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Docket Management Facility  
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The Office of the Attorney General of New York submits these comments in response to the proposed Coast Guard rulemaking, "Mandatory Ballast Water Management Program for U.S. Waters" (68 FR 44691, July 30, 2003). We are concerned that the proposed rulemaking does not discuss, address, or include provisions that deal with the ballast-water management problem known as "No Ballast on Board" ("NOBOB"). The NOBOB problem has largely defeated the purpose of ballast water management practices in the Great Lakes and may likewise undercut the effectiveness of the proposed rulemaking.

**I. Background**

According to the *Federal Register* notice, "The unintentional introduction of nonindigenous species (NIS) into U.S. waters via the discharge of vessels' ballast water has had significant impacts on the nation's marine and freshwater resources, biological diversity, and coastal infrastructures. To address this continued threat, and to comply with the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, and the National Invasive Species Act of 1996, the Coast Guard proposes mandatory ballast water management practices for all vessels equipped with ballast tanks bound for ports or places within the U.S. and/or entering U.S. waters. The Great Lakes ballast water management program would remain unchanged. This proposed rulemaking would increase the Coast Guard's ability to protect U.S. waters against the introduction of NIS via ballast water discharges."<sup>1</sup>

Mandatory ballast water management (BWM) requirements were adopted in 1993-1994 for the Great Lakes and Hudson River.<sup>2</sup> The proposed rulemaking would now extend mandatory

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<sup>1</sup> 68 FR 44691 (July 30, 2003).

<sup>2</sup> See 58 FR 18330 (April 8, 1993) for the mandatory BWM requirements applicable to the Great Lakes, now codified in 33 CFR part 151, subpart C. Those requirements were subsequently extended to the Hudson River (59 FR 67632, December 30, 1994).

requirements to additional U.S. waters. “Specifically, subpart D of 33 CFR part 151 would be revised to require a mandatory ballast water management program for all vessels equipped with ballast tanks entering U.S. waters. The mandatory ballast water management requirements for vessels entering into the Great Lakes and Hudson River from outside the U.S. Exclusive Economic Zone (EEZ) would remain unchanged.”<sup>3</sup>

This proposed rulemaking would require all vessels equipped with ballast tanks entering U.S. waters from outside the EEZ to employ at least one of four BWM practices. However, even though four different practices are offered, the *Federal Register* notice expresses the opinion that one of them, known as ballast water exchange, “is likely to be the most used practice.”<sup>4</sup> Any ship that opts to use this BWM practice would be required to:

“Prior to discharging ballast water in U.S. waters, perform complete ballast water exchange in an area no less than 200 nautical miles from any shore.”<sup>5</sup>

## **II. The Existing Regulations, Applicable to the Great Lakes**

The mandatory BWM requirements for the Great Lakes are found in 33 CFR part 151, subpart C. “Ballast water” is defined in 33 CFR 151.1504 as “any water and suspended matter taken on board a vessel to control or maintain trim, draught, stability, or stresses of the vessel, regardless of how it is carried.” Section 151.1510 requires the master of each vessel subject to subpart C to employ one of three BWM practices:

(1) Carry out an exchange of ballast water on the waters beyond the EEZ, from an area more than 200 nautical miles from any shore, and in waters more than 2,000 meters (6,560 feet, 1,093 fathoms) deep, prior to entry into the Snell Lock, at Massena, New York, or prior to navigating on the Hudson River, north of the George Washington Bridge, such that, at the conclusion of the exchange, any tank from which ballast water will be discharged contains water with a minimum salinity level of 30 parts per thousand.

(2) Retain the vessel’s ballast water on board the vessel....

(3) Use an alternative environmentally sound method of ballast water management that has been submitted to, and approved by, the Commandant prior to the vessel’s voyage....

Ballast-water exchange tends to be the most widely used of these three methods. In addition to these three methods, subpart C includes Section 151.1514, which applies to ballast water management alternatives under extraordinary conditions:

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<sup>3</sup> 68 FR at 44693 (July 30, 2003).

<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

The master of any vessel subject to this subpart who, due to weather, equipment failure, or other extraordinary conditions, is unable to effect a ballast water exchange before entering the EEZ, must employ another method of ballast water management listed in Sec. 151.1510, or request from the COTP [Captain of the Port in either Buffalo or New York, NY] permission to exchange the vessel's ballast water within an area agreed to by the COTP at the time of the request and must discharge the vessel's ballast water within that designated area.

Thus, ballast-water exchange is required before entering the Great Lakes unless the master of a ship has chosen to retain all ballast on board while in the Great Lakes, or has received prior approval for an alternative BWM method, or has received the necessary permission for BWM under extraordinary conditions.

### **III. Proposed Regulations, Applicable to Other Waters**

The proposed rule, applicable to U.S. waters as an amendment of 33 CFR part 151, subpart D, would create a ballast-water exchange requirement similar to that which already applies to the Great Lakes and Hudson River. Part of this proposed rule, 33 CFR 151.2035(b), specifies the ballast-water exchange requirement and acceptable alternatives as:

- (1) Perform complete ballast water exchange in an area no less than 200 nautical miles from any shore prior to discharging ballast water in United States waters;
- (2) Retain ballast water onboard the vessel;
- (3) Prior to the vessel entering United States waters, use an alternative environmentally sound method of ballast water management that has been approved by the Coast Guard; or
- (4) Discharge ballast water to an approved reception facility.<sup>6</sup>

It is unclear to what extent the first option of the proposed rule differs from the first option of the existing rule.

### **IV. The Existing Regulations are Inadequate and Should Not Form the Basis of Revised Regulations**

The existing rules have proven completely inadequate to prevent, or even slow, the further introduction of NIS into the Great Lakes. Thus, they should not be considered an adequate basis for regulations to prevent the introduction of NIS into other waters and, in addition, the Coast Guard should work promptly to fix the holes in the current rule.

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<sup>6</sup> *Id.* at 44696.

The main reason for the inadequacy of the current regulations rests in the fact that most ships fulfill subpart C by choosing the ballast water exchange option, yet do not perform an adequate exchange – or any exchange at all – of their ballast water. This provision of the rule requires ships to pump out their ballast water in the open seas and refill their tanks with ocean water. In principle, ballast water exchange seems eminently sensible for freshwater ecosystems such as the Great Lakes; it assumes that any species that will thrive in the Great Lakes will either be flushed out or will not survive in the tanks after they are refilled with high-salinity ocean water. In practice, however, ballast-water exchange has been ineffective in the Great Lakes due to the high salt tolerance of some species at certain life stages and due to what is known as the NOBOB problem.<sup>7</sup>

First, as recent studies have shown, ballast water exchange is not a fully protective practice even when it is carried out properly. Resistant life stages of various organisms – combined with the short transit times achieved by fast, modern ships and the layers of sediment that accumulate in ballast tanks and tend to harbor organisms – are resulting in NIS introductions despite the current practice of ballast water exchange.<sup>8</sup> Thus, even if a strict interpretation of existing and proposed regulation required flushing and refilling of all ballast tanks with saline water, NIS may still be introduced.

Second, and more important, is the fact that most ships subject to subpart C are exempted from even this minimal requirement. Under current interpretation and practice, any vessel that declares “no ballast on board” is not required to exchange its ballast water. Such vessels are not routinely inspected before entering the Great Lakes. These vessels need no ballast because they have crossed the Atlantic and enter the Great Lakes fully loaded with cargo. However, their ballast tanks typically contain at least 10 tons of residue, consisting of a thin layer of ballast water that lies below the ship’s pump intakes, accumulated sediments, and probably several NIS. Once they have entered the Great Lakes, the NOBOB ships tend to take on ballast water as they unload at one port, then discharge the resulting mixture of new and residual ballast water as they reload at other ports, before leaving the Lakes with full loads of cargo. The practice of entering and leaving the Lakes fully loaded makes good economic sense and, accordingly, more than 90% of the transoceanic ships entering the Great Lakes in recent years have claimed NOBOB status. This major loophole, combined with the questionable effectiveness of ballast-water exchange, has clearly contributed to the undiminished rate of new species introductions to the Great Lakes in recent years.<sup>9</sup>

The Coast Guard has recognized this major inadequacy of current regulations. A report prepared

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<sup>7</sup> A number of papers and reports have expressed these conclusions. See especially the recent paper by Canadian and U.S. scientists, I.A. Grigorovich et al., “Ballast-mediated animal introductions in the Laurentian Great Lakes: Retrospective and prospective analyses,” 60 *Canadian Journal of Fisheries and Aquatic Sciences* 740 (2003).

<sup>8</sup> For example, see Grigorovich et al., *op. cit.*

<sup>9</sup> *Id.*

in 2001 for the Coast Guard<sup>10</sup> found as follows:

Although there are currently no guidelines in effect for ballast water management associated with NOBOB tanks, recent concerns have surfaced in the Great Lakes that use of NOBOB tanks after entry into U.S. waters may pose significant risks of introducing NIS. Specifically, although NOBOB tanks are relatively empty, they may still contain residual organisms that can be re-suspended and discharged by ballast operations. The extent to which vessels arriving to the U.S. from overseas use NOBOB tanks in subsequent ballast operations, either during coastwise movements or within the port of arrival, remains unknown.<sup>11</sup>

Third, the exchange requirement has a further exemption that is susceptible to abuse. Existing Section 151.2030(b) states that “The master, operator, or person-in-charge of a vessel is not required to conduct a ballast water management practice (including exchange), if the master decides that the practice would threaten the safety of the vessel, its crew, or its passengers because of adverse weather, vessel design limitations, equipment failure, or any other extraordinary conditions....” Proposed Section 151.2037 states that a vessel that cannot undertake ballast-water exchange or any other approved BWM practice, “...because of the safety concerns contained in §151.2030, will not be prohibited from the discharge of ballast water in areas other than the Great Lakes and the Hudson River. However, the vessel must discharge only that amount operationally necessary and make ballast water records available to the local Captain of the Port upon request.”<sup>12</sup> While safety concerns are, of course, extremely important, the lack of explicit standards opens this exemption to possible abuse.

Because the existing regulations are clearly inadequate, they cannot properly form the basis for adequate BWM regulations covering waters other than the Great Lakes and Hudson River.

## **V. Corrections and Improvements Needed in Ballast Water Regulation**

While new technologies are likely to be important elements of improved programs to prevent the introduction of NIS into the Great Lakes and other waters, much improvement is possible given existing technology.

First, the NOBOB exemption appears to be contrary to the statute and the regulations and to have no basis in law. It should therefore be discontinued. Since there is no doubt that NOBOB

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<sup>10</sup> G.M. Ruiz et al., *Status and Trends of Ballast Water Management in the United States: First Biennial Report of the National Ballast Information Clearinghouse* (Edgewater, MD: Smithsonian Environmental Research Center, 2001). In addition to being a freestanding document, this report was recently included as Appendix B in EPA’s recent decision document which supported EPA’s September 2, 2003, decision not to regulate ballast water.

<sup>11</sup> *Id.* at 21.

<sup>12</sup> 68 FR at 44696 (July 30, 2003).

vessels actually do carry several tons of ballast water, the plain language of the existing regulations requires that they exchange this water (and any suspended matter therein) before entering the Great Lakes. As expressed in the wording of 33 CFR 151.1510(a)(1), the requirement to "Carry out an exchange of ballast water" appears to be absolute and therefore should apply to NOBOB vessels that carry several tons of ballast water. The condition that, "at the conclusion of the exchange, any tank from which ballast water will be discharged contains water with a minimum salinity level of 30 parts per thousand," prescribes the end result of the ballast-water exchange but does not affect the duty to perform the exchange. Even if it were successfully argued that the duty to perform an exchange is dependent either on the salinity of the unpumped residual ballast water in the tanks of a NOBOB ship as it enters the Great Lakes, or on the ship's intentions about discharging ballast water from those tanks while in the Great Lakes, recent studies have shown that most NOBOB ships could not be properly exempted from subpart C on this basis. NOBOB ships commonly discharge ballast water from their "NOBOB" tanks while in the Great Lakes,<sup>13</sup> and the residual ballast water in their "NOBOB" tanks as they enter the Lakes frequently does not meet the minimum salinity level (30 parts per thousand) recited in 33 CFR 151.1510(a)(1).<sup>14</sup>

The Coast Guard must therefore enforce subpart C with respect to NOBOB vessels. The options open to NOBOB vessels would include:

-Reductions of a few percent in the amount of cargo loaded at overseas ports, such that the ships are no longer in NOBOB status and can take on enough water in mid-ocean to perform ballast-water exchange.

-Installation of new, low-capacity pumps and hoses which would be designed specifically to withdraw essentially all of the residual ballast water (after the ship's existing high-capacity pumps have pumped the tanks down to the traditional "NOBOB" level).

-Retention of ballast water on board the vessel in accordance with 33 CFR 151.1510(a)(2). This would not preclude NOBOB voyages into the Great Lakes but may affect vessel traffic patterns within the Lakes.

-Use of an alternative environmentally sound method of ballast water management which has been approved in accordance with 33 CFR 151.1510(a)(3). BWM methods such as deoxygenation are under development and might soon qualify as alternative environmentally sound methods.

Second, while the proposed regulation appears absolute, past practice suggests that the NOBOB exemption will be read into it. This should not happen. In addition, the proposed regulation

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<sup>13</sup> Grigorovich et al., *op. cit.*

<sup>14</sup> T. Johengen et al., "The Great Lakes NOBOB Project: 38 Ships and 82 Tanks Later," 12<sup>th</sup> International Conference on Aquatic Invasive Species, Windsor, Ontario, June 11, 2003.

offers a further limitation on the ballast water exchange requirement that should be eliminated or clarified. The proposed wording of 33 CFR 151.2035(b)(1), which requires covered ships to “[p]erform complete ballast water exchange,” appears to be absolute. However, the definition of “exchange,” which is given in Section 151.2025 and which is applicable to subpart D, includes the instruction that “masters/operators should pump out as close to 100 percent of the ballast water as is safe to do so.” Thus, it is likely that masters/owners could argue that it would be “unsafe” to attempt to empty the several tons of residual ballast water that remain in NOBOB ballast tanks. However, the fact that several tons of residual ballast water remain in NOBOB ballast tanks is not a result of safety concerns; it is a result of the design of a ship’s tanks and pump inlets. It must be clarified that such design deficiencies cannot be an excuse for operators of NOBOB vessels to invoke “safety” as a reason for failing to comply with the plain language of 33 CFR 151.2035(b)(1). The Coast Guard should clarify that the “safety concerns” noted in Section 151.2030 are reserved for extraordinary conditions and cannot be routinely invoked by NOBOB vessels as a means of avoiding compliance with the “complete ballast water exchange” requirement of Section 151.2035(b)(1).

Finally, while it appears that a larger percentage of ships entering the Great Lakes claim NOBOB status than do ships entering other U.S. waters, the NOBOB percentage of ships entering other waters is still high (and may grow if NOBOB status offers an incentive to avoid regulation). That fact, plus the risks posed from these ships, make it clear that the improvements necessary to address the NOBOB problem in the Great Lakes must be addressed for all ships entering U.S. waters. In the Great Lakes, over 90% of inbound vessels from beyond the EEZ are claiming NOBOB status, and these vessels are major contributors to NIS introductions in the Great Lakes. The role of NOBOB vessels in other waters of the U.S. has been less extensively studied, but a brief summary of NOBOB issues can be found in a report prepared in 2001 for the Coast Guard.<sup>15</sup> According to this report, BWM practices were reported for 28,992 arrivals in U.S. ports from outside the EEZ between July 1999 and June 2001, such that “87.2% of all reporting arrivals [25,280 vessels] carried ballast water, and only 12.8% [3,712 vessels] indicated ‘No Ballast on Board’ ....”<sup>16</sup> Data were also reported separately for NOBOB tanks. The number of reported NOBOB tanks was somewhat larger than the number of reported NOBOB vessels during this period (this can occur because ships have multiple ballast tanks, averaging about 8 tanks per ship), and 38.9% of all ballast tanks for reporting vessels were thus in NOBOB condition.<sup>17</sup>

The traffic patterns of NOBOB vessels are of interest for determining the extent to which these vessels are contributing to NIS introductions. NOBOB vessels arrive in U.S. waters from outside the EEZ with several tons of residual ballast water and (usually) full loads of cargo. They will normally take on additional ballast water at the first port at which they unload, then will normally

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<sup>15</sup> G.M. Ruiz et al., *op. cit.*

<sup>16</sup> *Id.* at 20 and 44 (Table 6).

<sup>17</sup> *Id.* at 21 and 44 (Table 6).

discharge some of this *mixed* ballast water (which may contain NIS from the residual ballast water) at any other U.S. port that they may visit to pick up cargo before departing the EEZ. According to the above-mentioned report, "Many ships visit multiple U.S. ports after arrival from outside the EEZ, becoming coastwise traffic. In fact, nearly half (45.7%) of the 28,992 arrivals that reported ballast water management visited multiple U.S. ports upon arrival."<sup>18</sup> Thus, a large percentage of the NOBOB vessels that enter U.S. waters have traffic patterns that imply discharges of mixed ballast water in U.S. ports. These discharges may contain NIS that had been harbored in the residual ballast water of the NOBOB ship.

## VI. Conclusion

For the above reasons, we believe that the proposed regulation is inadequate to serve its stated purpose to reduce or prevent the introduction of NIS in U.S. waters. Ballast water exchange may provide some level of reduction in NIS introductions, but the practice is known to be only partially effective and is too easily avoided. The Coast Guard should revise existing regulations applicable to Great Lakes waters and propose new regulations addressing other waters that eliminate the NOBOB exemption and more effectively ensure that NIS are not introduced into U.S. waters.

Respectfully submitted,



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<sup>18</sup> *Id.* at 21.