

US EPA ARCHIVE DOCUMENT

## DECLARATION OF JAMES A. HANLON

I, James A. Hanlon, declare that the following statements are true and correct to the best of my knowledge, information, and belief, and are based on my personal knowledge and information supplied to me by employees of the United States Environmental Protection Agency (EPA or Agency) under my supervision.

### INTRODUCTION

1. I am James A. Hanlon, Director of the Office of Wastewater Management in EPA's Office of Water. I have served as the Office Director since April of 2002. As the Director of the Office of Wastewater Management (OWM), I direct the EPA Office responsible for national program direction to the National Pollutant Discharge Elimination System (NPDES) permit program, including oversight of authorized State and Territorial NPDES programs. OWM has oversight responsibilities and provides technical assistance supporting EPA regional water programs. OWM also administers federal financial and technical assistance for publicly owned treatment works (e.g., municipal sewage collection systems and treatment plants). I supervise a staff of approximately 112 permanent full-time and part-time federal employees. OWM's annual program (operating) budget for fiscal year 2005 is approximately 26 million dollars (\$26,000,000).

2. Prior to my current position, I served as the Deputy Office Director of the Office of Science and Technology (OST) in EPA's Office of Water beginning in 1991. OST is responsible for the scientific and technical basis for federal water quality and safe drinking water programs, including establishment of national effluent limitations guidelines and analytical test methods. OST also provides scientific and technical

support to other Offices with program implementation responsibilities within the Office of Water, including OWM, the Office of Wetlands, Oceans, and Watersheds (OWOW), and the Office of Ground Water and Drinking Water. I have worked for EPA for more than 33 years. I received a Bachelor of Science degree in Civil Engineering from the University of Illinois and a Masters of Business Administration degree from the University of Chicago. I am a registered Professional Engineer in the State of Illinois.

3. I have read the Court's Order of March 30, 2005, in Northwest Environmental Advocates, et al. v. EPA, C 03-05730 SI (N.D. Ca.), and have discussed the Order with EPA counsel. I understand that the Plaintiffs challenged both the EPA regulation at 40 C.F.R. 122.3(a), which excludes ballast water from NPDES permitting, and EPA's denial of a petition (dated January 13, 1999) to repeal the regulation as applied to ballast water. As a remedy in this litigation, I understand that (1) the Plaintiffs have proposed that the Court vacate the regulation excluding ballast water effective at a future date certain, and that the timing for vacatur would depend on the content of a notice that the Court requires EPA to submit to the Court within three months of an Order of Judgment, and (2) that the Intervenor-States have proposed that the Court order EPA to establish "interim" and final regulatory controls on ballast water discharge by future dates certain and, presumably, to repeal the exclusion regulation applied to ballast water (although the date by which EPA would be ordered to repeal the regulation applicable to ballast water is not clear from the Intervenor-States' proposal).

4. For the reasons set out in this Declaration, I believe that the proposed vacatur of the NPDES regulation that excludes vessel ballast water from NPDES permitting requirements would cause significant disruption to EPA and the non-federal

governments authorized to administer the NPDES permitting program. EPA would need more time than the time proposed by the Plaintiffs or Intervenor-States to develop, propose, and take final action to issue a single individual NPDES permit, much less NPDES general permits, permit application regulations, and/or national effluent limitations guidelines and standards, for ballast water discharges that would be consistent with and satisfy Clean Water Act requirements.

#### ANTICIPATED INFLUX OF REQUESTS FOR NPDES PERMITS PRIOR TO VACATUR

5. If the Court were to vacate the NPDES exclusion regulation at 40 C.F.R. 122.3(a) as applied to ballast water, I believe that the existence of significant numbers of unpermitted discharges from vessels (equipped with ballast tanks) would necessarily result in significant disruption for EPA (and the authorized NPDES permitting agencies in 45 States and the U.S. Virgin Islands that issue NPDES permits). Given the legal risks associated with discharging without a permit, I would predict that operators of the vessels with ballast water discharges would seek to obtain NPDES permit authorization if the Court were to vacate (or order a delayed vacatur) as soon as possible after any learning that the Court had done so.

6. The sheer number of vessels requesting permit authorization would be significant. The federal government estimates that, in U.S. maritime commerce, between 6,000 and 7,600 cargo vessels (foreign and domestic) entering U.S. waters from outside the Exclusive Economic Zones (EEZs) of the United States and Canada make approximately 55,000 port calls in U.S. ports each year. I understand that, under Coast Guard ballast water reporting requirements, thousands of additional vessels (with ballast tanks, but within the EEZ) are required to report their ballast water management

practices. I understand that even more vessels with ballast tanks are not currently required to provide such reports. The federal government does not yet have verifiable estimates of regarding the numbers of such additional vessels in these latter two categories. If the Court were to vacate the NPDES exclusion applied to ballast water, the NPDES permit authorization to discharge for each vessel would need to be consistent with all applicable Clean Water Act requirements. These requirements might necessitate site-specific considerations related to the water quality standards in the receiving waters at the location of each such discharge and, potentially, the locations (many of which may be foreign) where ballast water was taken on board.

#### EXISTING WORKLOAD FOR EPA AND NPDES PERMITTING AGENCIES

7. Administration of the existing NPDES permitting program requires commitment and expenditure of significant resources. The universe of point sources requiring NPDES permits to discharge includes individual and general permittees. Nationally, approximately 50,000 facilities are authorized to discharge under individual permits and another 50,000 facilities are authorized under general permits for non-storm water discharges. In general, this universe of non-storm water permittees remained more or less stable between the inception of the NPDES Program in 1972 and the 1987 CWA amendments establishing NPDES permit requirements for storm water discharges. EPA's 1990 and 1999 actions to promulgate the NPDES regulations for storm water substantially expanded the universe of point sources subject to NPDES permit requirements. Today, approximately 7,000 municipalities (approximately 1000 in 1990 and another 6000 in 1999) require NPDES permit authorization for discharges from municipal separate storm sewers; 270 of these need individual permits.

Approximately 100,000 industrial storm water point sources need permit authorization.

Approximately 400,000 point sources of storm water associated with construction activity require permit authorization. While most of the latter storm water discharges are authorized under general permits, more people, resources, and expertise are now required to effectively manage the NPDES Program than ever before.

8. State governments have not matched the increased NPDES permitting work load with an increase in State environmental budgets. States have indicated that their environmental budgets have either been static or in decline for many years. In December 2002, the National Academy of Public Administrators confirmed an analysis by State environmental administrators demonstrating a budget shortfall in 2001 of between seven to nine hundred million dollars (\$700,000,000 - \$900,000,000) for implementation of State CWA programs. *Understanding What States Need to Protect Water Quality*, Report by a Panel of the National Academy of Public Administrators for the U.S. Environmental Protection Agency (2002). States generally have even fewer resources today. At the federal level, available resources for NPDES oversight activities have declined as well. In addition to increased numbers of unpermitted point sources, other factors have increased pressure on NPDES permitting authorities: (1) more sophisticated legal challenges to entire programs and permits from the public, environmental groups, and industry; (2) increasing complexity of certain types of permits stemming from more sophisticated water quality-based regulatory requirements; (3) high employee attrition rates in NPDES permitting staff, particularly state employees; (4) declining federal grant funding that has historically augmented the operating budgets of state permitting agencies.

9. To develop an NPDES permit, whether an individual permit or a general permit, the permit writer needs certain information regarding the content of the discharge and the availability of technologies to reduce pollutants in the discharge. In addition, NPDES permits must contain more stringent limits when necessary to meet water quality standards, thus requiring the information about the location of the receiving waters where the discharges are to occur.

#### **PAST EPA EXPERIENCE IN PROMULGATION OF NATIONAL EFFLUENT LIMITATIONS GUIDELINES AND STANDARDS**

10. I am aware of Intervenor-States' suggestion that, in the past, EPA acted within a relatively short space of time to issue national effluent limitations guidelines and standards in the mid-1970s. In the early to mid-1970s, shortly after enactment of the CWA, the Agency began work to develop regulations for a wide variety of industrial point source discharge categories, with discharges and industrial processes ranging from simple to complex, with treated discharges ranging from low threat to high (or unknown) threat. The particular categories and subcategories of national effluent limitations guidelines and standards cited by the Intervenor-States do not represent the more complex of the regulations that EPA was developing at the time. More importantly, however, the references to EPA's effluent guidelines rulemakings 30 years ago does not reflect the level of effort that would be necessary in 2005, especially given the intervening 30 years of judicial precedent, Executive Orders, subsequently enacted statutory requirements applicable to federal rulemaking, and Agency interpretations; nor do the references reflect the inherent complexity in developing for the first time a workable permitting scheme for mobile and highly variable sources such as vessels.

Thus, the date ranges for proposal and promulgation cited by the Intervenor-States (and Plaintiffs) do not reflect the time necessary to develop the administrative record to support those regulations. As a result of developing effluent guidelines for 56 point source categories and responding to the ensuing legal challenges filed by the regulated community and other interested parties, EPA has now accumulated the substantial expertise necessary to promulgate defensible regulations establishing effluent limitations guidelines and standards. Based on that expertise, I anticipate that any effluent limitations guideline for vessel ballast water will take considerably longer than the fixed schedules proposed by Plaintiffs and Intervenor-States. Indeed, since 1987, even Congress contemplates that the rulemaking process for national effluent limitations guidelines regulation will take three years when it enacted CWA section 304(m)(1)(C).

11. The development of legally defensible effluent guidelines, new source performance standards, and pretreatment standards is an extremely complex process that requires the preparation of detailed engineering, economic and environmental analyses. Effluent guidelines and standards are “technology-based,” which means EPA must assess not only the pollutants involved, but also the processes that generate the pollutants and the processes (including technology) used to control or reduce the pollutants discharged. To do this, EPA studies the industry to evaluate factors such as production methods, location and type of operations, size and age of facilities, and waste constituents. This study involves an evaluation of how these factors affect raw waste loads and an evaluation of the characteristics of raw and treated effluent, including sources and volumes of wastes. The Agency then determines the waste

constituents that should be considered for control and identifies both actual and potential pollution control and treatment technologies that can be applied in the industry. The Agency compiles and evaluates both historical and newly generated data on the performance and operational limitations of these technologies and considers their non-water quality environmental impacts, such as impacts on air quality, solid waste generation and disposal, and energy requirements. As the CWA requires, the Agency also estimates capital, operating and annualized costs associated with each control, pollution prevention, and treatment alternative. The Agency then assesses the economic impacts of compliance for each regulatory option considered. Using this information, the Agency proposes regulations covering the industry, receives public comment on the proposal, and ultimately, when appropriate, promulgates the effluent guidelines and standards in final form.

12. In EPA's experience, there are a variety of steps necessary to develop, propose, and promulgate national effluent guidelines and standards; each step requires time. Some of the steps overlap; the Agency undertakes these activities concurrently wherever possible in order to minimize the time needed to complete such a rule. Innumerable issues or problems may arise during the regulatory development process, thus extending estimated time periods considerably. The development steps typically include: initial data review; defining the category and number of affected facilities; survey questionnaire; discharge sampling and analysis; treatment technology evaluation; economic achievability analysis; environmental assessment; preparation and publication of a proposed rule; and public review of proposal and development of the final action.

13. Initial Data Review. EPA begins the preparation of effluent guidelines by surveying readily available technical and economic data applicable to the industrial point sources to be regulated. This data gathering effort is designed to obtain the most current data available on an industry, in order to define and provide an initial understanding of the industry category and to develop a comprehensive survey questionnaire. These existing sources of data also may be used later in the rulemaking process to corroborate and verify the facility-specific and company-specific data that will be submitted by industry in response to the survey questionnaire. The technical data collected as part of the initial data review includes information on the products manufactured or the services provided by the industry, the manufacturing processes or service operations employed, the industry's wastewater management practices or treatment technologies, the industry's environmental context, and the "pollutants" it discharges.

14. At the initial data review step, EPA begins to evaluate the "pollutants of concern" that might be regulated under any resulting national effluent limitations guidelines regulations. As the regulation process continues, EPA continues that evaluation and may re-evaluate preliminary working assumptions. For example, EPA may find, after evaluating the performance of particular treatment technologies, that removal of one pollutant incidentally – but effectively – removes one or more additional pollutants. In such cases, EPA may identify an "indicator pollutant" that acts as a surrogate measure for pollutants incidentally removed. EPA recognizes that ballast water may contain suspended solids, heavy metals, organic matter, paint chips, and corrosion residues, all of which would be "pollutants" under the CWA. EPA has never

formally taken a position, however, as to whether and under what circumstances the broad category of aquatic organisms, or the narrower category of invasive species, are “pollutants” under the Clean Water Act.

15. The economic information collected includes, among other things, financial data such as plant operating and capital costs, revenues, assets, liabilities and debt, and information about market conditions in the industry. To obtain available technical and economic data, the Agency evaluates a variety of sources, including Agency studies, the rulemaking records for existing effluent guidelines covering related industries, data from the Agency’s CWA permitting programs, data from other EPA programs and from other Federal agencies and States, secondary data sources such as commercial computer database services, and reviews of literature such as water pollution control journals and industry-specific technical journals. Two months to six months or more may be necessary to obtain the information for this step of the process depending on the complexity of the process under evaluation. The Agency constantly updates and refines the secondary data as the project progresses.

16. One example of secondary data that would be reviewed would be the ongoing assessment by the U.S. Coast Guard of the state of development of ballast water treatment technologies. Relevant information might include the availability of systems designed to be operated onboard ships, the scope and rigor of testing by developers to evaluate the engineering performance of systems, the natural conditions or operational factors that might affect technology performance, and how these systems may be utilized by the shipping industry.

17. Defining the Category and Number of Affected Facilities. After obtaining sufficient information on the industry from the initial data review, the Agency has defined the industry category and developed a preliminary estimate of the number of facilities that would be covered by the guideline. If a category is very large or diverse, which EPA staff estimate would be the case for vessels with ballast water tanks, the Agency would determine whether the industrial point source category should be subdivided into smaller subcategories that better reflect certain characteristics. The definition of the category and the number of similar facilities within that category or subcategory are critical to the design of the subsequent data collection steps. Given the diversity of regulatory categories, no single source suffices to determine the number of facilities potentially affected. For some industries, the Agency is able to define appropriate categories and subcategories through the use of readily available classification systems, such as the Standard Industrial Classification (SIC) Manual or the North American Industrial Classification System. In such a case, or in the case of a small industry, this step may take one or two months. For larger and more complicated industries, six months or more might be required to establish a category definition and reliable count of potentially affected facilities. At various times for past rulemakings, EPA has used one or more of the following sources: standard published sources, information available through trade associations, data purchased from the Dun and Bradstreet, Inc. database, other publicly available databases, census data, and other U.S. government information. The relevance of such customary information sources for domestic and foreign vessels is unclear.

18. Defining the category (and, if necessary, subcategories) and determining the number of affected facilities for a ballast water effluent guideline would likely entail identifying the number and types of vessels discharging ballast water, the nature of their ballast tanks, equipment, and ballasting practices and obtaining extensive information about the ports where ballast water is discharged, and where ballast water would have been taken on board.

19. The Coast Guard has compiled a substantial amount of information that would be useful in this endeavor. However, substantial data gaps remain. The Coast Guard has focused on collecting information about vessels entering U.S. waters after operating beyond the Exclusive Economic Zones of the United States or Canada, but EPA would also need to assemble data on domestic voyages that transfer water from one U.S. port to another as ballast water is discharged. Details about port operations and land availability would also be needed, because one future possibility might be that vessels would transfer ballast water to shore for treatment. A ballast water effluent guideline ideally would consider options for establishing controls on such land-based treatment of ballast water.

20. Survey Questionnaire. Survey questionnaires solicit detailed information specific to individual facilities that is used to assess the statutory rulemaking factors, particularly technological and economic achievability of available controls, water use, production processes, and wastewater treatment sludge disposal practices. To develop a useful survey questionnaire, EPA typically selects the methodology it would use for estimating the costs of installing or upgrading pollution control equipment and for financial and economic analyses, and defines the data it would need to conduct these

studies. The necessary data typically include, among other things, information about products, production levels, processes and unit operations at the facility; the source and flow rate of the facility's water supply; the design, capacity, and operation of the treatment system; the types, amounts, and composition of wastes generated by the facility and associated costs of waste disposal; and detailed economic and financial data, such as market information and statements of revenues, expenses, assets, and liabilities. The selection of the appropriate analysis methodology and definition of necessary data generally takes from one to three months, depending on the complexity of the industry.

21. Using the data from the initial data review, the Agency would then design a survey questionnaire and pre-test it on several facilities to verify that the questionnaire is clear and yields usable responses. If the industry to be surveyed would include a large number of facilities or its waste streams are unusually complex, a two-stage survey might be necessary. In the first stage, the Agency would use a "screener" survey to all or part of the industry to identify appropriate facilities for detailed survey analysis. The second stage would consist of sending a much more detailed survey questionnaire to these selected facilities. Whether a single-stage or two-stage survey would be used, the Agency's statisticians would design a scientifically valid plan for selecting the facilities to be surveyed. The design and pre-testing of the questionnaire and the development of the facility selection plan and a data management plan typically takes from four to six months.

22. If the survey questionnaire is expected to go to ten or more entities, the Paperwork Reduction Act (PRA) requires clearance from the Office of Management and

Budget (OMB). EPA is required by PRA regulations to publish a notice in the Federal Register inviting public comment on the draft questionnaire, which is an “information collection” under the PRA. EPA has provided a 60-day comment period for comments on this draft questionnaire and supporting statement. EPA makes revisions to the questionnaire and supporting statement as appropriate based on the comments. This step may take between three and six months, depending on the complexity and number of issues presented by the draft information collection.

23. After EPA makes appropriate revisions to the questionnaire and supporting statement, the Agency submits the revised information collection to OMB for review and clearance. At the same time, EPA publishes a second notice in the Federal Register to solicit public comments. The comments are submitted to OMB. OMB then reviews the questionnaire over a 60-day period and determines whether to approve it. If OMB provides EPA with extensive comments on the questionnaire, the Agency may need to re-submit it for review after making appropriate changes. If EPA conducts a two-part survey, with a “screener” survey followed by detailed questionnaire, the need for separate PRA approvals may double the time required. Based on past experience, the time required for development and approval of questionnaires is about a year.

24. EPA typically has allowed facilities at least 60 days to complete and return the survey. The Agency believes this is the minimum time required for most effluent guidelines surveys because the questionnaires are complex; typically they are 50 pages or more in length and require the attention of several knowledgeable persons at each responding facility. The Agency may grant additional time on a facility-by-facility basis if the survey is unusually difficult to complete. During this period, EPA would verify that

the desired facilities have received the surveys and provide assistance in completing them. Although the Agency makes every effort to secure return of the questionnaires within the normal 60 day period, experience has shown that responses can take much longer.

25. When the survey questionnaires are returned, EPA reviews them for completeness and accuracy and enters the survey data into the computer database used to develop the various analyses supporting the guidelines project. The data entry step is a considerable task that must be performed according to stringent quality assurance procedures. Much of the data collected by the surveys are quantitative; however, some questions seek qualitative responses in narrative form. Thus data entry may be slowed by the need to interpret the information as submitted by the respondent and to reconcile discrepancies. This data entry step takes up to three months. Finally, after data entry, the Agency carefully checks the database by statistical methods to identify possible errors for follow up and correction. This typically takes at least two months.

26. Based on the foregoing, the overall time necessary for the development and administration of the survey questionnaires and for entry and quality control of the resulting data is at least eighteen months, and can extend up to thirty months, depending on the size and complexity of the category being regulated.

27. Discharge Sampling and Analysis. Discharge sampling at the facility and laboratory analysis of the samples collected is necessary to identify the pollutants that are present in the industrial waste stream under consideration, as well as to evaluate control technologies. Historical permit compliance monitoring data (if available) and the

data from the survey questionnaire can provide some information about the pollutants found in the industry's wastewater; however, these data may be insufficient by themselves to evaluate treatment technology performance and develop legally defensible effluent limitations.

28. The Agency usually conducts some on-site sampling and analysis during the development and administration of the survey questionnaire. In general, however, most sampling is conducted after review of the survey data in order to identify, for later sampling in a statistically valid fashion, the facilities with the most effective treatment technology and the facilities that represent the full range of products and processes in the various categories and subcategories of the industry.

29. Because it is impractical and unnecessary to sample all facilities within a category, EPA normally collects effluent samples from a representative group of facilities. These facilities are chosen by statistical procedures so that a range of manufacturing processes, wastewater treatment systems, and effluents are sampled. In the past, the development of a sampling plan has taken about three months because of the many industry characteristics that are taken into account to ensure a representative sampling of facilities and treatment technologies. In addition, before beginning full scale sampling, the Agency typically conducts pre-sampling site visits to assess pollutant control technology, to ensure that the chosen facilities are appropriate examples for sampling, and to plan the logistics of sampling at the site (e.g., determine appropriate locations in the facility to draw samples, and select and provide for all necessary sampling equipment). Depending on the number of visits that are necessary

to conduct an adequate technology assessment for the industry, this step takes about three to four months.

30. Historically, the scheduling of site visits has varied depending on a number of factors. First, sampling is generally conducted by contractors selected by the strict standards of the government contracting process. The logistics of coordinating the sampling have been extensive. Second, the success of site visits depends on the presence of knowledgeable facility personnel to answer pertinent questions and to assist the sampling team in various ways. Third, site visits are useful only if the facility is operating under "normal" conditions; therefore, visits must be scheduled to avoid "down time" periods for maintenance or other interruptions. Finally, scheduling of a site visit may depend on facility production schedules, if the facility produces numerous products or changes its product mix as part of a production cycle. With highly mobile sources like foreign and domestic vessels, arranging and conducting such site visits would seem likely to be especially complex.

31. Once scheduled, sampling visits to individual facilities take from three days to a week. The Agency's experience has shown the importance of having Agency employees who are working on the project participate personally in the on-site sampling, in order to supervise the sampling technicians and ensure that proper sampling techniques are being used. EPA usually allows at least a week between sampling visits to permit sampling personnel to write up reports and perform other tasks that are essential to the progress of the project. Previous guideline projects have usually involved at least ten sampling visits each lasting approximately a week, thus

requiring about five to six months to collect all of the samples. More sampling may be required for industries with diverse types of facilities and wastes.

32. As samples are collected, they are sent to laboratories for analysis.

Contracts with the laboratories establish a time frame for completing analyses, but also generally set a maximum number of analyses per month. Prior to releasing the sample results to the project staff, EPA's Sample Control Center reviews and validates the laboratory analytical data, documenting the results of the review and noting any limitations associated with the quality of the data. Consequently, while the Agency generally assumes it will receive the analytical results 60 days after sampling, the actual response time in the past frequently has exceeded 90 days. Analytical response times can also be lengthened if the samples require re-analysis to confirm first round results. This may be necessary, for example, if the sample contains a large number of pollutants or if unexpected results are obtained.

33. Recent Example: Data Collection for Certain Cruise Ships in Alaska. A recent (and ongoing) EPA effort to determine the appropriateness of current statutory effluent limitations for certain large cruise ships in Alaska provides an example of a combined data collection approach. Special legislation enacted in 2000 established regulatory requirements (not NPDES permits) for the release of black water (sewage) and gray water (galley, dishwater, bath, and laundry waste water) from large cruise ships in certain Alaskan waters. OST provides scientific and technical support to OWOW, which, because of its focus on ocean programs, manages EPA implementation of the legislation. The EPA Administrator directed staff to develop options for the appropriateness determinations described above in January 2002.

During a four month period in the summer of 2004, EPA inspected and collected samples of treated effluent from a representative number of cruise ships, i.e., four of the 30 operating in Alaska waters that summer. Prior to the on-site visits, EPA developed a sampling protocol over a seven month period to ensure that the data gathered would be representative, comprehensive, and reliable, as well as to ensure that all stakeholders had an opportunity to provide input.

34. In addition, EPA is in the process of conducting a survey using a questionnaire to gather information directly from cruise lines. Although EPA has broad CWA authority to gather information related to discharges, all federal agencies are subject to the requirements of the Paperwork Reduction Act (PRA) when they collect information from ten or more entities. EPA began development of the cruise ship survey in September 2003. In February 2004, EPA published the first PRA notice in the Federal Register inviting comment on whether to conduct a survey and, if so, what information such a survey should seek. After considering and responding to comments received, EPA published the second PRA notice in the Federal Register in January 2005. That notice invited public comment on a draft of the survey questionnaire and EPA's statement of basis for collection of the information. EPA sent the survey questionnaire to various cruise lines in August 2005 directing recipients to respond by October 2005. In response to numerous requests, EPA extended the response deadline until November 2005, or in some cases December 2005.

35. Cruise ships in Alaska represent a much smaller regulatory universe (and with existing, installed treatment technology) with far less variation than the universe of all vessels with ballast tanks throughout waters of the United States. Given the number

and diversity of vessels with ballast tanks, a two-stage survey (using a "screener" followed by detailed questionnaires) probably would be warranted. I expect that any survey to collect information regarding ballast water discharges would take significantly longer than the Alaska cruise ship data collection.

36. In addition, the data collection effort for the Alaska cruise ship project has uncovered a complication with data gathering that I anticipate would arise for data collection associated with vessel ballast water, specifically, the practicality of gathering data from foreign companies. I anticipate that EPA would encounter difficulty in determining the ownership status of any particular vessel with ballast tanks, including the appropriate level (i.e., parent, subsidiary, sub-subsidiary, etc.) that would have the necessary access to vessel-specific information. I understand that the majority of vessels entering U.S. waters are not only foreign-flagged, but also foreign-owned. Depending on whether any particular owner representative with the appropriate access to vessel-specific information had an office in the United States, additional problems may arise regarding any EPA data gathering instrument written in the English language.

37. The technologies used on Alaska cruise ships to treat the discharges of concern are relatively well-developed. By contrast, the currently available method used to manage ballast water is "exchange," not treatment. I understand the Coast Guard is developing a ballast water discharge standard, and that it also is working with EPA and other agencies to develop protocols for the scientific and rigorous evaluation of ballast water treatment technologies. Therefore, data gathering relating to treated vessel ballast water would seem to be premature pending the generation of results from the Coast Guard effort.

38. Treatment Technology Evaluation. The treatment technology evaluation begins early in the process of developing national effluent limitations guidelines if the initial data review suggests a line of inquiry. Generally the evaluation cannot be completed until the survey questionnaires are returned and the on-site wastewater sampling and laboratory analytical work is complete so that the Agency has an adequate database to assess the performance of the technologies. If the Agency has identified pollutants of concern for which control technologies do not exist in the industry, it might develop information using "bench scale" laboratory studies or "pilot plant" studies, which are normally conducted at an actual plant site. The Agency also might evaluate information on control technology performance in other industries with similar wastewater characteristics.

39. I understand that such transfer of technology is currently underway in the commercial markets to develop ballast water treatment technology, but fully developed and tested ballast water treatment systems do not yet exist. The recent international agreement for ballast water control that would establish quantitative discharge standards has spurred technology development. The international convention established a quantitative standard slightly more than a year ago, and thus insufficient time has elapsed for the fledgling industry to produce rigorous and comprehensive data on treatment efficacy, operational factors, cost, and other criteria that would be of substantial use to EPA in developing national effluent limitations guidelines and standards.

40. Historical treatment technology evaluation has consisted of identifying systems that have the potential to treat waste streams generated by the industry,

gathering information about the effectiveness of these treatment technologies and determining which technologies are appropriate for consideration as the basis for guidelines and standards. This can be a complex and iterative procedure depending on the number and diversity of the facilities and waste streams in the industry category. A great deal of information about the effectiveness of treatment technologies must be thoroughly studied and reconciled. The treatment technology evaluation requires not only review of technical journals, texts and other references, but also site visits to facilities and evaluation of information received from the vendors of treatment systems and from foreign sources. The principal treatment evaluation has taken from eight to twelve months. Additional work may continue as the proposed rulemaking package is developed and undergoes internal Agency reviews, described below.

41. Development of effluent limitations guidelines for treated ballast water would include some special circumstances that EPA has not previously encountered. In addition to the usual mix of expertise included on an EPA regulatory work group, I would anticipate the need for interdisciplinary teams of biologists, environmental engineers, marine engineers, and ship operators to collaborate on defining test methods and studies to evaluate the ability of systems to consistently meet discharge requirements under the wide range of operating conditions experienced by commercial vessels. Systems would need to operate effectively on board vessels in a variety of weather conditions, for extended periods of time. Evaluation of systems' biological performance entails working with a very broad diversity of living organisms using very specialized and often time-sensitive methods. These unique circumstances combine to make it important to collaborate with other regulatory authorities (both U.S. and foreign)

on such testing and evaluation projects so that critical performance data can be acquired and used to optimize the performance of treatment systems.

42. After identifying candidate pollution control technologies for an industry category, the Agency has estimated the costs that would be incurred if facilities in the industry installed the candidate technologies. To develop the engineering cost estimates, the Agency generally estimates these costs by defining a model facility or a range of model facilities that fairly represent the category or subcategory. Alternatively, EPA may develop the cost data by considering information from each actual facility for which adequate reliable data are available. The Agency typically uses the latter method if there are only a few facilities or if the facilities are sufficiently different that use of a "model" is not appropriate.

43. A minimum of three to six months is generally needed for development of the initial costs estimates based on a model facility. If the costing is done on an individual facility basis or if an unusually large number of treatment technologies are being considered, more time is needed. In most guidelines projects, extensive revision of these initial cost estimates has been necessary as the cost data are refined as a result of further Agency study or public comment on a proposed guideline.

44. Economic Achievability Analysis. In developing guidelines regulations, the Agency also has conducted an economic achievability analysis using data from the survey questionnaire, the engineering cost estimates, and secondary data sources. This analysis focuses on the likelihood of facility closures, job losses or significant reduction in the scale of facility operations, market disruptions, and other related economic impacts that would result from the various candidate control options.

Although some preliminary economic achievability analysis is generally started during the survey questionnaire phase if adequate secondary data have been secured, the Agency cannot perform a definitive economic analysis until after the survey data and estimated engineering compliance cost data are available. The economic achievability analysis is revised as changes and corrections are made to the engineering cost data, control technology options are revised, and effluent limitations are calculated. Preparation of a draft economic achievability analysis takes about four months from the end of initial costing; then preparation of a final analysis takes about two months after the cost estimates are finalized.

45. Environmental Assessment. In the past, EPA has prepared an environmental assessment by estimating the pollutant reductions that would be achieved by the candidate control options, and considering the effects such reductions may have on water quality, aquatic organisms in the receiving waters, and human health. The Agency also considers non-water quality environmental impacts that may result from the options being considered, such as changes in air emissions, wastewater treatment sludges generated by facilities, and energy consumption. EPA uses information from the environmental assessment and other sources to describe and, when possible, quantify and monetize benefits from pollutant reductions as required by Executive Order 12866. The environmental and benefits assessments are prepared as other work on the guideline is being done and typically adds no significant time to the schedule.

46. Preparation and Publication of Proposed Rule. Rulemaking proposals, as well as final rules and other rulemaking notices (such as notices of the availability of

new data) all undergo thorough internal Agency review before publication in the Federal Register. The process of internal review is designed not only to ensure the quality and completeness of regulatory packages, but to expedite rulemaking by the early identification of issues and resolution of any disagreements among concerned EPA offices.

47. Within the Agency, a "work group" oversees the development of each effluent guideline and the supporting record. The purpose of a work group is to provide for full consultation and coordination on a rulemaking package among all EPA offices (often including regional offices) that participate in the rulemaking. The work group identifies and recommends control options and other provisions of the guideline and drafts the Federal Register notices published during its development.

48. Options selection is the formal process by which the principal regulatory requirements in the rulemaking are decided by senior Agency management. Options are first considered by the work group, followed by review and decision and at successive levels of management up to the Deputy Administrator and/or Administrator. After "options selection," work groups reach closure on a written rulemaking package, including draft preamble and regulatory language, which implements the selected treatment options. The work group prepares and circulates several drafts of the preamble and regulatory language for comment by the participating offices until issues relating to implementation are resolved. In the past, reaching closure on this process has taken two to three months after options selection.

49. Following work group closure, several steps have preceded publication of a proposed guideline. The final work group package is subjected to Final Agency

Review, a final internal review process that ensures senior managers in the various EPA program offices either approve the package or raise any outstanding issues to the Administrator for resolution prior to forwarding the rulemaking package for inter-agency review under Executive Order 12866. These final reviews are not mere formalities and typically require about four months after work group closure. In the case of a ballast water effluent guideline, EPA anticipates that other interested Federal entities would include the Department of Homeland Security, including the Coast Guard, the Department of Transportation, including the Maritime Administration, the Department of Commerce, the Department of Justice, and the Department of State.

50. Public Review of the Proposal and Development of the Final Rule. Once the Administrator approves and signs the proposal, the proposed guideline is published in the Federal Register, opening the public comment period. The Agency generally allows a 60-day period for public comment, due to the size of the rulemaking record and complex technical issues which are presented by the rulemaking. It is not uncommon for comment periods to be extended to 90 days or more. Recently, in development of national effluent limitations guidelines and standards for the concentrated animal feeding operations point source category, EPA determined that a five and half month comment period was appropriate and necessary. An extended comment period might be appropriate if EPA were to develop an effluent limitations guideline for ballast water, particularly because of the international nature of shipping.

51. At the close of the comment period on the proposed rule, the work group reviews the comments to identify significant issues and to initiate the preparation of responses to comments. Responding to comments submitted in a rulemaking has

often been an enormous task because of the variety of processes and pollutants covered by the proposal, the range of treatment technologies that may be required, the different types of facilities in the category being covered, the number of parties affected by the rule, and the number of comments received. In the recent rulemaking for the concentrated animal feeding operations point source category, the Agency received approximately 11,000 sets of comments. I can fairly anticipate a similar level of public interest in ballast water. During this period, the Agency also revises the technical support documents and other analyses in light of comments received.

52. Ultimately the Agency decides whether and how to modify the proposed rule in response to the public comments or in response to new data developed by EPA itself since the proposal. Sometimes it is necessary to re-propose all or parts of a rule or to publish a supplemental notice or notice of data availability. EPA issued two notices of data availability in development of the final regulations for the concentrated animal feeding operations point source category. If EPA determines it is necessary to issue one or more such notices between the publication of the rulemaking proposal and the promulgation of the final rule, these notices undergo internal review with many of the same processes before publication and are subject to comment by the public.

53. Available information indicates that it is too early to expect any fully developed and tested ballast water treatment systems to be "currently" available in any commercial sense. Specific systems continue to evolve as developers optimize designs and react to results of both internal and external on-going testing and evaluation. Still lacking at this time, however, are key pieces of information that EPA would need to support development of an effluent guideline -- namely, rigorous and

comprehensive data on treatment efficacy, operational factors, cost, and other criteria of interest. Accordingly, in attempting to develop a ballast water effluent guideline, EPA may find itself in the position of issuing one or more notices requesting additional data as the ballast water treatment industry matures.

54. Finally, the Agency prepares a final rulemaking. This document and supporting materials reflect appropriate resolution of comments received and issues raised since proposal. Typically, "options selection" at the Administrator level again takes place. The final rule is subject to the same review process as rulemaking proposals. Legal challenges that inevitably affect the fate and thus the effectiveness of such regulations depends on the strength (or weakness) of support documents developed for the administrative record. Accordingly, it is vital that all necessary care is taken at the final rulemaking stage. An unduly hurried job could put in jeopardy years of hard work. Accordingly, EPA has found that, in most cases, it takes 18 to 24 months after proposal to promulgate final national effluent limitations guidelines and standards regulations.

55. As the foregoing demonstrates, I believe that Intervenor-States' suggestion that EPA has developed national effluent limitations guidelines in a "relatively short space of time" in the mid-1970s is irrelevant to determining whether EPA could meaningfully do so today in 2005, particularly for highly mobile sources like vessels with which EPA has not developed prior practical expertise. I believe that development and promulgation of national effluent limitations guidelines for ballast water would take many more years than the approximately 18 months proposed by the Plaintiffs or the Intervenor-States.

## PAST EPA EXPERIENCE IN ISSUANCE OF THE NPDES MULTI-SECTOR GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY

56. I understand that both the Plaintiffs and the Intervenor-States have suggested that EPA could quickly develop an NPDES general permit. I believe that substantially more time would be necessary to develop, propose, and issue an NPDES general permit than suggested by either Plaintiffs or Intervenor-States. Absent an effluent limitations guideline for ballast water, EPA would need to develop technology-based permit limits on a "best professional judgment" basis, considering the same statutory factors applicable to development of an effluent limitations guideline. To develop an NPDES permit, whether an individual permit or a general permit, the permit writer requires certain information regarding the content of the discharge and the availability of technologies to reduce pollutants in the discharge. In addition, NPDES permits must contain more stringent limits when necessary to meet water quality standards, thus requiring the information about the location of the receiving waters where the discharges are to occur. EPA's experience, cited by both Plaintiffs and Intervenor-States, in developing, proposing, and issuing the NPDES general Multi-Sector General Permits (MSGPs) for storm water discharges associated with industrial activity demonstrates the time necessary to develop NPDES general permits for a large number of point sources in advance of development of an effluent limitations guideline. That effort was not the quick and simple exercise described by Plaintiffs and Intervenor-States.

57. Rather than developing of national effluent guidelines, EPA used a different approach to develop an administrative record to support issuance of NPDES general

permits for large numbers of sources of industrial storm water. The MSGPs included requirements specific to each of the various industrial sectors to be regulated. EPA estimated that approximately 65,000 entities would be subject to NPDES permit requirements for their industrial storm water discharges. As a result of litigation over EPA's initial attempts to manage the administrative infeasibility of regulating point source discharges of storm water through regulatory exclusion, EPA developed the concept of a "group" NPDES permit application process for industrial storm water discharges in August 1985, and invited public comment on the concept. Under the group application process, the large numbers of industrial storm water discharges had the opportunity to self-identify and sort themselves into groups based on the similarity of their industrial activities, as well as their industrial processes and materials exposed to precipitation. After the 1987 CWA amendments, EPA proposed the substance of the actual information requirements for group applications in December 1988. The duration from concept to content spanned 28 months. EPA promulgated final storm water regulations, including the group application requirements, in November 1990. EPA received approximately 1,250 group applications by October 1992, which the Agency ultimately used to propose a "Multi-Sector General Permit" for storm water associated with industrial activity in November 1993, and issued the final general permit in September 1995 applicable in the jurisdictions where EPA is the NPDES permitting authority. Nearly ten years were necessary to move from the group application "self-identify/self-monitor" concept to issuance of final NPDES general permits. I have no reason to believe that use of that concept would be faster or simpler for vessel ballast water.

EPA AND AUTHORIZED NPDES STATES DO NOT HAVE SUFFICIENT INFORMATION TO SUPPORT ISSUANCE OR DENIAL OF NPDES PERMITS FOR BALLAST WATER

58. As described in EPA's denial of the petition for rulemaking that served as the basis for this litigation, there is no extant NPDES permitting program specifically applicable to the routine discharges of highly mobile sources like ballast water from vessels. In order to initiate such a process, ballast water operators seeking NPDES permit authorization would need to comply with general information requirements required for all applicants for NPDES permits published at 40 C.F.R. 122.21(f). That regulation requires that applicants provide information to identify: (1) the activities conducted by the applicant which require it to obtain an NPDES permit; (2) the name, mailing address, and location of the facility for which the application is submitted; (3) up to four SIC codes which best reflect the principal products or services provided by the facility; (4) the operator's name, address, telephone number, ownership status, and status as federal, state, private, public, or other entity; (5) whether the facility is located on Indian lands; (6) a listing of all permits or construction approvals received or applied for under certain federal environmental statutes administered or overseen by EPA, as well as other relevant environmental permits, including state permits; (7) a topographic map (or other map if a topographic map is unavailable) extending one mile beyond the property boundaries for each source, depicting the facility and each of its intake and discharge structures, and other facility-specific locational environmental information; and (8) a brief description of the nature of the business. Some of these basic information items appear to be inapplicable to vessels.

59. This basic permit application regulation applies to EPA and to EPA-approved NPDES programs administered by the 46 non-federal governments that do so. Other, more specific permit application information requirements in the NPDES would not, by their terms, apply to vessels. The basic permit application information alone is not sufficient to enable development and proposal (for public comment) of an individual NPDES permit consistent with CWA requirements.

#### TIME NECESSARY TO GATHER SUFFICIENT INFORMATION TO SUPPORT ISSUANCE OR DENIAL OF NPDES PERMITS FOR BALLAST WATER

60. EPA's experience with the recent cruise ship data collection and the industrial storm water data collection demonstrate the unworkability of the accelerated fixed schedules proposed by the Plaintiffs and the Intervenor-States. For a relatively limited universe of sources (approximately 30 large cruise vessels operating in Alaska) expected to have a reasonably similar discharge (treated black and gray water, the discharge of which is not effected by materials in the intake water), EPA's data collection efforts alone spanned 46 months. EPA has not yet determined the appropriateness of existing (statutory) standards or whether it would be appropriate to establish new standards for Alaskan cruise ships. For a larger universe of sources (approximately 1,250 groups representing 65,000 entities with storm water discharges associated with industrial activity), the time necessary to design EPA's data gathering effort (group applications, concept to content) spanned 28 months (51 months if including an opportunity for public comment). The group application process consumed 23 months for the actual development and collection of the data. EPA was able to propose the MSGP based on that data 13 months after the group application data

collection (with final general permits available to authorize discharges 22 months later).

The duration of time for EPA to develop industry-specific, protective, and defensible general permits for industrial storm water spanned ten years, i.e., from the time EPA conceived of the group application until general permit authorization was available. I anticipate that NPDES permitting of vessel ballast water discharges would present additional complications that did not arise with NPDES permitting of discharges of storm water associated with industrial activity.

61. I anticipate that the pollutant content of ballast water discharges is likely to be more variable than treated effluent from continuously-discharging “dry weather” industrial or municipal point sources or contaminated storm water runoff from industrial storm water runoff, primarily because the content of a ballast water discharge is directly affected by the location of the ballast water uptake and because that location is likely to vary from one voyage to the next. That variation may undermine the extent to which the results from analysis of any given ballast water sample are representative of ballast water discharged at any other given time. Under current NPDES regulations, samples and measurements for the purposes of monitoring are to be representative of the activity monitored.

62. I understand that, although ballast water treatment technologies are being developed, none has been “demonstrated” to perform at specified levels. Moreover, I understand that the measures, metrics, and other analytic tools that would be used to describe the performance of ballast water treatment technologies are not fully developed. As a consequence, I anticipate that the application of the CWA’s technology-based pollutant control standards to ballast water discharges would likely be

based on the ballast water management practices currently required by the Coast Guard, at least in the near term until treatment technologies become better developed and adapted for use on vessels.

63. I understand that the international efforts to address the adverse environmental effects of vessel ballast water are focused primarily on controlling the release of aquatic invasive species, and only to a lesser extent on controlling the release of pollutants that may be generated by treatment technologies used to control aquatic invasive species. I anticipate that technologies under development to "treat" vessel ballast water to control invasive species are themselves likely to introduce chemicals and/or chemical byproducts that are not currently released via ballast water (except from vessels using prototype design ballast water treatment technologies). I share the Coast Guard's goal that standards for ballast water treatment should be biologically protective, environmentally sound, and enforceable. I also share the Coast Guard's concern that the fixed schedules proposed by Plaintiffs and Intervenor-States may force a "rush" toward installation of treatment technologies that are inadequately demonstrated to remove aquatic organisms to levels that themselves would likely be arbitrary, rather than proven to be environmentally sound and biologically protective. In addition, I would be concerned that such a forced "rush" may drive technology developers to prioritize biological protection (i.e., destruction of aquatic organisms), for which the internationally-negotiated document would establish a performance standard, over other environmental considerations. That outcome could occur, for example, by unbalanced reliance on chemical biocides over other ballast water treatment technologies under development.

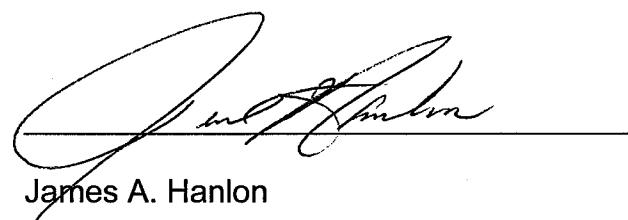
64. I am aware of the 2001 draft document captioned *Aquatic Nuisance Species in Ballast Water Discharges: Issues and Options*, upon which EPA invited public comment. I am aware that, in the document, EPA estimated that the Agency could “revise” the NPDES regulation excluding vessel ballast water discharges in two to three years. Based on explanations from EPA staff working on the draft report, the two to three year estimate was based on a “simple repeal” of the regulation, including preparation of a detailed economic analysis and coordination with the U.S. Coast Guard. The two to three year estimate did not include any attempt to quantify the time necessary to issue or deny NPDES permits for ballast water. For example, the estimate did not attempt to capture the time necessary to gather information necessary to support issuance or denial of permits. The “revise NPDES regulation” option described the universe of potentially affected vessels in the thousands, which is consistent with the numbers of vessels currently subject to mandatory ballast water exchange requirements under the Coast Guard program, but an underestimate of all vessels in waters of the United States that use ballast water tanks. The option that described “development of a national effluent guideline under [CWA section] 304(b)”, which anticipated consideration of variation among vessel types and uses, estimated action between four and six years. Based on scrutiny of the factors involved, I believe this latter estimate is much more realistic, although NPDES permitting of vessel ballast water does present additional complications that do not appear to have been considered in the 2001 draft document.

## CONCLUSION

65. For the foregoing reasons, the fixed schedules proposed by Plaintiffs and Intervenor-States to "remove" the NPDES exclusion applied to ballast water and "replace" the exclusion with NPDES permit requirements would cause significant disruption to EPA. Moreover, the fixed schedules are unworkably short.

I declare under penalty of perjury that the foregoing is true and correct, based on my personal knowledge and on information provided to me by employees of the United States Environmental Protection Agency under my supervision.

Executed on October 20, 2005



James A. Hanlon