option remaining under consideration. The “top” ranked technology or combination of technologies should be considered BTA unless the facility demonstrates, and the permitting director agrees, that the economic and environmental impacts justify a conclusion that the technology is not feasible or the costs are not justified at that facility. In this evaluation, the facility and permitting director should consider comparable examples in the database noted above, applicable literature, and any available site or comparable site studies. This cost-benefit analysis would be consistent with the analysis for entrainment.