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CD15-0101

Sophia Angelini
U. S. Department of Energy (DOE)
Office of General Counsel, MaDan Istop GC-72
Section 934 Rulemaking
1000 Independence Avenue SW
Washington, DC 20585

**Subject: Response to Notice of Proposed Rulemaking, Convention on
Supplementary Compensation (CSC) for Nuclear Damage Contingent
Cost Allocation – FR 75076**

Reference: Docket ID DOE-HQ-2014-0021, RIN 1990-AA39

Dear Ms. Angelini:

EnergySolutions appreciates this opportunity to provide comments regarding Section 934 of the Energy Independence and Security Act of 2007 (Act) and the proposed rulemaking (PRM) for 10 CFR 951. We have serious concerns regarding the equity in both methods proposed to assign risk exposure when allocating a premium payment to nuclear suppliers.

With respect to risk exposure allocation formulas, we find both alternatives to be both overly complicated and inequitable. However, of the allocation alternatives presented, it is our opinion that Alternative 2 is easier to implement than Alternative 1 and appears to rely less on subjective judgments in the technical basis for risk assessment. Both proposed risk assessment methods arbitrarily penalize the major suppliers of nuclear components and services, imposing undue financial burdens on the major innovators of nuclear technology. We provide illustrations of these inequities by applying the risk exposure allocation formulas to nuclear incidents that have occurred. Specifically, we demonstrate that while the PRM recognizes the liability of an owner/operator of a nuclear installation for a nuclear incident, the risk exposure methods fail to consider this causal factor when it apportions risk to a broader segment of nuclear suppliers.

The financial burdens resulting from the proposed rule would negatively impact the competitiveness of the US nuclear industry in international markets, contrary to the President's goals in the Nuclear Export Initiative (NEI). We recommend that this pool be

implemented using a rule-based prescriptive formula that is equitable to the community of nuclear suppliers.

The proposed rule raises further concern regarding the risk pool payments. Though a payment CAP is established in the rulemaking, supplementary payments may be required of suppliers who have not yet reached the payment CAP which is unfairly burdensome to smaller suppliers. Furthermore, the suppliers who are making efforts to adhere to payment schedules, but cannot meet deadlines due to certain measures outside of their control would be further penalized, an action we find punitive. Lastly, given the inequity and uncertainties of the risk assessment pool, a supplier should have the right to appeal after allocated costs and payments have been assigned.

We appreciate the opportunity to comment on this matter. Our detailed comments are contained in the attachment. Questions may be directed to me at (801) 649-2109 or dshrum@energysolutions.com.

Sincerely,



Daniel B. Shrum
Senior Vice President
Regulatory Affairs

EnergySolutions' Comments on Proposed Rulemaking for the Convention on Supplementary Compensation (for Nuclear Damage Contingent Cost Allocation)

EnergySolutions provides the following comments based on our review of the proposed rule (FRN 75079) to update 10 CFR 951 and our participation in the February 20, 2015 public workshop hosted by DOE to gather industry perspectives.

Uncertainties in Covered Supplier Contingent Costs

The contingent costs to an individual supplier are not known, and the proposed methods to calculate the risk-informed premium payment would not apportion risk in a manner that fulfills the regulatory mandate in a steady or equitable manner. Uncertainties associated with the assignment of risk share year after year and inequitable assignment of risk exposure will likely impose a high insurance cost to cover future liabilities.

The proposed rule purports to present a formula to allocate costs to nuclear suppliers in a fair and equitable manner, and provides two alternative methods to calculate the retrospective premium payment. While the proposed rule defines the premium payment and risk share for each nuclear supplier, the aggregate risk exposure and total cost burden to an individual company are unclear due to a lack of differentiation between various classes of nuclear suppliers.

DOE indicated during a February 20 workshop that the number of covered suppliers in a supplier class is low, which affects the calculation of aggregate costs. However, there is still uncertainty in the number of suppliers in a given supplier sector which adds uncertainty on the limits of an individual company's liability to provide goods and services in a country party to the CSC. There is even greater uncertainty regarding which suppliers are in a given class year after year. These factors impact risk exposure and impose a high cost to insurability and liability on future requests for funds under the convention. The proposed rule should be clarified to enable suppliers to accurately establish the requisite level of funds, through either self-insurance or private providers, to cover that portion of contingent costs that may be allocated to them.

Finally, cost data regarding nuclear supplier transactions and the risks involved with providing goods and services to foreign nuclear installations are not readily available. As result, we strongly recommend that DOE take the time necessary to gather industry information to better define the aggregate risk for the individual suppliers prior to finalizing this rule.

Need to Better Define Installations and Suppliers Excluded from the Risk Pool

The regulation should explicitly state that LLW disposal sites do not pose risk and liability concerns, and that the suppliers to LLW sites are exempt from the risk assessment pool. EnergySolutions notes that DOE addressed comments in our 2010

letter¹ regarding the clarification that LLW facilities are not nuclear installations, and that suppliers to LLW disposal sites are excluded from the risk assessment pool. However, these points were addressed only in the PRM, and were not reflected in proposed regulation. This exclusion should be specifically included in the rule. Otherwise, the final rule would be subject to confusion and misinterpretation unless these points are clearly stated in the definitions for nuclear installations and suppliers.

Complicated and Inequitable Risk-Informed Assessment Methods

The risk assessment methods in the proposed rule are overly complicated and rely on subjective judgments in assigning weighting factors to certain sectors of the nuclear supplier industry. In addition to being complex and subjective, the risk-informed assessment methods in the proposed rule are not equitable, as both fail to consider the causal factors of a nuclear incident when apportioning risk for shared costs in the risk pool. We provide specific examples of the inequitable impact to suppliers in the subsequent sections.

Although DOE recognizes the liability to owner/operator of a nuclear installation for a nuclear incident, the PRM formula apportions a high share of the risk to the broader community of nuclear suppliers. Additionally, the formula is excessively biased against certain sectors of the nuclear supplier industry. The financial burdens resulting from these biases and information gaps will negatively impact the competitiveness of the US nuclear industry in international markets.

Inequity in Risk Exposure Formula

The proposed rule will apply an excessive bias in the risk exposure assessment to certain sectors of nuclear suppliers when allocating a premium payment for shared costs in a risk pool. Although the PRM purports to assign risk exposure to the global assessment pool in a "risk-informed" formula, the allocation of risk among suppliers solely on the basis of components listed in Part 21 is neither fair nor equitable. Specifically, the proposed rule fails to consider the liability of an owner/operator of a nuclear installation when calculating the risk exposure to a broader community of nuclear suppliers. The formulas for both Alternative 1 and Alternative 2 unreasonably apportion a greater share of risk to certain nuclear suppliers and are biased against certain sectors of the supplier industry. Neither formula considers how the inactions of the owner/operator to properly use or maintain equipment and follow industry standards contribute to the risk of a nuclear incident. We present the following two scenarios to demonstrate these inequities which are based on real industry events that have occurred.

The proposed DOE formula has no provisions to identify the nuclear supplier responsible for a defect in a basic component as defined in Part 21, or as determined through a credible root cause evaluation (RCE). Without undertaking an RCE to assign risk,

¹ EnergySolutions letter CD10-0335 dated November 24, 2010

suppliers could be held liable for nuclear incidents resulting from the nuclear owner/operator not storing, operating, testing, and maintaining supplied components in a manner consistent with the nuclear supplier's design specifications or recommendations.

Scenario 1—Risk Assessments for Incidents without Defects in Components

In this first scenario, a supplier provided steam generators to a foreign nuclear installation, free from defects in design, materials, or workmanship. The nuclear installation owner/operator maintained very poor primary and secondary chemistry controls, resulting in primary water stress corrosion cracking and crevice corrosion cracking of the tubes. Additionally, the owner/operator failed to follow industry standards to properly perform non-destructive testing of the steam generator tubes during outages.

Subsequently, a steam generator tube ruptured during a plant operating cycle. In response to the tube rupture, the owner/operator failed to properly implement emergency operating procedures, resulting in extended ground level release of radioactivity, impacting the population and environment beyond the site boundary.

Under the Alternative 1 formula for risk allocation, a nuclear supplier could be held liable for the incident even when the goods/services provided were not directly attributable or involved in the incident. Additionally, a nuclear supplier who provided quality goods and services in accordance with industry standards would be held liable for the inaction and errors of the nuclear owner/operator who failed to adequately maintain equipment, resulting in an equipment failure, and failed to follow proper operating procedures in response, resulting in a system failure.

The allocation of risk amongst suppliers solely on the basis of components listed in Part 21 is neither fair nor equitable. The formula to assign risk arbitrarily assesses an elevated premium payment against suppliers using the weighting factors and the Appendix A & B lists of Section 951.7, regardless of whether or not these goods and services are implicated in the specific incident. Assigning other suppliers of reactor goods (such as containment, reactor internals, control rods, control rod drive mechanisms) a 200% higher share of the assigned risk exposure for an incident that is clearly foreseeable and preventable based solely on the actions of the nuclear installation owner/operator is neither equitable nor logical.

Scenario 2 - Risk Assessment for Incidents with Secondary Plant Components

While EnergySolutions believes that Alternative 2 is preferable to Alternative 1, we have similar concerns as expressed in our assessment of Alternative 1, regarding the equitable assessment of risk and liability. Our concerns are once again best illustrated through a case study.

As operators attempted to clean blockages in demineralizers, water released through an open check valve caused a shutdown of feedwater pumps. The loss of feedwater caused

the turbine to trip, and as a result, auxiliary feedwater was not available because the valves to these lines were closed due to routine maintenance.

No longer receiving feedwater, the steam generator caused heat and pressure buildup in the reactor. An emergency shut-down was enacted to cool down the reactor, but the turbine trip prevented heat from escaping. The increase in heat and pressure caused a relief valve that should have remained closed to open, resulting in coolant loss. Though this status was indicated in the control room, inadequately trained maintenance workers misdiagnosed reactor conditions. These workers improperly left the valve open, shutting down emergency safety systems that were operating properly to cool the reactor. This chain of events resulted in core damage and loss of two of three nuclear safety barriers.

The incident described above was caused entirely by human error and oversight. Had proper attention been paid to the relief valve indicator status and proper maintenance and operations strategies been followed, the impacts due to the loss of feedwater would have been mitigated.

Under the PRM risk assessment formula, the missteps of the owner/operator are once again not specifically considered. Instead, nuclear suppliers would be assessed a premium payment that is not equitable with respect to the contributor(s) to the incident. Under the Alternative 2 formula, four of the five systems/components contributing to the scenario are considered "balance of plant" systems, which either contributed to or complicated the operator response to the incident, but would not be included in the risk exposure calculation. Instead, the DOE formula assesses an elevated premium payment against suppliers using the arbitrarily assigned allocated risk by sector, regardless of how or whether these sectors are implicated in the specific incident. The nuclear supplier sectors would be assessed a 50% higher share of the risk exposure for an incident that was mostly caused by training deficiencies, human performance errors, and other inappropriate actions by the nuclear installation owner/operator.

The illustrations of the applied assessments using case studies show that the proposed method for risk assessment places an unjust financial burden on nuclear suppliers. *EnergySolutions* supports a retrospective risk pooled liability program for nuclear incidents that does not employ risk assessment methods which arbitrarily penalize the major suppliers of nuclear components and services. We believe that this undue financial burden would negatively impact innovators of nuclear technology in the U.S. relative to other countries and would negatively impact the competitiveness of the U.S. nuclear industry in international markets.

Excessive Reporting Requirements

EnergySolutions recommends the proposed rule be modified to lessen the reporting burden on the nuclear supplier industry. Gathering and reporting complete and accurate transaction histories places inordinate time and financial burdens on suppliers. For some

suppliers, transactions date back to the 1960's for existing nuclear plants. Records of some of these transactions are incomplete or entirely non-existent and the availability of these records varies greatly from supplier to supplier. For these reasons, the data collection efforts required to be held in compliance will greatly exceed the 100 hour estimate assumed by the DOE in the draft rule.

It is also critical for DOE to recognize that tens of thousands of transactions have been conducted with companies and installations in countries who may never participate in the Convention on Supplementary Compensation (CSC). Annually reporting every transaction (past or future) to these non-participatory countries is especially burdensome and unnecessary.

EnergySolutions urges DOE to lessen the regulatory burden by first gathering data through a survey of suppliers in order to develop a more realistic estimate for the aggregate risk exposure. The survey information should be shared with the industry to aid suppliers in assessing their individual liability and enable the industry to better comment on the proposed rulemaking initiative. In the event of a nuclear incident, DOE could collect more detailed transaction data, resulting in a collection of funds under the CSC.

Payment CAP

EnergySolutions recommends the proposed rule retain a fixed CAP in the premium payment by an individual supplier, but does not transfer an assessed premium to other suppliers in the pool simply because some suppliers have reached their CAP. An alternative payment liability method needs to be explored that assures that the US meets all financial obligations under the CSC while not increasing the payments for suppliers who have not yet reached the CAP established by the risk-informed process. The rule should stipulate the criteria that will be used to fix allocated costs when warranted by circumstances for an individual supplier in order to keep the allocated costs equitable and prevent bankrupting small nuclear suppliers.

Allow Flexibility for Assigning Penalties and Establish a Framework for an Appeal Process

EnergySolutions recommends the proposed rule establish the framework for the DOE to allow flexibility in assigning penalties for circumstances beyond the suppliers' control. The rule should allow more flexibility in payment schedules and provide allowances for extenuating circumstances when a nuclear supplier can show just cause for an event. Assigning penalties to suppliers who, through circumstances beyond their control, cannot make timely payments of allocated costs is overly burdensome and punitive.

Lacking in the proposed rule is a framework for an appeal process once the DOE makes an allocation to a supplier for its share of contingent costs. Though the risk assessment program allows for a calculation of the necessary insurance needed to cover liabilities,



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the complexities, lack of clarity, and uncertainties in implementing the proposed rule will result in increased expenses that are simply not justified. *EnergySolutions* recommends the proposed rule establish the framework for an appeal process for allocated costs and penalties. The proposed rule needs to stipulate the criteria that nuclear suppliers can use once the DOE allocates contingent shared costs.