

label or in labeling of meal products as defined in § 101.13(l) or main dish products as defined in § 101.13(m), provided that the food contains less than 10 g total fat, 4.5 g or less saturated fat, and less than 95 mg cholesterol per 100 g and per labeled serving;

(4) The term “extra lean” may be used on the label or in labeling of foods, except meal products as defined in § 101.13(l) and main dish products as defined in § 101.13(m), provided that the food is a discrete seafood or game meat product and as packaged contains less than 5 g total fat, less than 2 g saturated fat, and less than 95 mg cholesterol per reference amount customarily consumed and per 100 g; and

(5) The term defined in paragraph (e)(4) of this section may be used on the label or in labeling of meal products as defined in § 101.13(l) and main dish products as defined in § 101.13(m), provided that the food contains less than 5 g of fat, less than 2 g of saturated fat, and less than 95 mg of cholesterol per 100 g and per labeled serving.

\* \* \* \* \*

Dated: November 18, 2005.

**Michael M. Landa,**

*Deputy Director for Regulatory Affairs, Center for Food Safety and Applied Nutrition.*

[FR Doc. 05-23293 Filed 11-23-05; 8:45 am]

BILLING CODE 4160-01-S

## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Parts 9, 122, 123, 124, and 125

[OW-2004-0002, FRL-8002-3]

RIN 2040-AD70

### National Pollutant Discharge Elimination System Proposed Regulations To Establish Requirements for Cooling Water Intake Structures at Phase III Facilities; Notice of Data Availability

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice of data availability.

**SUMMARY:** On November 24, 2004, EPA published proposed regulations to establish requirements for cooling water intake structures at Phase III facilities under section 316(b) of the Clean Water Act (CWA). EPA proposed the following three options for defining which existing facilities would be subject to uniform national requirements, based on the facility's design intake flow threshold and source waterbody type: The facility has a total design intake

flow of 50 million gallons per day (MGD) or more, and withdraws from any waterbody; the facility has a total design intake flow of 200 MGD or more, and withdraws from any waterbody; or the facility has a total design intake flow of 100 MGD or more and withdraws specifically from an ocean, estuary, tidal river, or one of the Great Lakes. The proposed rule would also establish national section 316(b) requirements for new offshore oil and gas extraction facilities. This notice of data availability (NODA) summarizes significant data EPA received or collected since publication of the proposed rule and discusses how EPA may use this data in revising its analyses. EPA solicits public comment on the information presented in this notice and the record supporting this notice.

**DATES:** Comments on this notice of data availability must be received or postmarked on or before midnight December 27, 2005.

**ADDRESSES:** Comments may be submitted by mail addressed to Water Docket, Environmental Protection Agency, Mailcode: 4101T, 1200 Pennsylvania Ave., NW., Washington, DC, 20460, Attention Docket ID No OW-2004-0002. Comments may also be submitted electronically, or by hand delivery. Follow the detailed instructions as provided in Section B.1 of the **SUPPLEMENTARY INFORMATION** section to file comments electronically.

**FOR FURTHER INFORMATION CONTACT:** For additional technical information contact Paul Shriner at (202) 566-1076. For additional economic information contact Erik Helm at (202) 566-1066. For additional biological information contact Ashley Allen at (202) 566-1012. The e-mail address for the above contacts is [rule.316b@epa.gov](mailto:rule.316b@epa.gov).

#### SUPPLEMENTARY INFORMATION:

##### General Information

*A. How Can I Get Copies of This Document and Other Related Information?*

1. Docket. EPA has established an official public docket for this action under Docket ID No. OW-2004-0002. The official public docket consists of the documents specifically referenced in this action, any public comments received, and other information related to this action. Although a part of the official docket, the public docket does not include Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. The official public docket is the collection of materials that is available for public viewing at the Water Docket

in the EPA Docket Center, (EPA/DC) EPA West, Room B102, 1301 Constitution Ave., NW., Washington, DC. The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Water Docket is (202) 566-2426.

2. Electronic Access. You may access this **Federal Register** document electronically through the EPA Internet under the “**Federal Register**” listings at <http://www.epa.gov/fedrgstr/>.

An electronic version of the public docket is available through EPA's electronic public docket and comment system, EPA Dockets. You may use EPA Dockets at <http://www.epa.gov/edocket/> to submit or view public comments, access the index listing of the contents of the official public docket, and to access those documents in the public docket that are available electronically. Once in the system, select “search,” then key in the appropriate docket identification number.

Certain types of information will not be placed in the EPA Dockets. Information claimed as CBI and other information whose disclosure is restricted by statute, which is not included in the official public docket, will not be available for public viewing in EPA's electronic public docket. EPA's policy is that copyrighted material will not be placed in EPA's electronic public docket but will be available only in printed, paper form in the official public docket. To the extent feasible, publicly available docket materials will be made available in EPA's electronic public docket. When a document is selected from the index list in EPA Dockets, the system will identify whether the document is available for viewing in EPA's electronic public docket. Although not all docket materials may be available electronically, you may still access any of the publicly available docket materials through the docket facility identified in Section A.1. EPA intends to work towards providing electronic access to all of the publicly available docket materials through EPA's electronic public docket.

For public commenters, it is important to note that EPA's policy is that public comments, whether submitted electronically or in paper, will be made available for public viewing in EPA's electronic public docket as EPA receives them and without change, unless the comment contains copyrighted material, CBI, or other information whose disclosure is restricted by statute. When EPA

identifies a comment containing copyrighted material, EPA will provide a reference to that material in the version of the comment that is placed in EPA's electronic public docket. The entire printed comment, including the copyrighted material, will be available in the public docket.

Public comments submitted on computer disks that are mailed or delivered to the docket will be transferred to EPA's electronic public docket. Public comments that are mailed or delivered to the Docket will be scanned and placed in EPA's electronic public docket. Where practical, physical objects will be photographed, and the photograph will be placed in EPA's electronic public docket along with a brief description written by the docket staff.

#### *B. How and to Whom Do I Submit Comments?*

You may submit comments electronically, by mail, or through hand delivery/courier. To ensure proper receipt by EPA, identify the appropriate docket identification number in the subject line on the first page of your comment. Please ensure that your comments are submitted within the specified comment period. Comments received after the close of the comment period will be marked "late." EPA is not required to consider these late comments, however, late comments may be considered if time permits. If you wish to submit CBI or information that is otherwise protected by statute, please follow the instructions in Section C. Do not use EPA Dockets or e-mail to submit CBI or information protected by statute.

1. Electronically. If you submit an electronic comment as prescribed below, EPA recommends that you include your name, mailing address, and an e-mail address or other contact information in the body of your comment. Also include this contact information on the outside of any disk or CD-ROM you submit, and in any cover letter accompanying the disk or CD-ROM. This ensures that you can be identified as the submitter of the comment and allows EPA to contact you in case EPA cannot read your comment due to technical difficulties or needs further information on the substance of your comment. EPA's policy is that EPA will not edit your comment, and any identifying or contact information provided in the body of a comment will be included as part of the comment that is placed in the official public docket, and made available in EPA's electronic public docket. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification,

EPA may not be able to consider your comment.

i. EPA Dockets. Your use of EPA's electronic public docket to submit comments to EPA electronically is EPA's preferred method for receiving comments. Go directly to EPA Dockets at <http://www.epa.gov/edocket>, and follow the online instructions for submitting comments. To access EPA's electronic public docket from the EPA Internet Home Page, select "Information Sources," "Dockets," and "EPA Dockets." Once in the system, select "search," and then key in Docket ID No. OW-2004-0002. The system is an "anonymous access" system, which means EPA will not know your identity, e-mail address, or other contact information unless you provide it in the body of your comment.

ii. E-mail. Comments may be sent by electronic mail (e-mail) to [OW-Docket@epa.gov](mailto:OW-Docket@epa.gov), Attention Docket ID No. OW-2004-0002. In contrast to EPA's electronic public docket, EPA's e-mail system is not an "anonymous access" system. If you send an e-mail comment directly to the Docket without going through EPA's electronic public docket, EPA's e-mail system automatically captures your e-mail address. E-mail addresses that are automatically captured by EPA's e-mail system are included as part of the comment that is placed in the official public docket, and made available in EPA's electronic public docket.

iii. Disk or CD ROM. You may submit comments on a disk or CD ROM that you mail to the mailing address identified in Section B.2. These electronic submissions will be accepted in WordPerfect or ASCII file format. Avoid the use of special characters and any form of encryption.

2. By Mail. Send an original and three copies of your comments to the Water Docket, Environmental Protection Agency, Mailcode: 4101T, 1200 Pennsylvania Ave., NW., Washington, DC, 20460, Attention Docket ID No OW-2004-0002.

3. By Hand Delivery or Courier. Deliver your comments to: Water Docket in the EPA Docket Center, (EPA/DC) EPA West, Room B102, 1301 Constitution Ave., NW., Washington, DC., Attention Docket ID No. OW-2004-0002. Such deliveries are only accepted during the Docket's normal hours of operation as identified in Section A.1.

#### *C. How Should I Submit CBI to the Agency?*

Do not submit information that you consider to be CBI electronically through EPA's electronic public docket or by e-mail. Send or deliver

information identified as CBI only to the following address: Office of Science and Technology, Mailcode 4303T, U.S. Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460, Attention Docket ID No. OW-2004-0002. You may claim information that you submit to EPA as CBI by marking any part or all of that information as CBI (if you submit CBI on disk or CD ROM, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is CBI). Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR Part 2.

In addition to one complete version of the comment that includes any information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket and EPA's electronic public docket. If you submit the copy that does not contain CBI on disk or CD ROM, mark the outside of the disk or CD ROM clearly that it does not contain CBI. Information not marked as CBI will be included in the public docket and EPA's electronic public docket without prior notice. If you have any questions about CBI or the procedures for claiming CBI, please consult the person identified in the **FOR FURTHER INFORMATION CONTACT** section.

#### *D. What Should I Consider as I Prepare My Comments for EPA?*

You may find the following suggestions helpful for preparing your comments:

1. Explain your views as clearly as possible.
2. Describe any assumptions that you used.
3. Provide any technical information and/or data you used that support your views.
4. If you estimate potential burden or costs, explain how you arrived at your estimate.
5. Provide specific examples to illustrate your concerns.
6. Offer alternatives.
7. Make sure to submit your comments by the comment period deadline identified.
8. To ensure proper receipt by EPA, identify the appropriate docket identification number in the subject line on the first page of your response. It would also be helpful if you provided the name, date, and **Federal Register** citation related to your comments.

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### I. Purpose of This Notice

This notice presents a summary of significant data EPA has received, collected, or developed since proposal and a discussion of how EPA is considering using these data in revised analyses supporting the final rule.

Section II of this notice discusses additional data about the environmental impacts associated with cooling water intake structures at facilities potentially subject to regulation under Phase III. This includes data obtained from the National Oceanic and Atmospheric Administration (NOAA), which characterize the nature and abundance of fish and shellfish in the vicinity of offshore oil and gas extraction facilities in the Gulf of Mexico potentially subject to regulation under Phase III. It also includes data extracted during EPA's review of additional cooling water intake structure impact studies relevant to Phase III.

This notice also discusses EPA's revision of certain elements of the proposed Phase III rule cost estimates and presents the revised costing information. This includes revisions to the Phase III cost development methodology (*i.e.*, cost-test tool) and the data inputs to this methodology, which are discussed in more detail in section III of today's notice.

For the proposed regulation, EPA conducted an economic analysis of four major categories of manufacturers potentially subject to regulation under Phase III: paper and allied products, chemical and allied products, petroleum and coal products, and primary metals. These manufacturing categories, combined with steam electric facilities, represent 99 percent of cooling water use by all existing facilities potentially subject to regulation under section 316(b). Therefore, all other existing manufacturing facilities were grouped together in "other industries." EPA has now revised its economic impact analysis for these "other industries," to better capture the food and kindred products sector, which represents the next largest user of cooling water among the "other industries." The updated technology modules, costs, and economic analyses, including these additional industrial categories, are not anticipated to significantly affect the proposed benefits analyses. However, EPA has made minor adjustments to the benefits analysis through use of the population matrix fish model discussed at proposal (69 FR 68510), which has been peer reviewed subsequent to

publication of the proposed rule. Data and adjustments to the economic impact and benefits analyses are discussed in sections IV and V of today's notice, respectively.

EPA solicits public comment on the information presented in this notice and the record supporting this notice.

### II. Environmental Impacts

For today's NODA, EPA analyzed additional data on the regions in which offshore oil and gas extraction facilities operate in order to better characterize the potential for entrainment of ichthyoplankton (planktonic egg and larval life stages of fish) by these facilities. Offshore oil and gas extraction facilities operate off the coasts of California and Alaska and in the Gulf of Mexico. Most activity takes place in the Gulf of Mexico region (see Phase III proposed TDD; DCN 7-0004, document ID OW-2004-0002-0027, pp. 3-130 to 3-148).

Because planktonic organisms have limited swimming ability, those present in offshore regions where oil and gas activities take place are at risk of entrainment by cooling water intake structures at offshore oil and gas facilities. EPA obtained data on densities of ichthyoplankton in the Gulf of Mexico from the Southeast Area Monitoring and Assessment Program (SEAMAP).<sup>1</sup> This long-term sampling program collects information on the density of fish larvae and eggs throughout the Gulf of Mexico.

EPA analyzed the SEAMAP data to determine average ichthyoplankton densities in the Gulf of Mexico for the available sampling period (1982-2003). Actual conditions at any one location and at any one time vary from this average. EPA's analysis of the SEAMAP data indicates that ichthyoplankton occur throughout the Gulf of Mexico. On average, densities are highest at sampling stations in the shallower regions of the Gulf of Mexico and lowest at sampling stations in the deepest regions. Average densities are greater than 450 organisms/100 m<sup>3</sup> at sampling stations in waters less than 50 meters deep. Average densities gradually decrease to 100 organisms/100 m<sup>3</sup> as sampling station depth-at-location increases to 150 meters. At stations in waters greater than 150 meters deep, densities are relatively uniform and fall

<sup>1</sup> Adam Rettig and Blaine Snyder, Tetra Tech, Inc. Memorandum to Ashley Allen, EPA. A summary of ichthyoplankton presence and abundance in the Gulf of Mexico, as part of an assessment of the potential for entrainment by offshore oil and gas facilities. DCN 8-5220. Document ID OW-2004-0002-951.

between 25 organisms/100 m<sup>3</sup> and 100 organisms/100 m<sup>3</sup>.

The wide range of ichthyoplankton densities seen in the offshore Gulf of Mexico region falls within the range of ichthyoplankton densities seen in freshwater and coastal water bodies in coastal and inland regions of the United States.<sup>2</sup> Over 600 different fish taxa were identified in the SEAMAP samples, including species of commercial and recreational utility. Spawning events occur at all times of the year in the Gulf of Mexico, with different species typically spawning at a time of year particular to that species.<sup>3</sup>

In the area surrounding offshore oil and gas extraction facilities off the California coast, the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program has gathered data on densities of ichthyoplankton and other organisms. According to the CalCOFI and other research programs, a number of fish and shellfish species, including species of commercial and recreational value, are known to live and spawn in this region.<sup>4</sup> EPA does not know of similarly extensive sampling programs for the Alaska offshore region. However, a number of fish and shellfish species, including species of commercial and recreational value, are known from various research programs to live and spawn in the offshore regions of Alaska where oil and gas activities currently take place or may take place in the future. The eggs and larvae of many species found in the offshore regions of California and Alaska are planktonic and could therefore also be vulnerable to entrainment by a facility's cooling water intake structure operating in these regions. Larger life stages (*e.g.* adults and juveniles) could be vulnerable to impingement. EPA believes these data indicate the potential for entrainment and impingement from cooling water intake structures at oil and gas facilities operating in offshore regions.

EPA also continued to collect impingement and entrainment studies from Phase II and Phase III facilities that indicated in their industry questionnaire that they had conducted such studies (see 69 FR 68458). Since

<sup>2</sup> A. L. Allen (EPA). Memorandum to EPA Docket OW-2004-0002. Information on Ichthyoplankton Densities in Various Aquatic Ecosystems in the United States. DCN 8-5240.

<sup>3</sup> Ditty, J.G. Seasonality and depth distribution of larval fishes in the northern Gulf of Mexico above latitude 26 (degrees) 00 (minutes) N. DCN 7-0013A03. Document ID OW-2004-0002-0174.

<sup>4</sup> A.L. Allen (EPA). Memorandum to EPA Docket OW-2004-0002. Information on Fish Species that Live and Spawn off the Coasts of Alaska and California in the Vicinity of Offshore Oil and Gas Production Areas. DCN 8-5260.

proposal, EPA has collected 12 additional studies containing data that can be used for the national environmental assessment.<sup>5</sup> (See the Regional Benefits Assessment for the Proposed Section 316(b) Rule for Phase III Facilities [EPA-821-R-04-017], p. A1-3 for a description of data needs and quality criteria for the environmental assessment.) Though EPA has not fully evaluated the data in these studies, the data from these studies appear to be consistent with data from previously collected studies.

### III. Engineering Costing Revisions

As described in the preamble for the Phase III proposed rule (69 FR 68498), EPA used a spreadsheet program called the "cost-test tool" to estimate engineering costs for model facilities. In contrast to Phase II, EPA does not have facility-level data for all potentially regulated facilities, and is therefore conducting the analysis using a model facility approach. Based on a series of data inputs, such as cooling system type, waterbody type, intake location, design intake flow (DIF), technology in-place, and through-screen velocity, the cost-test tool determines one of two possible performance expectations: (1) Impingement requirements only, or (2) both impingement and entrainment requirements.<sup>6</sup> The cost-test tool then determines a compliance response for each intake at a model facility and assigns one of 12 technology modules as the best-performing technology for that model intake. Cost estimates are derived through a series of computations that apply facility-specific data to the selected technology module. Cost outputs include capital costs, incremental operation and maintenance (O&M) costs, and installation downtime (in weeks) where appropriate (69 FR 68498). These model facility costs are then weighted and summed to provide national technology cost estimates for the proposal.

For today's NODA, EPA's analyses reflect updated data inputs to the cost-test tool. In a few cases, EPA has provided technical corrections to certain data inputs. EPA has revised the capital costs, the annual O&M costs, and any monitoring and study costs

correspondingly. Additionally, EPA conducted a sensitivity analysis using two different intake flow values to estimate engineering compliance costs.

Technical corrections to the cost-test tool and the results of the intake flow analyses are discussed below.<sup>7</sup> Costs were revised for 149 of the 155 facilities (weighted value) potentially subject to the Phase III regulations.<sup>8</sup> In aggregate, the national technology capital costs decreased by approximately 10% from the capital costs at proposal and O&M costs decreased by approximately 38%.

#### A. Corrections to Cost-Test Tool Data Inputs

Since the publication of the proposed rule, EPA reviewed elements of the survey database for Phase III facilities for technical accuracy. These data serve as model facility inputs to the cost-test tool. Today's NODA reports the outcome of this review. EPA found a few inconsistencies and checked them against the original data reported in a given facility's 316(b) survey. Most inconsistencies were identified in the following fields of the cost-test tool:

- Technology in-place (the current technology at the facility);
- Intake water depth and intake well depth;
- Through-screen velocity; and
- Design intake flow (DIF).

For technology in-place, intake water depth and intake well depth, and through-screen velocity, EPA corrected data inputs that were incorrectly interpreted for the cost-test tool in the proposed rule analysis. To do so, EPA reviewed 316(b) survey responses and written comments submitted with the survey to ensure that the correct parameters were identified and input into the cost-test tool. EPA also reviewed the facility-level data for DIF and found that some model facilities included emergency intake flows in their calculation of DIF. These facilities' costs were potentially overstated, and the costs were adjusted to remove emergency intakes and emergency intake flows. Some facilities also reported more than one technology in-place and also operate more than one intake, indicating that the facility has two distinct types of intake structure (e.g., a facility may have a shoreline intake and a submerged offshore intake). The costs for these "split" intakes are

now generated separately for each intake. The corrected values for DIF ("corrected DIF" or "revised DIF") were subsequently used in the cost tool to calculate facility costs.

Other corrections were made to the canal length for certain model facilities. Additionally, adjustments were made to model facilities to account for multiple intakes with unique characteristics, e.g., model facilities with intakes withdrawing from different waterbody types, model facilities with both shoreline and submerged intakes, and model facilities with intake velocities less than and greater than 0.5 foot per second (fps). These model facilities' costs were potentially overstated at proposal, as they included costs of technology modules for the model facilities' total flows rather than just those intakes needing technology modules.

EPA also reviewed the calculation of O&M costs for all scenarios and revised costs to ensure that all incremental variable O&M costs were based on the actual intake flow (AIF). For the proposal, EPA used AIF for some variable O&M costs and DIF for others. EPA previously noted that the AIF is, on average, less than half of the total DIF (69 FR 68460). EPA believes that using AIF for all cost modules is more appropriate for use in estimating technology O&M costs since the AIF will more accurately capture periods in which screens are not required to be operated as long or backwashed as frequently. Using the AIF more accurately reflects any incremental costs associated with reductions in power demand, wear on the system, and operator labor hours. Since AIF is on average less than half of the DIF, incremental O&M costs based on DIF tend to overstate costs.

EPA also revised the baseline O&M costs for existing technologies for all technology modules except modules 5 (fish barrier net) and 8 (add velocity cap). In doing so, EPA accounted for O&M costs currently borne by facilities to maintain any existing technologies, and only calculated the incremental baseline O&M costs for a new technology (as required by the rule). Modules 5 and 8 remain unchanged, as any existing technologies would likely remain in place after a new technology is installed as a result of the regulations. For all other modules, the existing technology would be removed and replaced by a new technology. In one additional case, EPA failed to account for a model facility's baseline O&M costs. In this case, EPA has now included the baseline O&M costs, and the model facility's costs were corrected

<sup>5</sup> "Summary Descriptions of Facilities with Impingement and Entrainment Studies Collected Since Proposal of the Section 316(b) Phase III Rule" provides a summary of these studies supplementing the Regional Benefits document DCN 8-5282. These 12 studies are also in the record for today's NODA.

<sup>6</sup> Input parameters for the cost-test tool are defined and discussed in the Proposed 316(b) Phase III Technical Development Document, Section 5 (DCN 7-0004). The decision tree used to apply technology cost modules is also detailed in the TDD.

<sup>7</sup> See Revisions for Phase III Compliance Cost Estimates (DCN 8-6600) for a detailed discussion.

<sup>8</sup> For the NODA, revisions were made to the capital costs, O&M costs, and downtime costs. Costs increased for some model facilities, and decreased for others. In some cases, only one of the three cost categories changed for a model facility, but in many cases, revisions were made in all three categories.

to reflect only the incremental O&M costs.

The corrections to the engineering costs also resulted in changes to some of the pilot study costs estimated for the Information Collection Request (ICR).

**B. Installation Downtime**

For the analysis supporting the proposal, installation downtime (the amount of time that a facility may need to shut down due to the installation of an impingement and/or entrainment technology) was estimated using EPA's Phase II modeling methodology (see Phase II Technical Development Document DCN 6-0004). This approach primarily presumes that the facility would need to shut down operations completely to retrofit an intake to either add a larger intake or relocate an intake

to be submerged offshore. Although this is true for most electric generators, manufacturing facilities may have greater flexibility regarding operation of various production operations and cooling water requirements.<sup>9</sup> Alternate electricity sources may be available or other intakes with sufficient excess capacity may be available for use during construction of a new intake technology. Therefore, EPA believes that the assumptions used for Phase II facilities may be overly conservative for Phase III model facilities and may tend to overestimate downtime potentially incurred by Phase III model facilities and the associated lost revenue.

Since the proposal, EPA has contacted several manufacturing facilities to verify the technology in-place, and has

collected additional vendor and consultant data to update the downtime estimates.<sup>10</sup> Based on this information, EPA corrected DIF values and revised cost module allocations for some model facilities, reduced downtime estimates by two weeks for technology modules 3, 4, 7, 12, and 14 (see exhibit 5-23 of the proposed Development Document DCN 6-0004), and considered each intake at those model facilities with multiple intakes separately. These activities resulted in significant reductions in the need for any downtime at some facilities, and reduced downtime estimates for others. The revised installation downtime estimates are presented below for the three regulatory options and compared with values presented at proposal.

**EXHIBIT III-1.—REVISED INSTALLATION DOWNTIME ESTIMATES**

| National Net Downtime Estimates (Weeks) |      |                             |      |             |      |
|---|------|-----------------------------|------|-------------|------|
| 50 MGD all                              |      | 100 MGD certain waterbodies |      | 200 MGD all |      |
| Proposal                                | NODA | Proposal                    | NODA | Proposal    | NODA |
| 104 .....                               | 55   | 16                          | 2    | 28          | 17   |

For Phase III model facilities with multiple intakes, downtime estimates remain at zero for those facilities with shoreline intakes that are not dedicated intakes, as discussed in the proposal. Using the approach presented in today's NODA, and applying the model facilities' weights to achieve a national estimate, downtime estimates would be reduced by 49 weeks, 14 weeks, and 11 weeks, respectively, for the three regulatory options (50 MGD-All, 100 MGD Certain Waterbodies, and 200 MGD-All, weighted values).

EPA is soliciting comments on this approach to calculating installation downtime for Phase III facilities. EPA presents the revised estimates of downtime costs in Section IV.B. Exhibit IV-4 of this notice.

**C. Use of Alternate Intake Flow Data to Estimate Costs**

For the proposed rule, EPA used the DIF to estimate all engineering compliance costs. The DIF is typically established prior to the design phase of construction and is estimated based on the maximum potential flow volume requirement for that facility. As stated previously, facilities rarely operate at flows close to the maximum DIF, and

several commenters on the Phase III proposal stated that this methodology may have overestimated costs for the Phase III rulemaking.

Several facilities commented that for older facilities, especially those that have implemented flow reduction measures, the plant's original DIF may be significantly higher than what is required under normal operations today. The costs developed for the proposed rule reflected the entire DIF as originally reported by the facility. EPA believes this may have resulted in overestimating flow for costing purposes. For example, EPA's costs should exclude technology retrofits to those structures where the intakes and/or pump houses have been permanently taken out of service. However, EPA is not able to identify all cases where a facility's reported DIF is significantly higher than the plant's current maximum intake flow or "MRIF." To assess the impact of using DIF in the cost analysis, EPA conducted a sensitivity analysis using the three different intake flow values: The DIF with the corrections noted above in Section III.A. ("corrected DIF"); the AIF; and the MRIF.<sup>11</sup> The AIF is calculated as the three-year average (1996-1998) of

intake flow volume reported on the 316(b) surveys. The MRIF is calculated as the three-year average (also 1996-1998) of the maximum reported daily intake flow reported on the 316(b) surveys.<sup>12</sup> Estimated engineering compliance costs for the three flow values are presented in Section IV.B, Exhibit IV-7 for each proposed option (50 MGD all, 200 MGD all, and 100 MGD certain waterbodies).<sup>13</sup>

As part of the sensitivity analysis, installation downtime estimates were also developed using the AIF and the MRIF values and are presented in Exhibit III-2.

**EXHIBIT III-2.—ESTIMATED NATIONAL INSTALLATION DOWNTIME USING ALTERNATIVE INTAKE FLOWS**

| Intake flow alternative | Net downtime (weeks) for NODA (weighted) |                             |             |
|-------------------------|--|-----------------------------|-------------|
|                         | 50 MGD all                               | 100 MGD certain waterbodies | 200 MGD all |
| Corrected DIF .....     | 55                                       | 2                           | 17          |
| AIF .....               | 54                                       | 2                           | 16          |
| MRIF .....              | 54                                       | 2                           | 16          |

<sup>9</sup>Id.

<sup>10</sup> See Downtime Duration Input and Analysis of Manufacturing Facilities (DCN 8-6601).

<sup>11</sup> See Revisions for Phase III Compliance Cost Estimates (DCN 8-6600) for a detailed discussion.

<sup>12</sup> Where MRIF values were not provided on the 316(b) survey, EPA imputed the values from the reported AIF.

<sup>13</sup> See DCNs 8-6608A, 8-6608B, and 8-6608C.

EPA acknowledges that using DIF to estimate engineering capital costs may overestimate costs for some facilities, but believes that DIF provides the best margin of safety for periods of peak flows and allows for growth of future operations. EPA also believes that using the AIF or MRIF flows as the design basis for capital costs is not appropriate since many manufacturing facilities have flow requirements that vary greatly over time. Using the AIF may result in technologies being substantially undersized during periods of peak flow requirements, thus limiting the proper function of the technology. For example, intake screens are sized based on an acceptable through-screen velocity; when the actual flow exceeds the AIF, the performance of the technology suffers and greater impingement and entrainment may result. EPA also reviewed survey data that showed the MRIF exceeding the DIF in some extreme cases; in these instances, a technology sized for the MRIF may not be adequately protective. For these reasons, EPA intends to use the corrected DIF values in developing engineering capital costs for the final rule. EPA solicits comments on this approach.

#### D. Consideration of Operating Time

Under the Phase II rule, facilities with a capacity utilization rate less than 15 percent are afforded reduced regulatory requirements, i.e., impingement mortality only regardless of waterbody type or DIF. Capacity utilization rate is defined as “the ratio between the average annual net generation of power by the facility (in Megawatt hours (MWh)) and the total net capability of the facility to generate power (in MW) multiplied by the number of hours during a year” (69 FR 41684). In the proposed rule for Phase III, EPA solicited comments on an analogous approach for manufacturing facilities (69 FR 68484). No comments were received that reflected a specific approach; however, several commenters noted that reductions in flow or sporadic intake use should be addressed in the final requirements. In today’s NODA, EPA is considering using a threshold of fewer than 60 days of operation for manufacturing facilities for reduced regulatory requirements.<sup>14</sup> The 60 day value was approximated as 15 percent of 365 days. For facilities with intakes operating fewer than 60 days per year, the intake would only be subject to impingement mortality

requirements similar to those requirements for a Phase II facility operating at less than 15 percent capacity utilization rate. EPA solicits comments on this approach.

#### IV. Economic Impact

In this section of today’s NODA, EPA first describes additional analyses that were undertaken for the “Other Industries,” which, as described at proposal, are industries in addition to the electric power industry and the Primary Manufacturing Industries that are potentially within the scope of the section 316(b) regulation. Second, EPA reviews an alternative concept for valuing the social cost of installation downtime. Third, EPA presents revised estimates of the social cost of compliance based on the revisions to the engineering cost analysis for regulatory compliance, as discussed in Section III, above.

##### A. Additional Analyses for the Other Industries

As described in the proposal, EPA framed its initial analysis and data-gathering for the proposed Phase III rule on the electric power industry (facilities with design intake flow of less than 50 MGD) and four manufacturing industries: Paper, Chemicals, Petroleum, and Primary Metals, (the “Primary Manufacturing Industries”). EPA focused on these industrial categories because they are cooling-water-intensive, and EPA therefore expected a substantial number of facilities in these categories would potentially be subject to the proposed regulation. Collectively, this target population was estimated to generate 99 percent of the cooling water in the nation (see 69 FR 68457). Because other industries contribute relatively little cooling water generation, EPA excluded them from the target population for purposes of data collection activities.

From a list of facilities in the target population, EPA selected a statistical sample to receive a questionnaire. Selecting facilities in this manner allows statistical inferences to be made about all eligible facilities in the target population, including those that did not respond or did not receive the questionnaire. When EPA received the responses, it found a few (22) questionnaires had been completed by facilities that were not part of the target population for the questionnaire. However, EPA determined that the 22 facilities may be subject to the rule because their operations include cooling water usage. For this reason, EPA retained the data and considered them on a facility-level basis in the impact

analysis of the proposed rule. EPA performed a less detailed assessment of the economic circumstances in terms of the industries’ ability to comply with the proposed Phase III regulation without material economic/financial impact. In its analysis at proposal, EPA found that none of the 22 facilities would be expected to incur an adverse economic impact from compliance with any of the proposed regulatory options. EPA proposed to extrapolate these findings to all “other” industries, because the associated (“other”) industries collectively contribute one percent or less of the cooling water usage, and therefore EPA believes there would be few, if any, additional potentially regulated facilities in the “other” industries. Comments on the proposal suggested that EPA should consider the impacts of the Other Industries, not just the facilities themselves.

Since the proposal, EPA has continued to investigate these facilities and the Other Industries more generally to increase its understanding of the potential impact of the 316(b) regulation on such industries. These efforts include:

1. A comparative analysis of cooling water use and compliance cost for the Other Industries and Primary Manufacturing Industries facilities. This analysis considered several normalized measures of cooling water use and compliance cost for facilities in the Other Industries and Primary Manufacturing Industries.<sup>15</sup>

2. Preparation of a detailed industry profile and assessment of business conditions and outlook for the Food and Kindred Products industry. EPA chose this industry for additional analysis because it submitted over half (12) of the 22 Other Industries questionnaires that EPA received and because it is the next largest user of cooling water, after the electric power industry and the Primary Manufacturing Industries, as reported in the Census of Manufacturers reports of cooling water usage.<sup>16</sup> None of the twelve facilities analyzed are expected to experience financial stress as a result of any of the proposed Phase III options.

3. Development of a basis for extrapolating results from the analysis of subset of the Food and Kindred Products industry facilities to the

<sup>15</sup> See Statistical Analysis of Other Industries and Primary Manufacturing Industries Facility Data, DCN 8–2502 and Evaluation of Similarities Between Intakes at Phase III Food and Kindred Products Facilities and Other Phase III Manufacturers; DCN8–6607.

<sup>16</sup> See Profile of Food and Kindred Products Industry (SIC 20), DCN 8–2500.

<sup>14</sup> Meadows, K. Memo to P. Shriner, EPA RE: Estimates of Operating Days for Phase III Facilities. DCN 8–6604.

broader population of facilities in the industry. In addition to preparing an economic profile for the Food and Kindred Products industry, EPA also sought to develop a method for extrapolating the findings from the analysis of the 12 individual Food and Kindred Products facilities to the broader population of facilities in the industry.<sup>17</sup> EPA considered an ex-post-stratification approach to develop sample weights for facilities in the industry, but EPA concluded that sufficient data were not available to develop reliable sample weights by this method. As an alternative, less rigorous approach, EPA also considered extrapolating facility results to the broader population based on the approximate fraction of total cooling water use in the Food and Kindred Products industry represented by the 12 facilities from which EPA received questionnaires. This analysis indicated that these facilities account for approximately 32 percent of estimated total cooling water usage in the Food and Kindred Products industry at the time of EPA's survey, which, in turn, would imply an extrapolation multiplier of 3.11. This concept of extrapolation assumes that compliance cost, facility counts, and other regulatory impact measures are directly proportional to cooling water usage, as represented by the 12 facilities, and thus can be scaled to the total Food and Kindred Products industry on this basis. Of these 12 Food and Kindred Products facilities, 3 reported design intake flow of at least 50 MGD, and thus could be subject to the Phase III regulation under the regulatory applicability thresholds as outlined at Proposal and carried forward to this NODA. The remaining 9 Food and Kindred Products facilities reported design intake flow of less than 50 MGD and thus would not be subject to the Phase III regulation, based on the regulatory applicability thresholds set forth in the proposed regulation. For the purposes of EPA's analyses for the Phase III regulation, the estimated extrapolation multiplier of 3.11 would thus apply only to those facilities with design intake flow of at least 50 MGD. Applying this extrapolation multiplier to the 3 Food and Kindred Products facilities with at least 50 MGD design intake flow, EPA estimates that approximately 9 to 10 facilities, total, in the Food and Kindred Products industry could potentially be within the scope of the Phase III regulation, based on the

lowest of the three regulatory applicability thresholds as presented for the proposed regulation. EPA seeks comment on usage of this extrapolation concept for estimating the industry-level impact of Phase III regulatory compliance for the Food and Kindred Products industry.

4. Further review of Other Industries facilities outside of the Food and Kindred Products industry. As described above, 12 of the 22 Other Industries facilities are within the Food and Kindred Products. The remaining 10 facilities lie in a broad range of industries, with five being in manufacturing industries and five in resource and agricultural (non-manufacturing) industries. Four of these remaining facilities have a DIF greater than 50 MGD, and are in the Fabricated Metal Products, Transportation Equipment, and Metal Mining industries.<sup>18</sup>

In the same way as described above for the Food and Kindred Products industry facilities, EPA considered extrapolating regulatory analysis findings for the non Food and Kindred Products facilities based on the fraction of estimated total cooling water usage represented by these facilities in their respective industries, and in the aggregate of the remaining industries not accounted for by the five Primary Manufacturing Industries or the Food and Kindred Products industry. This potential basis for extrapolation is limited to only those Other Industries facilities that are in Manufacturing sectors, because cooling water usage data were collected in the Economic Census only for manufacturing industries. Using the same concepts as described in the preceding paragraph, EPA calculated that cooling water usage in the five manufacturing sector Other Industries facilities represented from 0.7 percent to 13.8 percent of the estimated cooling water usage in the respective industries of each of these facilities. When the calculation is performed on an aggregate basis for all of the industries not accounted for by the five Primary Manufacturing Industries or the Food and Kindred Products industry, the resulting fraction of total cooling water usage accounted for by the five manufacturing sector Other Industries facilities is 1.5 percent. These relatively low estimated percentage coverages would indicate relatively high extrapolation multipliers, ranging from 7.2 to 149.0, for the individual

industries, and of 67.3 for the aggregate remaining industry comparison. Because the estimated fractions of cooling water usage covered by the five manufacturing sector Other Industries facilities, both by individual industry and in the aggregate, are low (0.7 to 13.8 percent), the implied statistical error in using this information as a basis for extrapolation to the remainder of the industries would be very high. Accordingly, EPA has considerably less confidence in using the information from the scant number of Other Industries facilities outside the Food and Kindred Products industry as a basis for extrapolating regulatory findings from the five manufacturing sector Other Industries to the industry level than is the case for the Food and Kindred Products industry, where the cooling water usage coverage is relatively high—32 percent. EPA seeks comment on the usage of this extrapolation concept for estimating the industry-level impact of Phase III regulatory compliance for Other Industries outside of the Food and Kindred Products industry.

EPA's analysis shows, with only one exception, that the values for Other Industries facilities fall within the distributions of values for the Primary Industries facilities. As a result, EPA continues to propose to include the Other Industries within the scope of the 316(b) Phase III regulation. EPA notes this general approach is appropriate for determining the national costs and economic impacts of the proposed regulations, and these results should not be used for facility-specific costing exercises.

#### *B. Alternative Approach to Valuing the Social Cost of Installation Downtime*

For the proposal (see Proposed Phase III Economic Analysis Appendix 2 to Chapter B3: Calculation of Installation Downtime Cost, DCN 7-0002), EPA calculated the cost of installation downtime for the manufacturers facility impact/private cost analysis, as the loss in pre-tax income, accounting for lost revenue, reduced variable production costs, and cost of replacement electricity, if any. However, as described in the proposal, the social cost of downtime is based on a different economic concept. Specifically, under the assumption that the total quantity of goods and services produced and sold by the affected industries would not change as a result of the regulation, the cost to society from installation downtime is the increase in cost for producing the goods and services that would otherwise have been produced by the affected facilities' except for the

<sup>17</sup> See Using Cooling Water Usage Data to Extrapolate Analysis Results for the 12 Food & Kindred Products Facilities to the Industry Level, DCN 8-2503.

<sup>18</sup> See Using Cooling Water Usage Data to Extrapolate Analysis Results for the 10 Other Industries' Facilities Not in Food & Kindred Products to the Industry Level, DCN 8-2558 for further information on these facilities.



occurrence of installation downtime. That is, other producers are assumed to replace the production of goods and services lost due to installation downtime, or even the affected facilities may produce these goods and services, but in a different time period. Either way, the cost to society is the amount, if any, by which the cost to produce these replacement goods and services exceeds the cost at which the affected facilities would have produced these goods and services if they were not to incur installation downtime due to the 316(b) regulation. Another possibility is that the quantity of goods and services produced would change, in which case social cost comparison must also account for lost consumer surplus. EPA believes it is reasonable to ignore this effect as long as the overall impacts (and any associated price changes) are small relative to the size of the affected sectors.

EPA is not able to estimate precisely what this additional cost is likely to be. Conceptually, the cost to society could vary over a broad range depending on the structure of, and character of competition in, the production of goods and services in the individual markets affected by the 316(b) Phase III regulation.

At the low end of this possible range, if the replacement goods and services can be provided by other producers (or by the affected facilities but at a different time) at the same variable production cost as otherwise would have been incurred by the affected 316(b) Phase III facilities, then the cost to society of installation downtime would be zero. Because the cost for alternative producers is the same as for the producers incurring downtime, society incurs no incremental resource cost when other producers provide the replacement goods and services. In this case, although the affected 316(b) Phase III facilities might incur a financial impact from installation downtime, this impact—the loss in pre-tax income described in the preceding section—becomes a transfer of income from the producers incurring installation downtime losses to the producers who make up the lost production.

At the high end of this possible range, the cost to society would be approximately equal to the pre-tax income loss incurred by facilities due to installation downtime. That is, the cost to society would again be the lost revenue from installation downtime less the variable cost of producing the goods and services not produced due to the installation downtime. In this case, the variable production cost for other producers to replace the lost goods and

services is assumed to be essentially the same as the price received for the sale of the goods and services not produced by the facilities incurring the installation downtime. This assumption is consistent with a competitive market model of increasing marginal production cost, such that the variable production cost of the marginal supplier of goods and services produced and sold in any period is approximately equal to the price received for those goods and services in the market.

EPA believes that this latter high-social-cost-valuation approach is reasonable for the analysis of installation downtime in the electric power industry. For electricity, this assumption is consistent with the electricity market concept that the variable production cost of the last generating unit to be dispatched is approximately the same as the price received for the last unit of production. However, for manufacturers, EPA believes that this latter approach may overstate the cost to society of installation downtime. The goods and services produced by facilities in the manufacturers segment are not necessarily produced and sold in as orderly markets as the markets for electricity. In addition, unlike electricity, the goods and services produced by Phase III manufacturers may be able to be produced at a different time than the time at which the goods and services would otherwise have been produced by the affected facilities. As a result of these differences in market and production characteristics, the cost of producing the replacement goods and services may be lower than the price at which the goods and services are sold, and as a result, the cost to society of downtime would be correspondingly lower. In the lower bound case, as outlined above, the replacement goods and services might be produced at the same cost as they would otherwise have been produced by the affected 316(b) facilities and, in this case, society would incur no cost from downtime.

The likely reality is that the cost to society from installation downtime lies somewhere between these cases. At the time of the proposal, lacking specific knowledge of the overall production cost structure of the affected industries and for the numerous goods and services provided by the affected industries, to be conservative in its analysis, EPA adopted the higher end assumption for its analysis of the social cost of downtime for the manufacturers segment, but explained that the resulting value likely overstates social cost. For example, 12 percent of Phase

III facilities (manufacturers with a loss of goods produced) incurred average downtime costs of \$10,650 per MGD of design intake flow (see Technical Development Document for the Proposed 316(b) Phase III Rule, page 5–41; DCN 7–0004). In comparison, 18 percent of Phase II facilities (i.e. electric generators) incurred average downtime costs of \$882 per MGD of design intake flow. Actual downtime costs (in dollars) vary for each individual facility; see the proposed Economic Analysis for more information.

For this NODA, EPA has calculated the social cost of installation downtime both according to the conservative, higher end assumption (as presented in the proposal) and according to the lower bound case, in which the social cost of downtime is zero. As stated above, EPA is not able to know with certainty where the social cost of downtime will actually fall along this scale but believes these two cases provide a reasonable upper and lower bound of the social cost of downtime. EPA seeks comment on which of these approaches to valuing the social cost of installation downtime best reflects the national social cost of installation downtime for the proposed rule.

### *C. Estimated Social Cost of Compliance Based on Revised Engineering Cost Analysis*

EPA calculated new social cost estimates for the direct cost of compliance using costs based on the three different intake flow values—the corrected DIF, the AIF, and the MRIF—and reflecting the other revisions to the engineering cost analysis as described in Section III, above. For this analysis, EPA used the same methodology as described in the proposal, but brought all costs forward to mid-2004\$ using the Implicit Price Deflator for Gross Domestic Product or another appropriate index to adjust costs to the year of interest. For the analysis of social costs, EPA used two discount rates, 3% and 7%, to discount all costs to the beginning of 2007, the date at which the rule is assumed to become effective. EPA assumed that all regulated facilities would achieve compliance between 2010 and 2014, and estimated the time profile of compliance and related costs over 30 years from the year of compliance for each complying facility. The last year for which costs were tallied is 2043. The basis for these projections can be found in Chapter B1 of the Economic Analysis for the Proposed Section 316(b) Rule for Phase III Facilities (DCN 7–0002). For this NODA, EPA did not estimate costs incurred by governments for



administering the regulation as these costs are not expected to differ materially from those presented at proposal.

Below, EPA presents these revised social cost estimates of the direct cost of compliance to facilities, based on the three threshold options in the proposed Phase III rule: (1) Design intake flow of at least 50 MGD, any source waterbody type ("50 MGD ALL"), (2) design intake flow of at least 200 MGD any source waterbody type ("200 MGD ALL"), and (3) design intake flow of at least 100 MGD, from an ocean, estuary, tidal river, or Great Lake ("100 MGD Certain Waterbodies"). The first set of exhibits and discussion bring forward to mid-year 2004\$ the costs based on DIF as known at proposal and compare these values to the cost estimates based on the

corrected DIF, which reflect the corrections and adjustment made to the DIF since proposal, as described in Section III. C, above. These cost estimates reflect the upper bound valuation of downtime, as presented at proposal. In the second section, EPA presents the alternative cost estimates for the corrected DIF values using the lower bound valuation of downtime, as described in Section IV.B, above. The third section presents costs using the alternative intake flow concepts as the basis for determining regulatory applicability—Maximum Reported Intake Flow (MRIF) and Average Intake Flow (AIF). Finally, EPA presents a summary comparison of the cost estimates under the original and corrected DIF and alternative intake flow concepts, and for the upper and

alternative, lower bound estimate of the social cost of downtime.

**Adjusting Proposal Cost Estimates to 2004 Dollars and Applying DIF Corrections**

Exhibits IV-3 and IV-4 summarize the changes in the cost estimates from proposal, based first, on bringing the cost values forward from mid-year 2003 to mid-year 2004, and second, on the corrections to DIF, as described at Section III. C, above. As shown in Exhibit IV-3, the proposal cost estimates were brought forward to mid-year 2004 using the Implicit Price Deflator for Gross Domestic Product. This adjustment resulted in a uniform increase of 2.6% (rounded) to each component of social cost and to total social cost.

**EXHIBIT IV-3.—ANNUALIZED TOTAL SOCIAL COSTS OF COMPLIANCE FOR ALL OPTIONS AS PRESENTED AT PROPOSAL BROUGHT FORWARD TO 2004\$**

[In millions]

| Cost component                            | In 2003\$        |                  | In 2004\$        |                  |
|---|------------------|------------------|------------------|------------------|
|   | 3% discount rate | 7% discount rate | 3% discount rate | 7% discount rate |
| <b>50 MGD All Option</b>                  |                  |                  |                  |                  |
| Pilot Study .....                         | \$0.3            | \$0.4            | \$0.3            | \$0.4            |
| Initial Permitting .....                  | 2.7              | 3.7              | 2.7              | 3.8              |
| Downtime .....                            | 14.3             | 18.6             | 14.6             | 19.1             |
| Capital Cost .....                        | 14.1             | 13.9             | 14.5             | 14.2             |
| O&M .....                                 | 8.0              | 6.7              | 8.2              | 6.9              |
| Repermitting .....                        | 3.1              | 2.5              | 3.2              | 2.6              |
| Monitoring .....                          | 4.4              | 3.7              | 4.5              | 3.8              |
| <b>Total Social Cost .....</b>            | <b>46.8</b>      | <b>49.5</b>      | <b>48.0</b>      | <b>50.8</b>      |
| <b>200 MGD All Option</b>                 |                  |                  |                  |                  |
| Pilot Study .....                         | 0.1              | 0.2              | 0.1              | 0.2              |
| Initial Permitting .....                  | 0.5              | 0.7              | 0.6              | 0.8              |
| Downtime .....                            | 7.4              | 9.9              | 7.6              | 10.1             |
| Capital Cost .....                        | 7.9              | 7.7              | 8.1              | 7.9              |
| O&M .....                                 | 4.9              | 4.1              | 5.1              | 4.2              |
| Repermitting .....                        | 0.6              | 0.5              | 0.6              | 0.5              |
| Monitoring .....                          | 1.1              | 0.9              | 1.1              | 0.9              |
| <b>Total Social Cost .....</b>            | <b>22.6</b>      | <b>24.0</b>      | <b>23.2</b>      | <b>24.6</b>      |
| <b>100 MGD Certain Waterbodies Option</b> |                  |                  |                  |                  |
| Pilot Study .....                         | 0.2              | 0.3              | 0.2              | 0.3              |
| Initial Permitting .....                  | 0.8              | 1.1              | 0.9              | 1.2              |
| Downtime .....                            | 4.3              | 5.6              | 4.4              | 5.8              |
| Capital Cost .....                        | 7.1              | 6.9              | 7.3              | 7.0              |
| O&M .....                                 | 2.9              | 2.4              | 3.0              | 2.5              |
| Repermitting .....                        | 0.9              | 0.8              | 0.9              | 0.8              |
| Monitoring .....                          | 1.3              | 1.1              | 1.3              | 1.1              |
| <b>Total Social Cost .....</b>            | <b>17.5</b>      | <b>18.1</b>      | <b>17.9</b>      | <b>18.6</b>      |

**Note:** Prices adjusted to 2004\$ using the Implicit Price Deflator for Gross Domestic Product. See DCN 8-2521.

As described above, EPA corrected the DIF for certain facilities and revised the estimates of compliance costs based

on these corrected DIF values. Exhibit IV-4, below, compares the total annualized social costs of the three

proposed options under the DIF as known at proposal to the new costs based on the corrected DIF. For the 50

MGD All Option, total social costs decline from \$48.0 million to \$36.7 million under the 3% rate, and from \$50.8 to \$37.5 million at the 7% rate. The 200 MGD All Option's total social costs decrease from \$23.2 million to \$18.1 million at the 3% rate, and from

\$24.6 million to \$18.8 million at the 7% rate. Total social costs under the 100 MGD Certain Waterbodies Option fall from \$17.9 million to \$13.7 million at the 3% rate, and from \$18.6 to \$13.3 million at the 7% rate. EPA notes that due to the smaller number of facilities

potentially regulated under the 200 MGD All and the 100 MGD Certain Waterbodies options, changes in costs for any one model facility are more likely to result in large changes in the total national costs.

EXHIBIT IV-4.—COMPARISON OF ANNUALIZED SOCIAL COSTS OF COMPLIANCE USING DIF AS KNOWN AT PROPOSAL AND USING CORRECTED DIF  
[In millions, mid-2004\$]

| Cost component                            | In 2003\$        |                  | In 2004\$        |                  |
|---|------------------|------------------|------------------|------------------|
|   | 3% discount rate | 7% discount rate | 3% discount rate | 7% discount rate |
| <b>50 MGD All Option</b>                  |                  |                  |                  |                  |
| Pilot Study .....                         | \$0.3            | \$0.4            | \$0.3            | \$0.4            |
| Initial Permitting .....                  | 2.7              | 3.8              | 3.2              | 4.5              |
| Downtime .....                            | 14.6             | 19.1             | 5.9              | 7.9              |
| Capital Cost .....                        | 14.5             | 14.2             | 13.1             | 12.9             |
| O&M .....                                 | 8.2              | 6.9              | 5.1              | 4.3              |
| Repermitting .....                        | 3.2              | 2.6              | 3.8              | 3.1              |
| Monitoring .....                          | 4.5              | 3.8              | 5.3              | 4.5              |
| <b>Total Social Cost .....</b>            | <b>48.0</b>      | <b>50.8</b>      | <b>36.7</b>      | <b>37.5</b>      |
| <b>200 MGD All Option</b>                 |                  |                  |                  |                  |
| Pilot Study .....                         | 0.1              | 0.2              | 0.1              | 0.2              |
| Initial Permitting .....                  | 0.6              | 0.8              | 0.7              | 0.9              |
| Downtime .....                            | 7.6              | 10.1             | 4.3              | 5.9              |
| Capital Cost .....                        | 8.1              | 7.9              | 8.1              | 7.9              |
| O&M .....                                 | 5.1              | 4.2              | 2.8              | 2.3              |
| Repermitting .....                        | 0.6              | 0.5              | 0.8              | 0.6              |
| Monitoring .....                          | 1.1              | 0.9              | 1.4              | 1.1              |
| <b>Total Social Cost .....</b>            | <b>23.2</b>      | <b>24.6</b>      | <b>18.1</b>      | <b>18.8</b>      |
| <b>100 MGD Certain Waterbodies Option</b> |                  |                  |                  |                  |
| Pilot Study .....                         | 0.2              | 0.3              | 0.2              | 0.2              |
| Initial Permitting .....                  | 0.9              | 1.2              | 1.0              | 1.3              |
| Downtime .....                            | 4.4              | 5.8              | 0.0              | 0.0              |
| Capital Cost .....                        | 7.3              | 7.0              | 8.3              | 8.1              |
| O&M .....                                 | 3.0              | 2.5              | 1.7              | 1.4              |
| Repermitting .....                        | 0.9              | 0.8              | 1.1              | 0.9              |
| Monitoring .....                          | 1.3              | 1.1              | 1.5              | 1.3              |
| <b>Total Social Cost .....</b>            | <b>17.9</b>      | <b>18.6</b>      | <b>13.7</b>      | <b>13.3</b>      |

Compliance Costs Based on Upper and Lower Bound Valuation of Installation Downtime and Using Corrected DIF Values

As described at Section IV.B, EPA also developed social cost estimates based on an alternative concept of downtime valuation. Exhibit IV-5 compares the estimates of social cost using the corrected DIF values under the

original, upper bound downtime valuation concept and the alternative, lower bound valuation concept. For this comparison, all components of cost except downtime cost are unchanged between the two cases, and, as described, for the alternative, lower bound valuation concept, the estimated downtime cost is simply set to zero. As shown in Exhibit IV-5, the total social cost values decline by 16 percent (3%

discount rate) and 21 percent (7% discount rate) under the 50 MGD All Option and by 24 percent (3% discount rate) and 31 percent (7% discount rate) under the 200 MGD All Option. Because no facilities are expected to incur downtime costs under the 100 MGD Certain Waterbodies Option, the estimated social costs are the same under both the upper and lower bound downtime valuation cases.

EXHIBIT IV-5.—ANNUALIZED SOCIAL COST OF COMPLIANCE USING CORRECTED DIF AT UPPER AND LOWER BOUND ESTIMATES OF DOWNTIME

[In millions, mid-2004\$]

| Regulatory Option                 | Upper valuation of downtime |                  | Lower valuation of downtime |                  |
|-----------------------------------|-----------------------------|------------------|-----------------------------|------------------|
|                                   | 3% discount rate            | 7% discount rate | 3% discount rate            | 7% discount rate |
| 50 MGD All .....                  | \$36.7                      | \$37.5           | \$30.7                      | \$29.6           |
| 200 MGD All .....                 | 18.1                        | 18.8             | 13.7                        | 13.0             |
| 100 MGD Certain Waterbodies ..... | 13.7                        | 13.3             | 13.7                        | 13.3             |

Comparison of Alternative Intake Flow Concepts as Basis for Determining Regulatory Applicability

EPA also estimated social costs using the two alternative intake flow concepts for determining regulatory applicability—Maximum Reported Intake Flow (MRIF) and Average Intake Flow (AIF). Exhibit IV-6 presents the social costs under these alternative flow concepts for each option, using the upper bound downtime valuation concept, as described at proposal. Costs are lower under both of the alternative intake flow approaches than under the DIF approach. Costs decrease by a greater amount (relative to the corrected

DIF values) under the AIF approach than under the MRIF approach. As discussed at proposal, these costs assume all facilities would comply with the regulations by installing the single best-performing technology module, which does not necessarily reflect the most cost-effective compliance alternative (69 FR 68499).

Overall, the costs for the 50 MGD All Option decrease, at the 3 percent rate, from \$36.7 million under the corrected DIF, to \$33.5 million (MRIF basis) and to \$32.0 million (AIF basis). At the 7 percent rate, total costs decline from \$37.5 million under the corrected DIF to \$34.2 million (MRIF), and to \$32.7 million (AIF). Under the 200 MGD All

Option, costs decline, at the 3 percent rate, from \$18.1 million under the corrected DIF to \$16.5 million (MRIF), and to \$15.4 million (AIF). At the 7 percent rate, costs decline from \$18.8 million under the corrected DIF to \$17.1 million (MRIF) and to \$16.1 million (AIF). Under the 100 MGD Certain Waterbodies Option, at the 3 percent discount rate, total social costs decline from \$13.7 million under the corrected DIF to \$11.7 million (MRIF) and to \$10.6 million (AIF). At the 7 percent discount rate, costs decline from \$13.3 million under the corrected DIF to \$11.3 million (MRIF), and to \$10.2 million (AIF).

EXHIBIT IV-6.—ANNUALIZED SOCIAL COST OF COMPLIANCE UNDER MRIF AND AIF BASES FOR DETERMINING REGULATORY APPLICABILITY, UPPER BOUND DOWNTIME VALUATION

[In millions, mid-2004\$]

| Cost Component                            | MRIF             |                  | AIF              |                  |
|---|------------------|------------------|------------------|------------------|
|   | 3% discount rate | 7% discount rate | 3% discount rate | 7% discount rate |
| <b>50 MGD All Option</b>                  |                  |                  |                  |                  |
| Pilot Study .....                         | \$0.2            | \$0.2            | \$0.2            | \$0.2            |
| Initial Permitting .....                  | 3.2              | 4.5              | 3.2              | 4.5              |
| Downtime .....                            | 5.4              | 7.2              | 5.4              | 7.2              |
| Capital Cost .....                        | 11.0             | 10.8             | 9.6              | 9.4              |
| O&M .....                                 | 4.7              | 3.9              | 4.5              | 3.8              |
| Repermitting .....                        | 3.8              | 3.1              | 3.8              | 3.1              |
| Monitoring .....                          | 5.3              | 4.5              | 5.3              | 4.5              |
| Total Social Cost .....                   | 33.5             | 34.2             | 32.0             | 32.7             |
| <b>200 MGD All Option</b>                 |                  |                  |                  |                  |
| Pilot Study .....                         | 0.1              | 0.1              | 0.1              | 0.1              |
| Initial Permitting .....                  | 0.7              | 0.9              | 0.7              | 0.9              |
| Downtime .....                            | 3.8              | 5.1              | 3.8              | 5.1              |
| Capital Cost .....                        | 7.3              | 7.1              | 6.4              | 6.2              |
| O&M .....                                 | 2.5              | 2.1              | 2.3              | 2.0              |
| Repermitting .....                        | 0.8              | 0.6              | 0.8              | 0.6              |
| Monitoring .....                          | 1.4              | 1.1              | 1.4              | 1.1              |
| Total Social Cost .....                   | 16.5             | 17.1             | 15.4             | 6.1              |
| <b>100 Certain MGD Waterbodies Option</b> |                  |                  |                  |                  |
| Pilot Study .....                         | 0.1              | 0.1              | 0.1              | 0.1              |
| Initial Permitting .....                  | 1.0              | 1.3              | 1.0              | 1.3              |
| Downtime .....                            | 0.0              | 0.0              | 0.0              | 0.0              |
| Capital Cost .....                        | 6.8              | 6.6              | 5.7              | 5.5              |
| O&M .....                                 | 1.4              | 1.2              | 1.3              | 1.1              |

EXHIBIT IV-6.—ANNUALIZED SOCIAL COST OF COMPLIANCE UNDER MRIF AND AIF BASES FOR DETERMINING REGULATORY APPLICABILITY, UPPER BOUND DOWNTIME VALUATION—Continued

[In millions, mid-2004\$]

| Cost Component          | MRIF             |                  | AIF              |                  |
|-------------------------|------------------|------------------|------------------|------------------|
|                         | 3% discount rate | 7% discount rate | 3% discount rate | 7% discount rate |
| Repermitting .....      | 1.1              | 0.9              | 1.1              | 0.9              |
| Monitoring .....        | 1.5              | 1.3              | 1.5              | 1.3              |
| Total Social Cost ..... | 11.7             | 11.3             | 10.6             | 10.2             |

Summary of Social Costs Over Regulatory Options, Alternative Intake Flow Concepts, and Alternative Installation Downtime Valuations

regulatory and analytic configurations as outlined in the preceding discussion.

Exhibit IV-7, below, summarizes social costs according to the various

EXHIBIT IV-7.—ANNUALIZED SOCIAL COSTS OVER REGULATORY OPTIONS, ALTERNATIVE INTAKE FLOW CONCEPTS, AND ALTERNATIVE INSTALLATION DOWNTIME VALUATIONS

[In millions, mid-2004\$]

| Regulatory option   | Discount rate (percent) | Proposed rule | Corrected DIF | MRIF | AIF  |
|---|-------------------------|---------------|---------------|------|------|
| Upper Bound Downtime Valuation Concept, as Presented at Proposal: |                         |               |               |      |      |
| 50 MGD All Option .....   | 3                       | 48.0          | 36.7          | 33.5 | 32.0 |
|   | 7                       | 50.8          | 37.5          | 34.2 | 32.0 |
| 200 MGD All Option .....  | 3                       | 23.2          | 18.1          | 16.5 | 15.4 |
|   | 7                       | 24.6          | 18.8          | 17.1 | 16.1 |
| 100 MGD Certain Waterbodies Option .....                          | 3                       | 17.9          | 13.7          | 11.7 | 10.6 |
|   | 7                       | 18.6          | 13.3          | 11.3 | 10.2 |
| Alternative, Lower Bound Downtime Valuation Concept:              |                         |               |               |      |      |
| 50 MGD All Option .....   | 3                       | 33.4          | 30.7          | 28.1 | 26.6 |
|   | 7                       | 31.7          | 29.6          | 28.1 | 25.5 |
| 200 MGD All Option .....  | 3                       | 15.7          | 13.7          | 12.7 | 11.6 |
|   | 7                       | 14.5          | 13.0          | 11.9 | 10.9 |
| 100 MGD Certain Waterbodies Option .....                          | 3                       | 13.5          | 13.7          | 11.7 | 10.6 |
|   | 7                       | 12.8          | 13.3          | 11.3 | 10.2 |

D. Additional Regulatory Costs to 316(b) Facilities

EPA's after-tax cash flow (ATCF) adjustment analysis brings the estimates of cash flow forward from the time of the 316(b) facility survey (years 1996-1998) to the time of the regulatory analysis (2003). The ATCF analysis does account implicitly for additional regulatory costs incurred through 2003. However, the ATCF adjustment analysis does not capture the impact of new regulations that came into effect during this period and for which costs had not yet been incurred, or fully incurred, by 2003. The EPA is aware of other environmental regulations that were recently or soon to be promulgated, potentially imposing additional costs beyond those reflected in the survey financial statements. Prior to determining the final compliance costs for the 316(b) Phase III regulations, EPA

will review EPA's Unified Agenda for EPA regulatory actions that may affect Phase III regulated facilities during the time horizon of the analysis. EPA does not have cost information to provide at this time; however, EPA intends to review regulatory actions not captured in the proposed rule ATCF adjustment analysis, and then consider whether estimation of model facility costs for these regulations might be warranted for the Phase III final regulation analysis. EPA intends to include these evaluations as supplemental economic analyses in the final record.

V. Benefits

In today's NODA, EPA is making several minor corrections to its analysis of national benefits. The meta-analysis used for the proposal to estimate recreational fishing benefits was revised

in response to peer review comments.<sup>19</sup> These corrections help to better characterize the summary level data generated by the analysis and are discussed below. In addition, a revised commercial fishing benefits approach that uses both revenue and cost data that are region and species specific, and also accounts for the effect of region and species specific fishery management regimes on the potential benefits is discussed. EPA also examined a modeling approach that considers the effects of population-level dynamics in estimating the impact of impingement mortality and entrainment.

A. Recreational Benefits

In this NODA, EPA is documenting a few minor changes to the meta-analysis

<sup>19</sup> A.L. Allen (EPA). Memorandum to EPA Docket OW-2004-0002. Materials for Peer Review of the Population Projection Matrix Model. DCN 8-5200.

methodology used to estimate recreational fishing benefits.<sup>20</sup> Meta regressions are designed to statistically summarize the relationship between benefit measures and a set of characteristics compiled from multiple primary study sources. The changes, which were made in response to peer reviewers' comments, all relate to the way the explanatory variables are defined in the meta-analysis equation that allows EPA to estimate the recreational benefits.

The first change made to the specification of the meta-model was to combine the trout\_west, trout\_east, and trout\_other variables into a new variable, trout\_nonGL. This variable represents all species of trout caught outside of the Great Lakes region. This change was made to address concerns about the limited number of observations within each of the three initial variables, particularly trout\_other. The estimated coefficients on these fish type variables may reflect more than influences of trout\_other on the calculation of willingness-to-pay dollar values, and may inadvertently capture other study-specific influences not fully modeled, such as study geography. The new variable, trout\_nonGL, now includes 49 observations. This increased number of observations is expected to decrease

overall sensitivity of the model to any single data point.

EPA also changed the meta-model by revising the specification of the trips and age variables using categorical (dummy) variables. Age and trips are now represented by two dummy variables each: age42\_down, age43\_up, trips19\_down, and trips20\_up. For example, age42\_down is a binary variable indicating that the mean age of sample respondents in a particular study was less than 43 years. This means that the variable is one if the mean age of the sample respondents is less than 43 and zero if the mean sample age was greater than or equal to 43, or was not reported. The variable p age43\_up is a binary variable indicating that the mean age of sample respondents was 43 or greater. This means that the variable is one if the mean age of the sample respondents is 43 or greater and zero if the mean sample age was less than 43, or was not reported. The default case captures studies in which mean age was not reported. Similar logic applies to the trips variables. Because age and trips were not reported by all studies, EPA believes that this is a more appropriate and transparent means of representing these variables. These new dummy variables are interpreted as the additional impact on willingness-to-pay values associated with studies that reported age (or trips)

that fall in the four defined categories, compared to the default of when age (or trips) data are not reported. The values at which the two sets of dummy variables were divided (43 and 20, for age and trips, respectively) were chosen because they occur approximately halfway through the range of age and trips values observed in the meta-data.

The final change that EPA made to the meta-model was to drop the gender variable. EPA chose to eliminate this variable because, after the model modifications discussed above, all categorical (dummy) variable specifications of the gender variable were not statistically significantly different. Other model results were not affected by this omission.

The following Exhibit IV-8 presents the marginal recreational values per fish used in the proposed rule analysis and the values calculated based on the revised meta-model. Most of the revised marginal per fish values are 10% to 50% lower than the values used in the proposed rule analysis. The greatest decrease in per fish values occurred in the California region. The revised values for the California region are, however, more consistent with the values estimated for other regions. The revised marginal values for freshwater bass and panfish in the Great Lakes region are 3% (panfish) to 19% (bass) higher.

EXHIBIT IV-8.—MARGINAL RECREATIONAL VALUE PER FISH, BY REGION AND SPECIES  
[Mid-2004\$]

| Marginal Recreational Value per Fish, by Region and Species (June 2004\$) <sup>a</sup> |            |                |              |                |                |             |        |
|--|------------|----------------|--------------|----------------|----------------|-------------|--------|
| Species  | California | North Atlantic | Mid-Atlantic | South Atlantic | Gulf of Mexico | Great Lakes | Inland |
| <b>Marginal Recreational Value per Fish Used in the Proposed Rule Analysis:</b>        |            |                |              |                |                |             |        |
| Small game <sup>b</sup> .....  | \$12.98    | \$7.89         | \$7.09       | \$5.83         | \$5.49         | .....       | \$7.62 |
| Flatfish .....   | 16.12      | 8.32           | 7.14         | 6.03           | .....          | .....       | .....  |
| Other saltwater <sup>c</sup> .....   | 4.67       | 4.34           | 3.85         | 3.19           | 2.97           | .....       | .....  |
| Salmon .....   | .....      | .....          | .....        | .....          | .....          | \$11.56     | .....  |
| Trout .....  | .....      | .....          | .....        | .....          | .....          | 8.25        | 2.88   |
| Walleye/pike .....   | .....      | .....          | .....        | .....          | .....          | 4.73        | 5.32   |
| Bass .....   | .....      | .....          | .....        | .....          | .....          | 6.09        | 7.19   |
| Panfish .....  | .....      | .....          | .....        | .....          | .....          | 1.09        | 1.00   |
| <b>Revised Marginal Recreational Value per Fish:</b>                                   |            |                |              |                |                |             |        |
| Small game <sup>b</sup> .....  | 6.14       | 5.03           | 4.99         | 4.84           | 4.76           | .....       | 4.53   |
| Flatfish .....   | 8.25       | 5.04           | 4.75         | 4.75           | .....          | .....       | .....  |
| Other saltwater <sup>c</sup> .....   | 2.50       | 2.52           | 2.47         | 2.41           | 2.34           | .....       | .....  |
| Salmon .....   | .....      | .....          | .....        | .....          | .....          | \$11.23     | .....  |
| Trout .....  | .....      | .....          | .....        | .....          | .....          | 7.98        | 2.40   |
| Walleye/pike .....   | .....      | .....          | .....        | .....          | .....          | 3.48        | 3.47   |
| Bass .....   | .....      | .....          | .....        | .....          | .....          | 7.24        | 7.62   |

<sup>20</sup> See Recreational Fishing Analysis for the 316(b) Regulation for Phase III Facilities (DCN 8-4601).

EXHIBIT IV-8.—MARGINAL RECREATIONAL VALUE PER FISH, BY REGION AND SPECIES—Continued  
[Mid-2004\$]

| Marginal Recreational Value per Fish, by Region and Species (June 2004\$) <sup>a</sup> |            |                |              |                |                |             |        |
|--|------------|----------------|--------------|----------------|----------------|-------------|--------|
| Species  | California | North Atlantic | Mid-Atlantic | South Atlantic | Gulf of Mexico | Great Lakes | Inland |
| Panfish .....  | .....      | .....          | .....        | .....          | .....          | 1.13        | 0.90   |

<sup>a</sup> Marginal values per fish are presented only for species in regions in which they are affected by one of the regulatory options evaluated for the proposed rule.

<sup>b</sup> Other saltwater species include bottom fish and other miscellaneous species

<sup>c</sup> Anadromous species such as striped bass and American shad can be found in freshwater coastal rivers as well as in saltwater.

EPA estimates the recreational welfare gain from the proposed regulation by multiplying the marginal value per fish by the additional number of fish caught by recreational anglers that would have been impinged or entrained in the absence of the regulation. Whether the total value of recreational fishing benefits of the final 316b rule will be revised downward or upward will depend on the estimated reduction in impingement and entrainment attributed to the 316(b) regulation for Phase III facilities and species affected by impingement and entrainment.

#### B. Commercial Fishing Benefits

EPA is considering a revision to its methodology for estimating the commercial fishing-related benefits to society from the 316(b) Phase III regulation. Whereas the previous analysis for the Phase II regulation and the Phase III proposed regulation relied on region- and species-specific revenue data, those analyses did not use region-specific harvesting cost data and also did not account for the effect of region- and species-specific fishery management regimes on expected societal benefits. The revised approach uses both revenue and cost data that are region- and species-specific, and also accounts for the effect of region- and species-specific fishery management regimes on the potential benefits. In addition, the data underlying the revised analysis are also considerably more recent than the data used in the previous analyses.

The analysis develops estimates of societal net benefits derived from increased commercial fishing harvest resulting from reduced impingement and entrainment of marine aquatic species. For this analysis, the Agency retained the proposed assumption that the 316(b) regulations will not affect the commercial catch landing price, but will affect the quantity of fish harvested at that price. As a result, the analysis continues to focus on the increase in producer surplus as the measure of societal benefit in the commercial fishing sector. Net benefits are assessed

as the product of an estimated net benefits ratio for each species and region-specific fishery, multiplied by the gross revenue from increased commercial fishing harvest. The analysis utilizes the most recent available variable cost, landings and ex-vessel price data collected by the regional offices of NOAA's National Marine Fisheries Service (NOAA Fisheries).<sup>21</sup> The data and the methodology used in this analysis are the same as those used by NOAA Fisheries to assess the effect of new or amended fishery regulations on the U.S. commercial fishing industry and the U.S. economy. EPA solicits comment on the use of these data in the revised commercial fishing benefits analysis.

Today's NODA provides results of this revised approach for the North and Mid Atlantic regions. The decrease in fishermen's costs produces an increase in social welfare with monetized regional values that range from zero to \$9,418 (\$2002, undiscounted) depending on the species of interest. The complete analysis is described in more detail in the memo, "Revised Assessment of Commercial Fishery Benefits for 316(b) Regulations; The North and Mid Atlantic Regions" (DCN 8-4918). EPA solicits comment on the use of this revised approach for all regions for which NOAA Fisheries data are available.

#### C. Impingement and Entrainment

EPA is using an age-structured matrix population model to examine the potential population-level consequences of impingement mortality and entrainment of individual organisms. EPA refers to the model as the Population Projection Matrix (PPM) model. A matrix population model uses stage-specific rates of survival and reproduction, combined with the number of individuals in each stage, to estimate changes in population size over time.<sup>22</sup> The model considers the effects

of certain population-level dynamics (i.e., density-dependent survival and reproduction) that are not directly considered in EPA's other modeling efforts.

For those species and populations for which sufficient data are available, EPA is first using the PPM model to represent a species' population under current conditions (i.e., without implementation of the regulatory options proposed in this rulemaking effort). The model uses the same species and stage-specific rates of survival used for EPA's modeling efforts presented as part of the proposed rule (see DCNs 2-0016 to 2-0024), as well as reproductive rates estimated by a calibration procedure based on the intrinsic growth rate of the population size.<sup>23</sup> By reference to historical harvest rates for the population and facility-provided impingement and entrainment loss records, the model partitions total mortality for the population into three sources of mortality: Natural mortality, fishing mortality, and mortality due to impingement and entrainment. Density-dependent survival in a single life stage is modeled as a linear function of population abundance, with the carrying capacity of the population set so that the equilibrium harvest level predicted by the model under baseline conditions matches the average historic harvest level for the population. The model does not strictly specify the life stage in which density dependent survival occurs, but instead allows users to designate one life stage as being subject to density dependent survival. EPA will consider available information on density dependent survival dynamics when making this designation so as to identify biologically realistic model scenarios.<sup>24</sup>

<sup>23</sup> Myers, R.A., K.G. Bowen, and N.J. Barrowman. 1999. Maximum reproduction rate of fish at low population sizes. *Canadian Journal of Fisheries and Aquatic Sciences* 56:2004-2419 (DCN OW-2002-0004-1793).

<sup>24</sup> See Section 4 in Newbold, S. and R. Iovanna. 2005. Population-level Impacts on Fish of Cooling Water Intake Withdrawals. Report prepared for the 316(b) Scientific and Economic Review panel.

<sup>21</sup> See DCNs 8-4800 to 8-4906.

<sup>22</sup> See Caswell, H. 1989. *Matrix Population Models: Construction, Analysis, and Interpretation*. Sinauer Associates, Inc., Sunderland, MA.

EPA is then using the PPM model to evaluate the potential impacts of regulatory options described in the proposed rule. To do this, EPA adjusts the life stage-specific rates of impingement and entrainment mortality to reflect the estimated effectiveness of a given regulatory option. EPA then compares the model's estimates with and without implementation of a given regulatory option to estimate the option's impact on population abundance.

Given the limited number of species populations for which sufficient data is available to implement the PPM model, EPA foresees using the model as a supplement to, rather than as a replacement for, the modeling efforts described in the proposal. Some preliminary results from use of the PPM model are described in Section 4 of DCN 8-5201. EPA has also conducted a peer review of the model.<sup>25</sup> EPA solicits comment on the use of the PPM model for the final rule. EPA also solicits submission of data that may be used to implement the model.

Dated: November 18, 2005.

**Benjamin H. Grumbles,**

*Assistant Administrator for Water.*

[FR Doc. 05-23276 Filed 11-23-05; 8:45 am]

BILLING CODE 6560-50-U

## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 52

[R05-OAR-2005-IN-0007; FRL-7999-4]

#### Approval and Promulgation of Implementation Plan; Indiana

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule.

**SUMMARY:** EPA is proposing to approve Indiana's April 8, 2005, submittal which revises existing sulfur dioxide (SO<sub>2</sub>) emission limits for sources in Dearborn County. On April 8, 2005, Indiana submitted its final rule as published in the Indiana Register. Indiana held public hearings on the submittal on May 5, 2004 and October 6, 2004. Indiana is requesting that EPA approve the revisions to Indiana's SO<sub>2</sub> rule for Dearborn County, which removes obsolete rule language and updates information for sources listed in the rule. These revisions will not result in

National Center for Environmental Economics, U.S. EPA, Washington, DC. DCN 8-5201.

<sup>25</sup> A.L. Allen (EPA). Memorandum to EPA Docket OW-2004-0002. Materials for Peer Review of the Population Projection Matrix Model. DCN 8-5200.

an increase in SO<sub>2</sub> emissions in Dearborn County because no emission limits were increased.

In the final rules section of this **Federal Register**, EPA is approving the SIP revision as a direct final rule without prior proposal, because EPA views this as a noncontroversial revision and anticipates no adverse comments. A detailed rationale for the approval is set forth in the direct final rule. If we do not receive any adverse comments in response to these direct final and proposed rules, we do not contemplate taking any further action in relation to this proposed rule. If EPA receives adverse comments, we will withdraw the direct final rule and will respond to all public comments in a subsequent final rule based on this proposed rule. EPA will not institute a second comment period on this action. Any parties interested in commenting on this action should do so at this time.

**DATES:** Written comments must be received on or before December 27, 2005.

**ADDRESSES:** Submit comments, identified by Regional Material in EDocket (RME) ID No. R05-OAR-2005-IN-0007 by one of the following methods:

*Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the on-line instructions for submitting comments.

*Agency Web site:* <http://docket.epa.gov/rmepub/>.

RME, EPA's electronic public docket and comment system, is EPA's preferred method for receiving comments. Once in the system, select "quick search," then key in the appropriate RME Docket identification number. Follow the online instructions for submitting comments.

*E-mail:* [mooney.john@epa.gov](mailto:mooney.john@epa.gov).

*Fax:* (312) 886-5824.

*Mail:* You may send written comments to: John M. Mooney, Chief, Criteria Pollutant Section, Air Programs Branch (AR-18J), U.S. Environmental Protection Agency, 77 West Jackson Boulevard, Chicago, Illinois 60604.

*Hand delivery:* Deliver your comments to: John M. Mooney, Chief, Criteria Pollutant Section, Air Programs Branch (AR-18J), U.S. Environmental Protection Agency, Region 5, 77 West Jackson Boulevard, 18th floor, Chicago, Illinois 60604. Such deliveries are only accepted during the Regional Office's normal hours of operation. The Regional Office's official hours of business are Monday through Friday, 8:30 a.m. to 4:30 p.m. excluding Federal holidays.

*Instructions:* Direct your comments to RME ID No. R05-OAR-2005-IN-0007. EPA's policy is that all comments

received will be included in the public docket without change, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through RME, [regulations.gov](http://regulations.gov), or e-mail. The EPA RME Web site and the Federal [regulations.gov](http://regulations.gov) Web site are "anonymous access" systems, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through RME or [regulations.gov](http://regulations.gov), your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For additional instructions on submitting comments, go to section I(B) of the **SUPPLEMENTARY INFORMATION** section of this document.

*Docket:* All documents in the electronic docket are listed in the RME index at <http://www.epa.gov/rmepub/>. Although listed in the index, some information is not publicly available, *i.e.*, CBI or other information whose disclosure is restricted by statute. Publicly available docket materials are available either electronically in RME or in hard copy at Environmental Protection Agency, Region 5, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604. (Please telephone Charles Hatten at (312) 886-6031 before visiting the Region 5 Office.)

**FOR FURTHER INFORMATION CONTACT:** Charles Hatten, Environmental Engineer, Criteria Pollutant Section, Air Programs Branch (AR-18J), USEPA, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604, (312) 886-6031. [Hatten.Charles@epa.gov](mailto:Hatten.Charles@epa.gov).

#### **SUPPLEMENTARY INFORMATION:**

##### I. General Information.

A. Does This Action Apply to Me?

B. What Should I Consider as I Prepare My Comments for EPA?

##### II. What Action Is EPA Taking Today?