



AGENCY

National Nuclear Security Administration,
Department of Energy*Rule title*

Assistance to Foreign Atomic Energy Activities

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Stage	Proposed rule

REGULATORY SCORING

	SCORE
1. Systemic Problem: How well does the analysis identify and demonstrate the existence of a market failure or other systemic problem the regulation is supposed to solve?	2/5
2. Alternatives: How well does the analysis assess the effectiveness of alternative approaches?	1/5
3. Benefits (or Other Outcomes): How well does the analysis identify the benefits or other desired outcomes and demonstrate that the regulation will achieve them?	3/5
4. Costs: How well does the analysis assess costs?	2/5
5. Use of Analysis: Does the proposed rule or the RIA present evidence that the agency used the Regulatory Impact Analysis in any decisions?	2/5
6. Cognizance of Net Benefits: Did the agency maximize net benefits or explain why it chose another alternative?	1/5
Total Score	11/30

SUMMARY

The National Nuclear Security Administration (NNSA) in the Department of Energy (DOE) have proposed updating existing nuclear trade regulation to better enable peaceful nuclear trade and to ensure that nuclear technologies exported from the United States are not used for nonpeaceful purposes. Their solution is to update Part 810 of the Atomic Energy Act by providing a new list of nuclear trade destinations, where most foreign atomic energy activities would be generally authorized, and a list of activities that require specific authorization by the Security of Energy. Existing regulation is argued to be outdated.

The primary purpose of the regulation is to reduce US citizens' exposure to non-civil nuclear development. Surprisingly, no analysis is provided to analyze the effectiveness of the regulation in regards to national security matters. Instead, the NNSA presents an incomplete analysis of the trade-related cost-effectiveness of the re-categorization aspect of the regulation, in which many costs are ignored and adjustments for inflation are mishandled. The analysis also fails to address the effectiveness of the other twelve changes proposed in the regulation.

In addition to the limitations of the analysis of the proposed regulation's cost-effectiveness, the NNSA fails to consider a single alternative other than the status quo. While it is quite possible that, correctly calculated, the benefits of the proposed regulation exceed its costs, Congress and their constituents deserve a more complete assessment of the proposed rule and its cost-effectiveness relative to alternative solutions.

1. Systemic Problem: How well does the analysis identify and demonstrate the existence of a market failure or other systemic problem the regulation is supposed to solve?	2		
Does the analysis identify a market failure or other systemic problem?	3	1A	The argument is that existing regulatory rules are out of date, which leads to security concerns. Part 810 of the Atomic Energy Act "has not been comprehensively updated since 1986. Since then, the global civil nuclear market has expanded." Given the expansion of the commercial nuclear market, the argument is made that Part 810 be updated to ensure nuclear export controls remain effective and efficient. However, the exact nature of technology transfer in relation to the problem is not fully analyzed. The rule also addresses changes in numerous definitions and more explicitly defines what is currently considered to be "generally authorized" to further address out-of-date aspects of the existing regulation.
Does the analysis outline a coherent and testable theory that explains why the problem (associated with the outcome above) is systemic rather than anecdotal?	2	1B	Part 810 has been unchanged since 1986 before many technological and nuclear market size advancements, making it such that existing controls may not be efficient and effective. Nations are miscategorized either increasing the risk posed to citizens or increasing the difficulty of nuclear-related trade. The claims made about outcomes lack specificity.
Does the analysis present credible empirical support for the theory?	1	1C	The only empirical support offered is in regards to the reclassification of countries and territories, and even this required many substantial assumptions. Support for the other aspects is either anecdotal or not provided.
Does the analysis adequately address the baseline? That is, what the state of the world is likely to be in the absence of federal intervention not just now but in the future?	4	1D	Trade volumes are forecasted based on four different models. It is claimed that US relations with other nations will continue to evolve but that the classifications would remain unchanged, further restricting trade or exposing the country to nonpeaceful nuclear interactions.
Does the analysis adequately assess uncertainty about the existence or size of the problem?	2	1E	It is asserted that the problem exists—rules are outdated—and the size of the problem is not directly assessed. It appears as though the net trade benefits are used as an approximation of the size of the problem (and they do admit that to be highly uncertain).
2. Alternatives: How well does the analysis assess alternative approaches?	1		
Does the analysis enumerate other alternatives to address the problem?	0	2A	No other alternatives are presented.
Is the range of alternatives considered narrow (e.g., some exemptions to a regulation) or broad (e.g., performance-based regulation vs. command and control, market mechanisms, nonbinding guidance, information disclosure, addressing any government failures that caused the original problem)?	0	2B	A single alternative is considered—the one that is proposed.
Does the analysis evaluate how alternative approaches would affect the amount of benefits or other outcome achieved?	1	2C	No other alternatives are presented. Further, the analysis quantifies the benefits crudely relative to current levels.

Does the analysis identify and quantify incremental costs of all alternatives considered?	2	2D	The analysis attempts to analyze the costs in terms of reduced trade with those countries newly categorized as "specifically authorized." The analysis does not address costs in the labor market—"deemed exports"—in terms of reduced hiring of foreign laborers, and it does not address agency costs in administering the regulation. The analysis also does not address any of the costs stemming from other aspects of the proposed regulation other than reclassification.
Does the analysis identify the alternative that maximizes net benefits?	2	2E	Based on the limited analysis, the proposed regulation is estimated to produce positive net benefits over no response (the status quo). But again, no other alternatives are considered. The analysis is far too limited.
Does the analysis identify the cost-effectiveness of each alternative considered?	2	2F	The analysis does attempt to address, albeit using an incomplete analysis, the cost-effectiveness of the regulation in trade-related concerns; however, one of the stated goals is to reduce exposure to noncivil nuclear development, and no analysis is provided in regards to the effectiveness of the rule in this regard.
3. Benefits (or other Outcomes): How well does the analysis identify the benefits or other desired outcomes and demonstrate that the regulation will achieve them?	3		
Does the analysis clearly identify ultimate outcomes that affect citizens' quality of life?	3	3A	It is asserted that national security is improved in relation to nuclear threats; as such, citizens are presumably intended to feel safer. In addition, the rule is intended to improve the efficiency of rules involved in nuclear-related trade, thus reducing regulatory impediments to trade and therefore increasing wealth-enhancing trades with foreigners, particularly with high-volume trade partners.
Does the analysis identify how these outcomes are to be measured?	2	3B	No measurement is discussed in regards to national security. The suggestion is that overall nuclear trade volume will rise; this could be tracked.
Does the analysis provide a coherent and testable theory showing how the regulation will produce the desired outcomes?	3	3C	Moving some high-nuclear-trade countries (with 123 agreements) from "specifically authorized" to "generally authorized" will logically increase trade volumes due to lower impediments to trade. Moving other lower-nuclear-trade partners which do not currently have 123 agreements with the United States to "specifically authorized" will reduce trade with those countries. Likewise, requiring more information on how nuclear products will be used in countries without what has been deemed acceptable assurances that the use is civil can potentially improve security home and abroad. However, the analysis fails to address how else such countries can obtain nuclear assistance and how other aspects of the rule will impact outcomes.
Does the analysis present credible empirical support for the theory?	2	3D	The analysis briefly discusses a failed multivariate regression approach, but it does not adequately discuss the empirical model, just that it failed to produce statistically significant results. As such, a predictive model is employed in reference to impact of reclassification on trade volumes. Analysis averages values denominated in current dollars from 2009–2012 and then argues that the result should be interpreted as 2010 constant dollars; this is an error. Adjustments for inflation should take place prior to averaging.

Does the analysis adequately assess uncertainty about the outcomes?	3	3E	Four forecasts are provided since there is much uncertainty in the nuclear energy market and forecasts vary greatly based on assumptions. Further, given that no empirical estimate of the impact of "specifically authorized" designation on restricting trade with those in such a country is derived, four levels are employed (10 percent, 20 percent, 30 percent, and 40 percent reductions in nuclear trade).
Does the analysis identify all parties who would receive benefits and assess the incidence of benefits?	2	3F	An attempt is made to quantify the potential net benefit of the trade. However, that is the only benefit the analysis attempts to assess. The claim is that reclassification impact on trade volumes is the largest aspect of the regulation; however, that does not relieve the agency of the responsibility to assess other aspects of the regulation. For instance, how are citizens ultimately affected by the rule due to security impacts?
4. Costs: How well does the analysis assess costs of the regulation?	2		
Does the analysis identify all expenditures likely to arise as a result of the regulation?	2	4A	The analysis appears to only consider the opportunity cost of lost trade volume with firms located in countries reclassified as "specifically authorized." However, US firms trading with those countries face additional costs in completing needed paperwork and US agencies incur expenses in reviewing the paperwork. No analysis is completed beyond the reclassification aspect of the rule.
Does the analysis identify how the regulation would likely affect the prices of goods and services?	0	4B	The analysis appears to assume the price of services and goods provided will remain constant over time despite that the rule would reduce trade impediments to three high-nuclear-demand countries. The increased demand could increase the prices charged by US-based firms or could lead to increased number of firms able to compete in the industry. However, no discussion related to prices is provided.
Does the analysis examine costs that stem from changes in human behavior as consumers and producers respond to the regulation?	2	4C	The regulation removes trade impediments with some countries and establishes them for a much larger number but collectively smaller-trade-volume countries. The analysis attempts to estimate how individuals will adjust the said trade volumes in response to this—the cost being lost trade volume. However, no consideration is given to other aspects of the regulation (13 different changes are summarized in the NPRM but only the reclassification is addressed in the RIA).
If costs are uncertain, does the analysis present a range of estimates and/or perform a sensitivity analysis?	3	4D	In the same vein as the uncertainty of the benefits, numerous trade volume forecasts and numerous "assumed effect %" are used to estimate the lost trade volume.

<p>Does the analysis identify all parties who would bear costs and assess the incidence of costs?</p>	<p>3</p>	<p>4E</p>	<p>An attempt is made to quantify the potential lost trade volume. However, that is the only cost the analysis attempts to assess. The claim is that reclassification impact on trade volumes is the largest aspect of the regulation; however, that does not relieve the agency of the responsibility to assess other aspects of the regulation. For instance, what time costs are involved in completing and evaluating the paperwork for the "specifically authorized" trades?</p>
<p>5. Use of Analysis: Does the proposed rule or the RIA present evidence that the agency used the analysis in any decisions?</p>	<p>2</p>	<p>5</p>	<p>Given that no other alternatives were considered—beyond maintaining the status quo—it is highly unlikely the analysis was used in the decision-making aspect. However, given that positive net trade benefits are found, one could argue that such results influenced the decision in favor of the new rule over the status quo (although this reasoning is not explicitly stated). The analysis does respond to criticisms of an earlier proposal.</p>
<p>6. Net Benefits: Did the agency maximize net benefits or explain why it chose another alternative?</p>	<p>1</p>	<p>6</p>	<p>Relative to the status quo, yes, net benefits—of those which were considered—were maximized. However, no other alternatives were considered beyond the status quo and analysis was limited to the impacts on trade flows relative to current levels.</p>