

# THE STATE OF ORGANIC AQUACULTURE IN THE UNITED STATES



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With an estimated global value of just over \$110 billion in 2016, the organic industry is projected to grow to an estimated \$263 billion by the year 2022.<sup>1</sup> Traditionally, the organic market has been largely dominated by terrestrial farmers, with the aquaculture industry producing a lower diversity and quantity of organically certified products.<sup>2</sup> While numerous countries have taken steps in recent years to facilitate the growth of organic aquaculture, the United States seems to have stalled in its progress. Though the United States Department of Agriculture (USDA) began taking steps to promulgate organic aquaculture standards in the early 2000s, it has not yet released any such standards. The current administration has remained silent as to its future plans, or possible lack thereof. As a result, U.S. aquaculturists are presently left without a way to access the organic aquaculture market and the increased profits it can yield.

## I. Organic Foods in General

Consumer interest in purchasing organic products has grown considerably in recent years, with North America being responsible for the largest share of retail sales and the United States' organic market generating approximately \$47 billion in 2017.<sup>3</sup> As consumer demand for organic products grows, so will the legal and policy issues surrounding the cultivation and sale of organic fish, shellfish, and aquatic plants. In 2017, 5% of all food consumed in the U.S. was sold under the USDA organic label, and it is estimated that demand for USDA-certified seafood would exceed 5% of the market, totaling more than 100 million pounds per year.<sup>4</sup>

Organic food is food produced by methods that comply with the standards of organic farming. Such standards vary from country to country, but generally feature practices that cycle resources, promote ecological balance, and conserve biodiversity. Some standards also restrict the use of certain pesticides and fertilizers in the farming methods used to create organic products. Additionally, organic foods are usually not processed using irradiation, industrial solvents, or synthetic food additives. Most countries require producers to obtain special certification based on government-defined standards in order to domestically market their food as organic. These standards vary widely in content and stringency. In the United States, organic standards are defined and enforced by the USDA's National Organic Program (NOP). The NOP's standards regulate numerous facets of organic production and handling, and include requirements related to, among other things, pest management, crop rotation practices, livestock feed, and livestock living conditions.

The NOP was first authorized under the Organic Foods Production Act of 1990 (OFPA), which called for the creation of a program based on federal regulations that define standard organic farming practices. Specifically, the NOP serves ten key functions, including:

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<sup>1</sup> *Global Organic Food Market By Product Type (Organic Meat, Poultry and Dairy; Organic Fruits and Vegetables; Organic Processed Food; etc.), By Region (Europe, North America, Asia-Pacific, etc.), Competition Forecast and Opportunities, 2012 – 2022*, TECHSCI RESEARCH (Aug. 2017), <https://www.techsciresearch.com/report/global-organic-food-market-by-product-type-organic-meat-poultry-and-dairy-organic-fruits-and-vegetables-organic-processed-food-etc-by-region-europe-north-america-asia-pacific-etc-competition-forecast-and-opportunities/833.html>.

<sup>2</sup> Samantha Andrews, *Putting the Organic into Aquaculture*, THE FISH SITE (Apr. 22, 2016), <https://thefishsite.com/articles/putting-the-organic-into-aquaculture>.

<sup>3</sup> *Id.*

<sup>4</sup> Aaron Orłowski, *Organic standards for US farmed seafood going nowhere despite market demand*, SEAFOODSOURCE (Dec. 19, 2017), <https://www.seafoodsource.com/features/organic-standards-for-us-farmed-seafood-going-nowhere-despite-market-demand>.

1. maintaining the list of certified organic operations and helping new producers learn how to get certified;
2. developing regulations and guidance on organic standards;
3. managing the National List of Allowed and Prohibited Substances (“National List”)<sup>5</sup>;
4. accrediting agents to certify organic producers and handlers;
5. establishing organic import and export policies;
6. investigating and acting on regulatory violation complaints;
7. facilitating the work of the National Organic Standards Board (NOSB)<sup>6</sup>;
8. overseeing the Organic Certification Cost Share programs<sup>7</sup>;
9. providing training to certifying agents, USDA staff, and other stakeholders; and
10. engaging and serving the organic community.<sup>8</sup>

The core mission of the NOP is to protect the integrity of the USDA organic seal, which certified producers are permitted to affix to the packaging of qualifying products prior to sale.<sup>9</sup>

In order for a product to gain authorization to use the USDA organic seal, the producers, processors, and handlers associated with it must all undergo a certification process that verifies each entity is adhering to the NOP’s regulations. Before certification can occur, operations must undergo a three-year transition period during which any land used to produce raw organic commodities must be left untreated with prohibited substances. To begin the formal certification process, operations must submit an application (also called an “Organic System Plan” or “OSP”) to the appropriate certifying agent.<sup>10</sup> If deemed adequate, the agent will then conduct an operational inspection. During the inspection, the agent will visit the site to observe various routine practices and compare them to the OSP. They will also take soil, tissue, or product samples as needed as well as look for any potential contamination by prohibited materials. Additional inspection measures are then taken depending on whether a facility is a farm or processing and handling facility. If the written application and operational inspection are successful, the certifying agent will issue an organic certificate to the applicant, thus authorizing the use of the USDA organic seal on the packaging of their organic products. Once certified, USDA organic products can be exported to countries currently engaged in organic trade agreements<sup>11</sup> with the United States, including Canada and the European Union (E.U.), without further additional certification as long as the terms of the agreement are met.

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<sup>5</sup> The National List identifies synthetic substances that may be used in organic production and handling operations as well as the nonsynthetic substances that may not be used.

<sup>6</sup> The NOSB is a Federal Advisory Board that considers and makes recommendations on a wide range of issues involving the production, handling, and processing of organic products. The NOSB also reviews petitions for additions to or removals from the National List and makes formal recommendations to the USDA.

<sup>7</sup> The USDA’s Organic Certification Cost Share programs offer federal reimbursement to assist organic producers and handlers with the cost of receiving and maintaining organic certification.

<sup>8</sup> *National Organic Program*, USDA AMS, <https://www.ams.usda.gov/about-ams/programs-offices/national-organic-program>.

<sup>9</sup> *National Organic Program Strategic Plan 2015 – 2018*, USDA AMS, <https://www.ams.usda.gov/sites/default/files/media/NOP-2015StrategicPlan.pdf>.

<sup>10</sup> Organic certification is conducted by private, foreign, or State entities whose agents are accredited by the USDA.

<sup>11</sup> The United States’ organic trade agreements are the product of mutual recognition between the U.S. and another country that allow for successful trade by reducing international trade barriers. These agreements recognize two systems of organic standards as comparable and verifiable, though not necessarily identical.

Although a producer, processor, or handler may be generally authorized to utilize the USDA organic seal, the exact version of the seal that they can include on their packaging varies. The USDA has created four types of labels that are assigned according to a product's composition. These labels denote that a product is either: 1) "100 percent organic"; 2) "Organic"; 3) made with at least 70% organic ingredients; or 4) comprised of specific organic ingredients.<sup>12</sup> The "100 percent organic" label can be used to label any product that contains 100% organic ingredients.<sup>13</sup> Most raw, unprocessed farm products can be designated as such, and many value-added farm products that have no added ingredients (such as rolled oats, for example) can also be labeled in this way. Products labeled "Organic" must contain a minimum of 95% organic ingredients, with up to 5% of the total ingredients being either nonorganic agricultural products that are not commercially available as organic or nonagricultural products included on the National List.<sup>14</sup> Although a product may be mostly comprised of organic ingredients, the USDA's rules may not permit its packaging to bear the USDA organic seal, as is the case with the last two labeling categories. Products containing at least 70% organically produced ingredients can be labeled "Made with Organic \_\_\_\_."<sup>15</sup> Producers using this label may insert up to three ingredients or ingredient categories in the blank space of the title, but may not include the USDA organic seal on their product's packaging or otherwise represent the finished product as organic.<sup>16</sup> There are also a number of detailed constraints regarding the ingredients that can comprise the nonorganic portion of such a product. Finally, producers have the option to list the specific organic ingredients used in products containing less than 70% organic contents. However, they may only do so in the ingredients list of a product's packaging, and the packaging, again, may not utilize the USDA organic seal.<sup>17</sup>

## II. The Present State of Organic Aquaculture in the United States

### a. The USDA's Delayed Standard

While the USDA has promulgated numerous federal regulations governing the production and sale of terrestrially farmed organic products, it does not currently certify organic aquaculture production. The agency maintains that the NOP is in the process of developing organic practice standards for aquaculture; however, no related progress has been made since 2016. The USDA first began to discuss organic aquaculture in 1999, and formed an Aquaculture Working Group (AWG) composed of fish farmers, university scientists, and environmentalists in 2005 in order to advise the USDA on the issue.<sup>18</sup> The AWG developed a series of recommendations that were passed on to the USDA in 2010, and in 2014, the agency started drafting a proposed final rule. In 2015, the USDA submitted its proposed rule to the Office of Management in Budget (OMB). While the OMB's review process of proposed rules normally lasts 90 days, it persisted for longer than a year. In December 2016, OMB finally gave its approval for the USDA to publish the rule in the federal register and solicit public comments.

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<sup>12</sup> *Organic Labeling Standards*, USDA AMS, <https://www.ams.usda.gov/grades-standards/organic-labeling-standards>.

<sup>13</sup> *Id.*

<sup>14</sup> *Id.*

<sup>15</sup> *Id.*

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*

<sup>18</sup> *Organic standards for US farmed seafood going nowhere despite market demand*, *supra* note 5.

Publication of the proposed rule never occurred. Though the Obama administration worked to publish as many agency rules as possible before the inauguration of President Trump in 2017, it failed to push through the organic aquaculture standard. Consequently, it was sent back to the USDA when the new administration took office. While members of the AWG have submitted requests for the USDA to move forward into final rulemaking by publishing the proposed final rule, it appears that the agency has put the matter on hold indefinitely—likely until a change in administration occurs.<sup>19</sup>

As a result of the delay, the United States cannot currently enforce consistent criteria that foreign organic products must meet prior to importation. Because the USDA has not yet enacted its own organic aquaculture standards, the federal government has no power to question the organic standards used to certify foreign aquaculture products exported to the United States. This results in a patchwork of international organic labels being used that may or may not adhere to a typical consumer's understanding of what "organic" should mean. If the USDA were to promulgate final organic aquaculture standards, it would be able to extend the NOP's current importation policy for terrestrially farmed organic products to organic aquaculture products.

#### **b. International Labels**

Despite the United States' current lack of organic aquaculture standards or certification, it is relatively easy to find and purchase aquacultural products labeled "organic" within the country—a phenomenon that can easily confuse consumers. This is due in part to heavy importation of foreign fish, shellfish, and seaweed products that have been certified organic based on international, not U.S., standards. As noted above, numerous countries have established standards under which aquacultural products can be certified organic. Just as in the United States, accredited certifying bodies in these countries determine if producers, handlers, and retailers sufficiently adhere to listed standards and should, thus, be permitted to use that country's organic seal. Many international standards address a variety of the same issues, including those related to antibiotic use, waste disposal, fish feed, and living conditions, however, no two countries' standards are identical. Due to the United States' current lack of its own organic standards for aquaculture, foreign entities that gain authorization to use their country's organic seal can export products to the United States using packaging bearing that seal. This can pose problems for consumers who believe that all organic standards are largely the same, as reality may not conform to their expectations. For example, some foreign certifiers may permit the use of synthetic chemicals to control parasites—a practice that is severely limited in the NOP's regulations regarding organic livestock. However, states do have the ability to mitigate this type of consumer confusion by limiting sale of such foreign-certified products within their borders. California, for example, currently prohibits any aquaculture, fish, or seafood products from being labeled or represented as "organic" until formal organic certification standards are developed and implemented by the USDA.<sup>20</sup>

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<sup>19</sup> *Id.*

<sup>20</sup> CAL. HEALTH & SAFETY CODE § 110827 (2017).

### c. Alternative Labels

U.S. consumers may also become confused by the use of alternative, third-party labels on the packaging of some aquacultural products. While such labels cannot explicitly state that a product is “organic” in countries where organic standards already exist, labelers often utilize terms that are associated with organic production, such as “sustainable,” “authentic,” or “natural.” For example, the Aquaculture Stewardship Council (ASC), an international non-profit organization not associated with any government, seeks to provide aquaculture producers with a certification and labeling scheme which assures consumers that the product they are purchasing is sustainable for the environment as well as socially responsible.<sup>21</sup> In order for an aquatic farm to be certified by the ASC, it must undergo a process similar to that of organic certification. Farms must fulfill a comprehensive series of criteria as well as participate in an on-site farm audit before they can gain authorization to use the ASC’s label. However, as these certification programs are administered by third-party, private entities that set their own standards, inclusion of such labels on a product’s packaging may serve to confuse consumers who are ignorant of the standards at play. These types of labels can also be problematic due to the lack of required consumer participation in the standard setting process. While agency rulemakings necessitate public notice and comment before finalization in the United States, third-party, private organizations have no such requirement. As a result, some critics have accused ASC and similar labelers of existing solely to promote the interests of industry, instead of advocating for the higher production standards and transparency that consumers likely expect.<sup>22</sup>

### III. Cost, Trade, Feed, and Enforcement

While the USDA’s progress in promulgating organic aquaculture standards has come to a halt since the new administration took office, it is quite possible that it may publish the proposed rule sometime within the coming years. If the USDA were to move forward and publish its proposed standards, it could afford the domestic aquaculture industry the opportunity to become more competitive internationally as well as instill confidence among consumers that certified entities meet criteria created with the input of the public. The implementation of organic aquaculture standards could lead to increased profits from the sale of organic fish, shellfish, and seaweed. It is well known that organic products often fetch a higher retail price than conventionally produced alternatives (with some variation for the type of product being sold).<sup>23</sup> As a result, organic aquaculture producers may be able to sell certified aquatic animal products for up to 75 – 100% above the price of conventionally produced seafood.<sup>24</sup> However, there are several complications stemming from the inherent nature of commercial aquaculture that make the development and implementation of organic standards challenging.

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<sup>21</sup> *Our standards*, AQUACULTURE STEWARDSHIP COUNCIL, <https://www.asc-aqua.org/what-we-do/our-standards/>.

<sup>22</sup> *Launching of ASC standards receives criticism*, FISKERFORUM (May 6, 2011), <http://www.fiskerforum.dk/en/news/b/Launching-of-ASC-standards-receives-criticism>.

<sup>23</sup> Andrea Carlson, *Investigating Retail Price Premiums for Organic Foods*, USDA ECONOMIC RESEARCH SERVICE (May 24, 2016), <https://www.ers.usda.gov/amber-waves/2016/may/investigating-retail-price-premiums-for-organic-foods/>.

<sup>24</sup> Alexandra Chase, *Organic Aquaculture Standards: Navigating Potential USDA Regulations*, NATIONAL AGRICULTURAL LAW CENTER (Apr. 20, 2016), <http://nationalaglawcenter.org/consortium/webinars/organicaquaculture/>.

While it would appear that organic aquaculturists could earn a steep profit in the United States by increasing the prices they charge for seafood, several key factors would likely mitigate any increased revenue. First, the costs associated with organic certification itself are not insignificant. While the USDA offers cost share to help lessen the financial burden of certification, such programs only cover up to 75% of certification costs.<sup>25</sup> In order to become certified, many existing aquaculturists would likely have to make significant changes to their equipment and farming practices that may exceed this financial assistance. For example, organic farming usually requires greater labor input per unit of output, thus requiring that organic farms hire additional workers.<sup>26</sup> Furthermore, post-harvest costs can grow considerably due to things such as mandatory segregation of food during processing and transportation.<sup>27</sup> However, as demand for organic food and products grows, technological innovations and increased levels of production may reduce costs of production, processing, distribution, and marketing for organic products.<sup>28</sup> While retail prices would likely reduce proportionally, organic aquaculture products would also likely maintain higher retail prices than conventional products.

In addition to potentially increased profits, the promulgation of organic aquaculture standards would allow the United States improved organic trade benefits. Currently, the USDA's international organic trade policy allows for the importation of organic products that either: 1) meet USDA organic regulations; or 2) meet an authorized international standard.<sup>29</sup> As to the second method of importation, the NOP currently works with the Foreign Agricultural Service and Office of the United States Trade Representative to establish international trade agreements for organic products, the most common of which being an "organic equivalency agreement."<sup>30</sup> Generally, equivalency agreements facilitate the exchange of organic products between the United States and another party country, thus, providing additional market opportunities for organic producers and allowing consumers to benefit from a wider range of organic products.<sup>31</sup> More specifically, equivalency agreements are entered into when the United States determines that a foreign government's standards, organic control system oversight, and enforcement programs meet or exceed the requirements of USDA regulations.<sup>32</sup> Currently, the United States has active equivalency agreements with Canada, the E.U., Japan, Korea, and Switzerland.<sup>33</sup> Equivalency determinations may include some or all raw or processed agricultural foods. For example, the United States' equivalency agreement with Japan only applies to plant and plant-based organic products. Although equivalency agreements are helpful in organic trade, the U.S. aquaculture industry cannot benefit, as the USDA has not yet enacted aquaculture standards against which equivalency can be determined.

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<sup>25</sup> *Organic Certification Cost Share Programs*, USDA AMS, <https://www.ams.usda.gov/services/grants/occp>.

<sup>26</sup> *Organic Agriculture FAQ*, FAO, <http://www.fao.org/organicag/oa-faq/oa-faq5/en/>.

<sup>27</sup> *Id.*

<sup>28</sup> *Id.*

<sup>29</sup> *Importing Organic Products into the U.S.*, USDA AMS, <https://www.ams.usda.gov/sites/default/files/media/Importing%20Organic%20Products%20Factsheet.pdf>.

<sup>30</sup> *International Trade Partners*, USDA AMS, <https://www.ams.usda.gov/services/organic-certification/international-trade>.

<sup>31</sup> *Trade & Equivalency Arrangements*, USDA AMS, <https://www.ams.usda.gov/rules-regulations/organic/trade>.

<sup>32</sup> *How Does USDA Assess Organic Equivalency with other Countries?*, USDA AMS, <https://www.ams.usda.gov/services/organic-certification/international-trade/how-does-usda-assess-organic-equivalency-other-countries>.

<sup>33</sup> *International Trade Partners*, *supra* note 28.

While increased profits and improved organic trade benefits would be beneficial, some commentators have raised concern that the USDA's organic aquaculture standards would be less stringent than those applicable to terrestrial agriculture. This issue arises primarily in the context of animal feed. Currently, terrestrial livestock must be fed 100% certified organic feed (excepting trace minerals and vitamins used to meet the animal's nutritional requirements) in order to be certified organic.<sup>34</sup> If the USDA were to implement organic aquaculture standards, this standard would have to be adapted, as most carnivorous farmed fish, such as salmon, must be at least partially fed with wild fish meal. Such fish typically consume feed that includes fish oils and proteins as well as plant proteins, minerals, and vitamins that achieve the nutrition requirements of the fish and offer health benefits to humans.<sup>35</sup> Traditionally, carnivorous fish feed has been comprised of 30 – 50% fishmeal and oil on average, although continued research is reducing that reliance to the point where the amount of fishmeal in farmed salmon diets has dropped from 70% in 1980 to about 25% in 2017.<sup>36</sup> However, until that amount can be reduced to 0% for all species of carnivorous fish, those species cannot be considered “organic” under the standards currently in place for terrestrial livestock. This is due to the fact that the wild fish that help comprise fish meal cannot be organic, as their behavior in the open ocean cannot be monitored or controlled in the same way as that of animals living in a closed system.

Additionally, there are sustainability and environmental issues to consider. As touched on above, the origin of fish meal presents a problem. Approximately 70% of fishmeal and oil is currently produced from the harvest of small, wild fish such as herring, sardines, and mackerel.<sup>37</sup> Some critics view this as a relatively unsustainable use of wild fisheries, contributing to allegations that aquaculture would fail to live up to one of the main tenets of the organic movement—sustainability. Somewhat similarly, critics of organic aquaculture also argue that restricting the movement of migratory species like salmon fundamentally opposes the foundational philosophy of the organic movement as well as consumer perceptions as to what “organic” truly means.<sup>38</sup>

From a practical standpoint, there are also concerns related to the compliance and enforcement aspects of organic aquaculture standards. Specifically, some have questioned whether USDA agents would have the time and funding necessary to adequately enforce the standards. A lack of agency oversight could open the door to fraudulent exploitation of the organic label by both domestic and foreign entities. The USDA became embroiled in a fraud-related controversy in 2017 when an investigation by The Washington Post found that large shipments of conventionally grown corn and soy were improperly labeled organic, bringing to light consumer concerns about the reliability of the USDA organic label.<sup>39</sup> Fraud has also been discovered elsewhere in the organic sector, such as when the Nebraska-based certification agency, OneCert, discovered the fraudulent use of former professional football player Peyton Manning's signature on organic certificates.<sup>40</sup>

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<sup>34</sup> *Organic Livestock Requirements*, USDA AMS, <https://www.ams.usda.gov/sites/default/files/media/Organic%20Livestock%20Requirements.pdf>.

<sup>35</sup> *Feeds for Aquaculture*, NOAA FISHERIES, <https://www.fisheries.noaa.gov/insight/feeds-aquaculture>.

<sup>36</sup> *Id.*

<sup>37</sup> *Id.*

<sup>38</sup> *Organic Aquaculture Standards: Navigating Potential USDA Regulations*, *supra* note 25.

<sup>39</sup> Peter Whoriskey, *The labels said 'organic.' But these massive imports of corn and soybeans weren't.*, THE WASHINGTON POST (May 12, 2017), [https://www.washingtonpost.com/business/economy/the-labels-said-organic-but-these-massive-imports-of-corn-and-soybeans-werent/2017/05/12/6d165984-2b76-11e7-a616-d7c8a68c1a66\\_story.html?utm\\_term=.8032a304d32a](https://www.washingtonpost.com/business/economy/the-labels-said-organic-but-these-massive-imports-of-corn-and-soybeans-werent/2017/05/12/6d165984-2b76-11e7-a616-d7c8a68c1a66_story.html?utm_term=.8032a304d32a).

<sup>40</sup> Kristofor Husted, *In Organic Labels Consumers Trust, But Fraud Threatens The Industry*, HARVEST PUBLIC MEDIA (Dec. 14, 2017), <http://www.harvestpublicmedia.org/post/organic-labels-consumers-trust-fraud-threatens-industry>.

While the USDA can impose hefty fines as well as jail time for fraudulent offenses, critics have argued that such penalties don't always deter lawbreakers.<sup>41</sup> In these critics' view, the longer and more complex a supply chain is, the more potential risk there is for fraud.<sup>42</sup> If the USDA does not have the time, resources, and appropriate penalties to deter those wishing to commit organic fraud at all stages of the supply chain, it could wholly undermine consumer confidence in the organic label—enabling unscrupulous sellers to exploit the high premiums charged by honest aquaculturists in exchange for the risks, expense, and labor involved in producing genuine organic products.

#### IV. Conclusion

Until the USDA finalizes organic standards for aquacultural products, industry representatives and consumers are limited to internationally and privately certified products. This is a prospect that few U.S. citizens seem to be content with, despite the challenges that may come along with federally-promulgated organic aquaculture standards. Proponents of the USDA's proposed organic standards have argued they would “create jobs and bring aquaculture production back to the United States for species that can be organically certified.”<sup>43</sup> Other advocates contend that, without an easily understandable and recognizable organic label like the USDA's, it will remain difficult to communicate the quality and sustainability of organic products to consumers in an easily understandable way.<sup>44</sup> In the absence of federal regulation, industry members and consumers will be reliant on self-education regarding current organic labeling practices as well as the potential benefits and detriments that USDA organic aquaculture standards could bring.

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<sup>41</sup> *Id.*

<sup>42</sup> *Id.*

<sup>43</sup> Jenna Blumenfeld, *It's time for USDA Organic aquaculture regulations*, SUPERMARKET NEWS (Feb. 22, 2018), <https://www.supermarketnews.com/seafood/its-time-usda-organic-aquaculture-regulations>.

<sup>44</sup> *Id.*