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BALANCING DOMESTIC NUCLEAR INDUSTRY VIABILITY WITH INTERNATIONAL SECURITY: IMMINENT CHANGES TO NUCLEAR EXPORT CONTROL REGULATIONS

H. Brendan Burke *

I. INTRODUCTION

In August 2013, the Department of Energy (DoE) promulgated a supplemental notice of proposed rulemaking (SNOPR)¹ to revise the Code of Federal Regulations title 10, part 810 (part 810). Part 810 is titled "Assistance to Foreign Atomic Energy Activities" and implements section 57b of the Atomic Energy Act of 1954, as amended by section 302 of the Nuclear Nonproliferation Act of 1978.² Part 810 controls the export of technology pertaining to special nuclear material (SNM) and its production outside the United States by U.S. citizens or corporations.³ Its purpose is to protect national security interests relating to nuclear nonproliferation while facilitating civil nuclear trade.⁴

The most noteworthy changes in the proposed revision pertain to how potential trade partner host countries are classified. This classification directly affects the volume of regulatory requirements applicable to transactions with the individual destination countries.

This article will explain the proposed changes in the country classification scheme, analyze the rationales driving the proposal, and assess whether implementation of the proposed rule is likely to successfully achieve the balance between security and commercial interests. Ultimately this article argues that while the revised destination

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¹ *Assistance to Foreign Atomic Energy Activities*, 78 FED. REG. 46,829 (proposed Aug. 2, 2013). The August 2013 proposal was a supplemental notice of proposed rulemaking (SNOPR) following an earlier proposal in 2011. See *Assistance to Foreign Atomic Energy Activities*, 76 FED. REG. 55,278 (proposed Sept. 7, 2011).

² 42 U.S.C. § 2077(b) (2012). Section 57b makes it "unlawful to directly or indirectly engage or participate in the development or production of any special nuclear material outside of the United States except . . . (1) as specifically authorized under an agreement for cooperation made pursuant to section [123 of the Act] . . . , or (2) upon authorization by the Secretary of Energy after a determination that such activity will not be inimical to the interest of the United States." The first exception refers to agreements for peaceful cooperation (section 123 agreements) between the United States and partner nations. See discussion of section 123 agreements at the text associated with notes 13-16, *infra*. The second exception pertains to the transactions covered by part 810.

³ 10 C.F.R. § 810.1.

⁴ *Assistance to Foreign Atomic Energy Activities*, *supra* note 1, at 55,278.

country classification scheme may be as administratively burdensome to U.S. nuclear vendors as the present scheme, it is still legally permissible and defensible on security policy grounds.

Part 810 currently lists seventy-seven countries for which a U.S. citizen or corporation must seek “specific authorization” from the Secretary of Energy before transferring technology pertaining to the production or processing of SNM.⁵ These countries are referred to in shorthand parlance as “SA countries” (for “specific authorization”).⁶ Under the current regulatory construct, all countries not listed among the seventy-seven SA countries are presumed to be generally authorized (GA) by the Secretary to receive SNM technology transfers.

By contrast, the SNO PR proposes to dispense with the negative list of SA countries and instead include an appendix with a positive list of forty-eight GA countries plus the International Atomic Energy Agency (IAEA).⁷ Countries could be added to or removed from the GA list through additional public notice rulemaking.⁸ Similar to the present presumption that unlisted countries are classified as GA, the proposed rule implies that unlisted countries are to be characterized as SA.

But the switch from a negative listing to a positive listing was not as simple as reversing the list (i.e., just listing all previously unlisted countries). Three countries that are currently on the SA list in § 810.8(a)—Kazakhstan, Ukraine, and the United Arab Emirates (U.A.E.)—are proposed as enumerated GA countries in the SNO PR.⁹

Additionally, there are seventy-seven countries¹⁰ that are listed neither in the present § 810.8(a) SA list nor the SNO PR’s proposed GA

⁵ 10 C.F.R. § 810.8(a). The seventy-seven countries are Afghanistan, Albania, Algeria, Andorra, Angola, Armenia, Azerbaijan, Bahrain, Belarus, Benin, Botswana, Burkina Faso, Burma (Myanmar), Burundi, Cambodia, Cameroon, Cape Verde, Central African Republic, Chad, China, Comoros, Congo (Zaire), Cuba, Djibouti, Equatorial Guinea, Eritrea, Gabon, Georgia, Guinea, Guinea-Bissau, Haiti, India, Iran, Iraq, Israel, Kazakhstan, Kenya, Kuwait, Kyrgyzstan, Laos, Liberia, Libya, Macedonia, Mali, Marshall Islands, Mauritania, Micronesia, Moldova, Mongolia, Mozambique, Niger, North Korea, Oman, Pakistan, Palau, Qatar, Russia, Rwanda, Sao Tome and Principe, Saudi Arabia, Seychelles, Sierra Leone, Somalia, Sudan, Syria, Tajikistan, Tanzania, Togo, Turkmenistan, Uganda, Ukraine, United Arab Emirates, Uzbekistan, Vanuatu, Vietnam, Yemen, and Yugoslavia. *Id.* SNM is defined as “(1) plutonium, (2) uranium-233, or uranium enriched above 0.711 percent by weight in the isotope uranium-235.” 10 C.F.R. § 810.3.

⁶ It would be incorrect to use the term “specifically authorized country;” it is not the countries themselves who are ultimately “authorized,” but rather individual transactions on a case-by-case basis. *See, e.g.*, DEP’T OF ENERGY, ANALYSIS OF ECONOMIC IMPACT—SUPPLEMENTAL NOTICE OF PROPOSED RULEMAKING, 10 CFR 810, (Jan. 13, 2013) (referring to “SA” and “GA” (generally authorized) countries throughout the document), *available at* <http://mercatus.org/sites/default/files/1994-AA02-DOE-RIA.pdf>.

⁷ *Assistance to Foreign Atomic Energy Activities*, *supra* note 1, at 46,831. The forty-eight enumerated GA countries in the SNO PR are Argentina, Australia, Austria, Bangladesh, Belgium, Brazil, Bulgaria, Canada, Colombia, Cyprus, Czech Republic, Denmark, Egypt, Estonia, Finland, France, Germany, Greece, Hungary, Indonesia, Ireland, Italy, Japan, Kazakhstan, Latvia, Lithuania, Luxembourg, Malta, Morocco, Netherlands, Norway, Peru, Poland, Portugal, Korea, Romania, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, Ukraine, United Arab Emirates, and the United Kingdom. *Id.* at 46,849–50.

⁸ *Id.* at 46,835.

⁹ *Id.* at 46,849–50.

¹⁰ The seventy-seven unlisted (in the SNO PR) countries are Antigua and Barbuda, Aruba, Bahamas, Bangladesh, Barbados, Belize, Bhutan, Bolivia, Bosnia and Herzegovina, Brunei, Costa Rica, Cote d’Ivoire, Croatia, Curaçao, Dominica, Dominican Republic, Ecuador, El Salvador,

list (coincidentally the same number presently listed as SA—there is no further numeric significance, and there is no overlap between the two lists of seventy-seven). This means that those seventy-seven are countries presently classified as GA, but will become SA countries (subject to tighter export restrictions as discussed below) when part 810 is revised per the SNOPR. Nuclear energy industry advocates take particular issue with this aspect of the proposed rule.¹¹

II. BACKGROUND

As mentioned in the introduction, part 810 implements Section 57b of the AEA.¹² Section 57b makes it unlawful for a U.S. citizen or corporation to “engage or participate in the development or production of [SNM] outside of the United States” with two exceptions: (1) pursuant to a bilateral agreement under section 123 of the AEA;¹³ or (2) as authorized by the Secretary of Energy “after a determination that such activity will not be inimical to the interest of the United States.”¹⁴

Section 123 agreements are government-to-government agreements that pertain to peaceful cooperation on civil nuclear power development. There are nine statutory requirements to execute a section 123 agreement: (1) a guarantee by the host country to maintain the safeguards set forth in the agreement; (2) agreement by non-nuclear weapons countries to maintain IAEA safeguards for peaceful nuclear materials; (3) a guarantee that no materials or technology subject to the agreement will be used for nuclear weapons research or detonation; (4) a stipulation that the United States may reclaim any materials if the partner nation

Ethiopia, Fiji, Gambia, Ghana, Grenada, Guatemala, Guyana, Honduras, Hong Kong, Iceland, Jamaica, Jordan, Kiribati, Kosovo, Lebanon, Lesotho, Liechtenstein, Macau, Madagascar, Malawi, Malaysia, Maldives, Mauritius, Monaco, Montenegro, Namibia, Nauru, Nepal, New Zealand, Nicaragua, Nigeria, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, San Marino, Senegal, Serbia, Singapore, Solomon Islands, South Sudan, Sri Lanka, Suriname, Swaziland, Timor-Leste, Tonga, Trinidad and Tobago, Tunisia, Tuvalu, Uruguay, Vatican City, Venezuela, Zambia, and Zimbabwe. See DEP’T OF ENERGY, ANALYSIS OF ECONOMIC IMPACT—SUPPLEMENTAL NOTICE OF PROPOSED RULEMAKING, 10 CFR 810, *supra* note 6, at 17-20 (listing countries whose status will change under the SNOPR). The Analysis of Economic Impact actually lists three additional countries with the above seventy-seven as changing from GA to SA. Congo and Palau are presumably listed in error, as each is presently designated SA. 10 C.F.R. § 810.8(a). Also listed is “Western Sahara,” which is a disputed state administered by Morocco. DEP’T OF STATE, WESTERN SAHARA 2012 HUMAN RIGHTS REPORT (last accessed Nov. 18, 2013), available at <http://www.state.gov/documents/organization/204600.pdf>. Adding the proposed new SA countries to those currently enumerated (less Kazakhstan, Ukraine, and U.A.E., which are proposed to be GA as discussed at the text associated with note 9 *supra*, and Yugoslavia, which is defunct) would bring the total number of recognized SA countries to 150.

¹¹ See generally, Letter from Richard J. Myers, Vice President of Policy Dev., Planning, and Supplier Programs, Nuclear Energy Inst., to Richard Goorevich, Senior Policy Advisor, Office of Nonproliferation and Int’l Sec., Nat’l Nuclear Sec. Admin., Dep’t of Energy, *Proposed Rule on Assistance to Foreign Atomic Energy Activities* (Dec. 7, 2011), available at http://www.nei.org/corporatesite/media/filefolder/NEIComments_DOE_Proposed_Rule_Exports810_120711.pdf.

¹² 10 C.F.R. § 810.1.

¹³ 42 U.S.C. § 2077(b)(1). Section 123 of the AEA is codified at 42 U.S.C. § 2153.

¹⁴ 42 U.S.C. § 2077(b)(2).

detonates a nuclear explosive device or otherwise abrogates IAEA safeguards; (5) a guarantee that no materials or technology subject to the agreement will be transferred to a third party; (6) a guarantee to maintain adequate physical security; (7) an agreement not to reprocess, enrich, or otherwise alter SNM without prior approval by the United States; (8) an agreement not to store SNM without prior approval; and (9) a guarantee that all SNM produced or facilities constructed as a result of the transfer will be subject to the requirements of the agreement.¹⁵ The agreements are negotiated by the State Department and ultimately approved by Congress.¹⁶ Transactions that are specifically contemplated by a section 123 agreement do not require further intervention by the Secretaries of State or Energy.¹⁷

Export transactions not contemplated by an existing section 123 agreement, however, trigger the authorization regimen in AEA § 57b(2), as implemented by part 810. The current iteration of part 810 has a short but broad list of activities that require specific authorization by the Secretary of Energy: (1) production of SNM in any of the seventy-seven enumerated SA countries; (2) providing “sensitive nuclear technology for an activity in any foreign country” (regardless of the country’s part 810 classification); and (3) providing assistance or training in certain matters (again regardless of the country’s part 810 classification).¹⁸ Regarding the first activity on that list (production of SNM), transactions with countries not enumerated as SA are presumed to be GA by the Secretary of Energy.

An application for specific authorization can take longer than two years to be approved.¹⁹ The process involves interagency coordination between the Departments of Energy, State, Defense, and Commerce, as well as the Nuclear Regulatory Commission.²⁰ The final authorization, as stated above, requires an ultimate determination by the Secretary of Energy that the proposed “activity will not be *inimical* to the interest of the United States.”²¹ The inimicality determination and specific authorization are not delegable below the secretarial level.²²

¹⁵ 42 U.S.C. § 2153(a).

¹⁶ 42 U.S.C. § 2153.

¹⁷ 42 U.S.C. § 2077(b)(1).

¹⁸ 10 C.F.R. § 810.8.

¹⁹ Office of Nonproliferation and Int’l Sec., Nat’l Nuclear Sec. Admin., Dep’t of Energy, *Proposed Changes to DOE Part 810—Assistance to Foreign Nuclear Activities* (slide presentation for Nov. 18, 2013, public meeting for comment on the SNOPR), slide 6, available at <http://nnsa.energy.gov/sites/default/files/nnsa/11-13-inlinefiles/2013-11-20%20SNOPR.pdf>.

²⁰ *Id.*

²¹ 10 U.S.C. § 2077(b)(2) (emphasis added).

²² Richard Goorevich, Senior Policy Advisor, Office of Nonproliferation and Int’l Sec., Nat’l Nuclear Sec. Admin., Dep’t of Energy, comments at Nov. 15, 2013, public meeting regarding the SNOPR, transcript page 53, available at [http://nnsa.energy.gov/sites/default/files/nnsa/11-13-inlinefiles/2013-11-22%20Proposed%20Changes%20to%20DOE%20Part%20810%20\(11-15-2013\).pdf](http://nnsa.energy.gov/sites/default/files/nnsa/11-13-inlinefiles/2013-11-22%20Proposed%20Changes%20to%20DOE%20Part%20810%20(11-15-2013).pdf). There is no express standard or definition of “inimical” or “inimicality” in AEA § 57b of part 810. *Webster’s New World Dictionary* defines *inimical* as “like an enemy; hostile; unfriendly” or “in opposition; adverse; unfavorable.”

By contrast, export transactions contemplated by AEA § 57b(2) and part 810 with GA countries only trigger a reporting requirement to DoE.²³ The GA process is therefore vastly preferred by vendors and customers alike.²⁴

The Nuclear Energy Institute (NEI), an organization advocating for interests of the nuclear industry in the United States and abroad, asserts that the “specific authorization requirement imposes a heavy burden on exporters” in terms of time and money.²⁵ It logically follows, then, that industry would prefer a regulatory scheme featuring more GA countries and activities, and fewer SA countries and activities.

III. IMPETUS FOR REVISION TO PART 810

The proposed revision to part 810 reflects an effort by DoE “to make the regulations consistent with current global civil nuclear trade practices and nonproliferation norms and to update the activities and technologies subject to the Secretary of Energy’s specific authorization and DoE reporting requirements.”²⁶ Regarding trade practices, the drafters noticed that the intervening years since the last comprehensive part 810 update had seen the emergence of new vendors from new markets competing with U.S. suppliers as well as the development of new technologies like small modular reactors.²⁷

Regarding security and nonproliferation, events in countries like Iraq, Libya, and Malaysia caused regulators to consider “new political relationships and . . . new realities moving forward.”²⁸

In bringing part 810 into the twenty-first century, then, DoE’s aims were fourfold: “[1] *Effective threat reduction* in a changing world[; 2] *Open, transparent, predictable, and understandable* regulation[; 3] *Efficient regulation* that performs the mission without wasting time or money[; and 4] *Effective nuclear trade support* for companies competing [in] global civil nuclear markets[.]”²⁹ In short, the SNOPIR’s putative goal is to strike “a balance to promote trade without increasing proliferation risk.”³⁰

²³ Office of Nonproliferation and Int’l Sec., Nat’l Nuclear Sec. Admin., Dep’t of Energy, *Proposed Changes to DOE Part 810—Assistance to Foreign Nuclear Activities* (slide presentation for Aug. 5, 2013, public meeting for comment on the SNOPIR), slide 5, available at http://nnsa.energy.gov/sites/default/files/nnsa/08-13-inlinefiles/2013-08-05%20Master%2010%20Rollout%20Presentation%20Final%208-5-2013_Clean%20to%20PA.pdf.

²⁴ Myers, *supra* note 11, attachment 1, page 9.

²⁵ *Id.* at attachment 1, page 8. NEI goes on to note that “foreign customers regard a Part 810 specific authorization as a cause of delay and uncertainty[] and a distinct disadvantage in procuring commercial nuclear technology from the United States.” *Id.* at attachment 1, page 9.

²⁶ *Assistance to Foreign Atomic Energy Activities*, *supra* note 1, at 46,829.

²⁷ Richard Goorevich, Senior Policy Advisor, Office of Nonproliferation and Int’l Sec., Nat’l Nuclear Sec. Admin., Dep’t of Energy, comments at Aug. 5, 2013, public meeting regarding the SNOPIR, transcript page 16, available at <http://nnsa.energy.gov/sites/default/files/nnsa/08-13-inlinefiles/Transcript-PROPOSED%20CHANGES%20FOR%20DOE%20PART%20810.pdf>.

²⁸ *Id.* at 16–17.

²⁹ Office of Nonproliferation and Int’l Sec., *supra* note 19, slide 10 (emphasis in original).

³⁰ *Id.*

IV. COMPETING INTERESTS

In recent years, this sought-after balance has proven to be a very elusive target.³¹ The massive scope of the September 11, 2001, terrorist attacks forced government leaders to consider both non-state actors and traditional national adversaries in the context of counter-proliferation and prevention of the use of weapons of mass destruction.³²

The case of Pakistani nuclear scientist Abdul Qadeer Khan particularly illustrates the extent to which the proliferation threat has outpaced the reach of U.S. nuclear export controls. Khan absconded from a Dutch nuclear fuel cycle firm in the 1980s with plans for a uranium-enrichment centrifuge, which he used to develop Pakistan's nuclear program.³³ In 2003, Khan obtained U.S. technology in Malaysia to build equipment for enriching uranium and provided that gear to Iran and Libya.³⁴ Malaysia was (and remains, pending revision of part 810) a GA country.³⁵ Despite being known to the international community as a proliferation bad actor, Khan and his network were able to take advantage of the relaxed export control restrictions afforded by Malaysia's GA status, likely to the detriment of the United States and its allies.³⁶

From the industry's perspective, the part 810 export control destination classification construct has had a little more success in its alternative goal of supporting trade opportunities for U.S. suppliers. Commentators reviewing the Brookings Institution's 2009–10 survey of the civil nuclear industry concluded that "U.S. companies are no longer leading participants in the international nuclear fuel cycle."³⁷ Instead, suppliers in China, France, Japan, Korea, and Russia have made considerable gains in market share in recent years.³⁸ Once American

³¹ See generally JOHN P. BANKS & CHARLES K. EBINGER EDS., *BUSINESS AND NONPROLIFERATION—INDUSTRY'S ROLE IN SAFEGUARDING A NUCLEAR RENAISSANCE* (2011) (examining the challenges that government and corporations face in dealing with modern security threats and emerging nuclear fuel cycle markets).

³² Scott Jones et al., *Trade Controls and International Security*, in *COMBATING WEAPONS OF MASS DESTRUCTION—THE FUTURE OF INTERNATIONAL NONPROLIFERATION POLICY* 118, 126 (Nathan E. Busch & Daniel H. Joyner eds., 2009). See also Charles D. Ferguson, *WMD Terrorism*, in *COMBATING WEAPONS OF MASS DESTRUCTION—THE FUTURE OF INTERNATIONAL NONPROLIFERATION POLICY*, *supra* note 24, at 34–37 (describing potential scenarios in which terrorists could employ nuclear weapons or materials).

³³ Seema Gahlaut, *South Asia and the Nonproliferation Regime*, in *COMBATING WEAPONS OF MASS DESTRUCTION—THE FUTURE OF INTERNATIONAL NONPROLIFERATION POLICY*, *supra* note 32, at 222, 228.

³⁴ Mark Hibbs, *New and Balanced Rules for U.S. Nuclear Technology Exports* (Sept. 30, 2013), available at <http://carnegieendowment.org/2013/09/30/new-and-balanced-rules-for-u.s.-nuclear-technology-exports>.

³⁵ See 10 C.F.R. § 810.8(a) (excluding Malaysia from the enumerated list of SA countries). Malaysia is one of the seventy-seven countries proposed to change to SA status. *Supra* note 10.

³⁶ Hibbs, *supra* note 34.

³⁷ John P. Banks and Sharon Squassoni, *Commercial Nuclear Markets and Nonproliferation*, in *BUSINESS AND NONPROLIFERATION—INDUSTRY'S ROLE IN SAFEGUARDING A NUCLEAR RENAISSANCE*, *supra* note 31, at 31, 34.

³⁸ *Id.*

giants in the field, Westinghouse and General Electric are now subsidiaries of or substantially owned by Asian business interests.³⁹

Furthermore, industry leaders claim that the financial expenses and time delays necessary to navigate complicated export control processes, such as those in part 810, serve to drive foreign and multinational customers to non-U.S. suppliers.⁴⁰ Apart from the quantifiable costs, potential customers are likely to prefer establishing trade partnerships with suppliers in countries offering fewer substantive restrictions and greater flexibility.⁴¹

V. THE SNOPR: DOE'S ATTEMPT TO STRIKE A MORE EFFECTIVE BALANCE

With these goals and challenges in mind, DoE set out in 2011 to overhaul part 810.⁴² A major component of that overhaul, the proposal to switch from an exclusive, negative (SA) list to an inclusive, positive (GA) list was intended to align the part 810 processes with other governmental export regimes, where the trend is to favor positive lists over negative lists.⁴³ The ostensible goal is to better define those select countries suitable for expedited transaction approvals, resulting in more predictable outcomes.⁴⁴ In principle, the decision to have positive lists rather than negative lists was not contentious.⁴⁵ However, industry objections would arise on the matter of how the list should be populated.⁴⁶ Following the 2011 notice of proposed rulemaking, NEI argued the following in its public comments:

Had DOE simply reversed the restricted country list in the current rule with a “generally authorized list,” it would not have altered which countries are eligible for general authorizations. However, the generally authorized list in [the proposed rule] is not the inverse of the restricted countries list. Without explanation, the proposed list of generally authorized countries *excludes*

³⁹ *Id.* at 36.

⁴⁰ Myers, *supra* note 11, attachment 1, page 8.

⁴¹ See Hibbs, *supra* note 34 (contrasting U.S. efforts to require prohibitions on uranium enrichment or reprocessing as conditions precedent to section 123 agreements with other countries, like Australia and Canada, which do not impose such restrictions but still have successful nonproliferation programs).

⁴² *Assistance to Foreign Atomic Energy Activities*, *supra* note 1, at 55,278.

⁴³ Goorevich comments, *supra* note 27, at 20.

⁴⁴ *Id.*

⁴⁵ See Letter from Hunter R. Rawlings III, President, Ass'n of American Univs., & Anthony DeCrappeo, President, Council on Gov't Relations, to Richard Goorevich, Senior Policy Advisor, Office of Nonproliferation and Int'l Sec., Nat'l Nuclear Sec. Admin., Dep't of Energy, “RIN 1994-AA02 Assistance to Foreign Atomic Energy Activities” (Nov. 7, 2011), available at <http://www.aau.edu/WorkArea/DownloadAsset.aspx?id=12856> (supporting the switch to a positive list as “a helpful change that will reduce uncertainties and reporting burdens for users”).

⁴⁶ *Assistance to Foreign Atomic Energy Activities*, *supra* note 1, at 46,835.

*most countries that are now eligible for general authorizations under the current rule.*⁴⁷

The drafters of the proposed rule may have promulgated the GA list “[w]ithout explanation” in 2011, but they have subsequently made their rationale very clear: GA status going forward will be tied *almost* inextricably to whether the prospective partner country has executed a section 123 agreement.⁴⁸ In fact, every country (and the IAEA) on the proposed GA list either has its own bilateral section 123 agreement with the United States or falls under an umbrella international organization with such an agreement in place (such as the European Atomic Energy Community).⁴⁹ Kazakhstan, Ukraine, and U.A.E., all presently enumerated in § 810.8(a) as SA countries, each executed a section 123 agreement during the time since the last part 810 revision. Therefore, they are proposed to be included on the new GA list—the only three current SA countries to be included.⁵⁰

On behalf of the nuclear industry, NEI objects to what it characterizes as the indiscriminate reclassification of the seventy-seven countries that will lose their GA status under the SNOPI.⁵¹ According to DoE’s own economic analysis, those seventy-seven countries are expected to generate \$10 billion in new nuclear trade business by 2030.⁵² NEI asserts that subjecting those developing countries to stiffer regulatory requirements than were required in the recent past is likely to dissuade potential customers from doing business with U.S. suppliers.⁵³

DoE acknowledges that SA status is burdensome, but also maintains that the combined trade volume of these seventy-seven proposed SA countries is only “a very small part of the global nuclear market.”⁵⁴ DoE further offers that the combined anticipated trade from all seventy-seven countries only amounts to half the combined volume from Kazakhstan, Ukraine, and U.A.E., whose pending GA reclassification will benefit vendors.⁵⁵

⁴⁷ Myers, *supra* note 11, attachment 1, page 8 (emphasis added).

⁴⁸ *Assistance to Foreign Atomic Energy Activities*, *supra* note 1, at 46,835. (listing “the existence of a 123 Agreement with the United States” as the first in a list of factors the Secretary of Energy would consider in making the non-inimicality determination prerequisite to proposing GA status), Goorevich comments, *supra* note 27, at 25 (affirming “the linkage of the positive list to the 123 process”). It merits mention that NEI still obviously surmised this connection when it submitted its 2011 comments, which noted that “[b]ecause each of the forty-eight countries in the proposed [GA] list is covered by a Section 123 agreement, it appears that DOE is proposing to make a Section 123 agreement a prerequisite for inclusion in the [GA] list.” Myers, *supra* note 11, attachment 1, at 8.

⁴⁹ Nat’l Nuclear Sec. Admin., Dep’t of Energy, *123 Agreements for Peaceful Cooperation*, at <http://nnsa.energy.gov/aboutus/ourprograms/nonproliferation/treatiesagreements/123agreementsforpeacefulcooperation>.

⁵⁰ Myers, *supra* note 11, attachment 1, at 8.

⁵¹ *Id.* at attachment 1, page 8–9.

⁵² Office of Nonproliferation and Int’l Sec., *Proposed Changes to DOE Part 810—Assistance to Foreign Nuclear Activities*, *supra* note 19, slide 30.

⁵³ Myers, *supra* note 11, attachment 1, at 9.

⁵⁴ *Assistance to Foreign Atomic Energy Activities*, *supra* note 1, at 46,836.

⁵⁵ *Id.*

The remaining seventy-three countries on the current enumerated SA list (less Yugoslavia, a defunct state) would remain SA because they are unenumerated in the proposed rule.⁵⁶ Of those seventy-three countries, it is important to note that China, Russia, and India—each have section 123 agreements with the United States in force.⁵⁷ They are the only countries who have section 123 agreements but who are not proposed for GA status.

In regards to China and Russia, the purported rationale is that both countries have manifested a lack of “transparency” regarding the separation of their military nuclear explosive programs from their peaceful nuclear energy applications, section 123 agreements notwithstanding.⁵⁸ Additionally, although India also has a nuclear weapons program, its situation presents a different problem. The Henry J. Hyde United States-India Peaceful Atomic Energy Cooperation Act of 2006 (Hyde Act)⁵⁹ imposes accountability requirements unique to India that, according to DoE, make granting India GA status “infeasible.”⁶⁰ DoE’s position is that specific authorization is necessary in India’s case to ensure on a case-by-case basis that these requirements are met.⁶¹

Although DoE could assert that the trade volume attributable to the seventy-seven small-market countries slated to transition from GA to SA is paltry (insofar as \$10 billion could be so considered), that case cannot be made concerning these three giants. The industry’s most vehement objections to the SNOPR probably lie against the decision to retain SA status for these three section 123 agreement countries, while elevating three others (Kazakhstan, Ukraine, and U.A.E.) to GA status. NEI asserts that “[t]ogether, China and India will account for half of the world’s planned increase in nuclear generating capacity by 2030.”⁶² By DoE’s own accounting, that volume would equal or exceed hundreds of billions of dollars.⁶³ Therefore, the industry’s objection to the exclusion of these three countries comes as no surprise.

⁵⁶ *Assistance to Foreign Atomic Energy Activities*, *supra* note 1, at 46,849–50.

⁵⁷ Nat’l Nuclear Sec. Admin., Dep’t of Energy, *123 Agreements for Peaceful Cooperation*, *supra* note 49.

⁵⁸ *Assistance to Foreign Atomic Energy Activities*, *supra* note 1, at 46,837.

⁵⁹ 22 U.S.C. 8001 (2012). As stated in the text associated with note 16 *supra*, Congress must approve all section 123 agreements. The Nuclear Nonproliferation Act of 1978 indirectly precludes approval of any agreement on nuclear cooperation with any country—like India—that is not a signatory to the Treaty on the Non-Proliferation of Nuclear Weapons. Quentin Michel, *The Control of International Nuclear Trade—Difficult Balance Between Trade Development and Non-Proliferation of Nuclear Weapons*, in INTERNATIONAL NUCLEAR LAW: HISTORY, EVOLUTION AND OUTLOOK—10TH ANNIVERSARY OF THE INTERNATIONAL SCHOOL OF NUCLEAR LAW 271, 298 (ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, NUCLEAR ENERGY AGENCY 2010). The Hyde Act carved an exception to that requirement applicable only to India so that the Bush Administration could complete a section 123 agreement with that country. *Id.* at 298–99.

⁶⁰ *Assistance to Foreign Atomic Energy Activities*, *supra* note 1, at 46,837.

⁶¹ *Id.*

⁶² Myers, *supra* note 11, attachment 1, at 10.

⁶³ See Office of Nonproliferation and Int’l Sec., “Proposed Changes to DOE Part 810—Assistance to Foreign Nuclear Activities,” *supra* note 19, slide 30 (projecting new reactor construction and associated trade volume exceeding \$1.5 trillion by 2030).

VI. ASSESSMENT AND LIKELY OUTCOMES

A revised part 810 final rule should be published sometime in 2014.⁶⁴ The industry will likely enjoy relief in the form of process improvements that occur outside the scope of the SNOPR to reduce the time it takes for the Secretary of Energy to authorize transactions with SA countries,⁶⁵ but is unlikely to prevail on its objections to the increased number of SA countries or the continuation of SA status for China, Russia, and India.

Assuming that the final promulgated rule reflects the SNOPR as written, the industry's prospects to successfully challenge the revised rule would be poor. Tethering GA status to prospective countries' section 123 status is neither arbitrary nor capricious, even with the option to maintain SA classification for good cause despite a section 123 agreement as in the cases of China and Russia. If anything, the proposed changes could be construed as a tacit admission by DoE that the GA standards presently in force may have been too lax. In any event, because AEA § 57b does not prescribe a definition or standard for "inimical," courts are likely to afford significant deference to DoE's interpretation and assessment of the best mechanism to determine inimicality.⁶⁶ Any legal challenge to the final rule as proposed would probably not survive summary judgment.

Administrative law principles aside, the proposed country classification scheme—along with the country-by-country determinations proposed—is grounded in defensible policy considerations and represents the right way ahead for SNM technology export control. DoE correctly asserts in the SNOPR's Federal Register notice that "any anticipated additional burdens do not overcome the sound national security reasons for the Department's proposed approach to classification of foreign destination."⁶⁷

However, this is not to suggest that the commercial trade implications are unimportant or ought not be considered. Promoting robust nuclear trade is essential for the United States to maintain international relevance—not only commercially, but also in the security arena. Such high regulatory hurdles that extinguish nuclear trade altogether would undercut nonproliferation goals by diminishing the United States' ability to influence developing nations' practices and policies.

On the other hand, U.S. regulators should feel no pressure to loosen export controls or hasten processes solely to match what other supplier countries may be doing—or more importantly, may *not* be doing. A "race to the bottom" in the arena of nuclear security can only lead to a

⁶⁴ See *Assistance to Foreign Atomic Energy Activities*, *supra* note 1, at 16,238 (promulgated Mar. 25, 2014) (extending public comment period until Apr. 2, 2014).

⁶⁵ See, e.g., *id.*, slides 30 (describing DoE initiatives, separate and distinct from the regulatory changes in the SNOPR, to improve the part 810 specific authorization process).

⁶⁶ See *Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984) (establishing the standard for judicial review of an agency's interpretation of a statute it is charged to administer).

⁶⁷ *Assistance to Foreign Atomic Energy Activities*, *supra* note 1, at 46,836.

horrific finish. Thus, the proposed changes in the SNOPR will keep the United States above that hypothetical fray.

VII. CONCLUSION

Regulators and nuclear industry leaders are sure to grapple with how best to balance market competition with nonproliferation for as long as nuclear power exists. A healthy debate that considers both ends of the spectrum is the most effective way to achieve an approximation of balance between these concerns. However, the stakes are far too high to shortsightedly pursue profit at the expense of security. By continuing a security-first approach, the proposed changes to the SNM technology export control regulations will maintain the best balance possible.