STABILITY AND CONSISTENCY IN INTERNATIONAL TRANSPORTATION REGULATIONS

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ABSTRACT

IAEA develops and promulgates guidance and recommendations for the international transportation of radioactive materials. Such consensus regulations on acceptable transport modes and packaging requirements have enabled international shippers and carriers to demonstrate an exemplary safety record in protecting the public, the environment and transport workers.

Unfortunately, increasingly complex and stringent regulations do not always have a strong safety basis and differences in the interpretation and application of such regulations are deterring regulatory compliance and placing an unnecessary burden on the transport industry. Regulations that are in a constant state of flux may impact safety, increase the costs for compliance significantly, decrease commitments to regulatory compliance, and cloud public perception of the industry. New or revised regulations should always be evaluated in terms of their enhancement of safety. Competent Authorities are showing an increasing unwillingness to accept package certifications issued by other Competent Authorities. Requiring submission of complete safety cases or additional justification for a package that has already been approved by another Competent Authority causes delays, impedes international commerce, unnecessarily burdens shippers and transporters and eventually results in higher costs for end users.

The IAEA has three very important roles to play in promoting the safe international transport of radioactive materials. It must ensure that new and revised regulations are truly safety-focused and that they will have demonstrable, positive impacts on public heath and safety. It must play a leading role in promoting the consistent interpretation and application by all Competent Authorities of its consensus regulations. And finally, it must work to ensure that the testing, licensing and certification of packages are uniformly conducted and that certifications by a Competent Authority are acceptable to other Competent Authorities.

INTRODUCTION

This presentation will provide insights on development of safety-focused regulations. It will also discuss why the IAEA's two year review cycle has some potential safety concerns as well as cost impacts and it will discuss how IAEA can fulfill its important mandate to protect public safety while at the same time to promote consistency in international transportation regulations.

RISK INFORMED REGULATIONS

Safety is the top priority in the packaging and transportation of radioactive materials. Shippers and carriers have an obligation to assure that the public, the workers, and the environment are not adversely affected by radiation during the packaging and transportation of radioactive materials. Speaking on behalf of the shippers and carriers of radioactive materials, we are concerned with the direction in which the IAEA transportation guidance and recommendations are evolving. Industry

believes the regulations are departing from a risk-informed, safety-focus approach based on sound technical information to regulations that are based on the "Popular thing to do" or what is currently "Politically correct" Philosophy. Not grandfathering existing shipping packages is one example. Competent Authorities have the ability to stop the use of any shipping package if it is deemed to be unsafe. However, to not allow the continued use of a package simply because it is old technology is not justifiable. To date, the regulations have not been changed in a manner that would jeopardize the safety of the public, workers or the environment, but the changes are consuming significantly more Competent Authority and industry resources to meet unnecessary requirements. Fewer resources are, therefore, available for both regulators and industry to focus on the truly safety aspects of packaging and transport.

TSR-1 REVISION CYCLE

IAEA has instituted a two-year revision cycle for its transportation guidance. While keeping regulations as current as possible has merit, doing so requires many more Competent Authority and industry resources to review, revise, and monitor the changes as well as effectively implement them. Harmonization of national transportation regulations with TSR-1 revisions competes for industry resources, as the individuals who review the proposed changes are typically the same individuals who are responsible for assuring that the current regulations are being properly implemented. Individuals not involved with the development of the regulatory revisions often lack understanding of the basis of the change. This can lead to a noncompliance issue during implementation. Similarly, continuous changes in IAEA guidance must be critically examined for their relevance and safety-significance. For example, which changes are minor and of little safety significance (e.g. minor wording changes) and which warrant implementation by a Competent Authority (e.g. major technical changes)? Unfortunately, both types of changes in IAEA guidance are typically intermixed with no differentiation. The shipper and carriers also have concerns with the need to constantly update their packaging and shipping procedures to comply with IAEA-prompted regulatory revisions and with the need to train their workers to correctly implement them. While repetitive work has its risk of complacency, that risk is lower than the risk of the worker not carrying out his responsibilities properly due to constantly changing requirements. The industry does not object to modifications and improvements in the regulations, provided there is a sound safety and technical basis for doing so and they are not being changed simply to meet a political agenda.

Harmonization of national transportation regulations with IAEA-recommended changes can not be practically accomplished by a Competent Authority on a two-year cycle. The United States' track record for implementation of the revisions to IAEA transportation regulations has been a ten-year cycle. ST-1/TSR-1 is currently under going adoption in the US and it will not be implemented until next year at the earliest, six years after it was agreed upon. If the US takes this long to adopt IAEA changes, it is indicative that the regulations do not have a major safety improvement and there is no major safety issues identified. This suggests that a two-year review cycle does not benefit safety, but simply imposes additional costs on the Competent Authorities and the industry. The IAEA needs to rethink the two-year review cycle and only issue changes to its guidance and recommendations that demonstrably affect the risk to the packing and transportation of radioactive material.

CONSISTENCY OF COMPETENT AUTHORITIES

IAEA has 132 member states and, for the most part, member states can chose freely which recommendations of IAEA to adopt and which not to adopt. However, to facilitate the movement of radioactive material around the world all states need to adopt the same transportation regulations. This is due to the international aspect of nuclear technology. Even those states that do not have a nuclear power program usually have a radiopharmaceutical program or research programs that require the transportation of greater then exempt quantities of radioactive materials. Unfortunately, smaller countries or those without a nuclear power program sometimes are not able to dedicate the resources to the implementation of the IAEA transportation regulations that the larger countries, or countries with a nuclear power program, can. This results in an uneven interpretation or a total lack of understanding of the IAEA regulations. For national (domestic) shipments this may not be an issue as each country has established a level of protection for its citizens that it deems is adequate. However, on an international basis the lack of consistency among national transportation standards becomes a serious issue.

When a Competent Authority issues a certification for a package, it should be certified to the IAEA criteria and the certification should be recognized and accepted by other countries' Competent Authorities. This simple principle can not now be readily applied as different Competent Authorities have differing standards and interpretations of the regulations. An example of this is the testing sequence for type B containers. The test sequence required by France differs from that required by the United States. This doesn't imply that one is right and the other is wrong, but it does result in each package going through testing twice, one set according to the France sequence and the second based on the US sequence. The IAEA should establish one uniform set of test sequence and eliminate this difference.

Some countries lack the resources or the technical competency to certify packages. This results in packages having a certification acceptable to the certifying state, but that is not acceptable in another state. This lack of reciprocity in the recognition of package certification requires a shipper to bear the expense and delays of re-certification of a package in the foreign state through which the package must travel. Unfortunately, the industry is seeing this occur even with packages that have been certified by technically qualified competent authorities. Packages that have been certified in the United States, the United Kingdom and/or France have had to be re-certified in other states. This is because some Competent Authorities do not want to accept any one else's technical review. As one regulator expressed it to me, he didn't care where the package was certified and until it passed his review, it wasn't certified in his mind and wouldn't be allowed to enter his country. These various protective and nationalistic interests result in unnecessary consumption of resources and for the most part, do not improve safety. With all of the packages being reviewed it is not unexpected that a Competent Authority would find fault with a prior review by another Competent Authority. However, the fact that a Competent Authority finds one mistake in another Competent Authority's review does not justify the multi-review of hundreds of packages. Taken to one extreme, unscrupulous governments could reject other Competent Authority's package certifications either to protect domestic manufacturers of packages or to simply impede international commerce in radioactive material.

The industry would like to see consistent and qualified technical reviews of packages, such that once the package is certified by a Competent Authority it can move anywhere in the world and not be subject to second, third or fourth review. There are several ways this can be accomplished. The

first would be to establish internationally acceptable review criteria and qualifications of review teams. This can be carried out through the use of a "Standard Review Plan," similar to what is used in the United States by the U.S. Nuclear Regulatory Commission. Each state would be free to staff the program as it sees fit, but if it does not meet the established criteria, the certification issued by that state would not be recognized internationally. A second alternative would be for the IAEA to conduct training and auditing requirements for state review teams. Once the IAEA recognized a state's team as being technical competent to review and certify packages, that state's certification will be uniformly accepted by other Competent Authorities. A third alternative would be for the IAEA to be the secondary reviewer of certifications. Once a state had completed its review it would send the materials to IAEA for a secondary review. If acceptable, the package would be certified and would be uniformly accepted by all IAEA member states. This has the additional benefit that the IAEA will see all packages and can be assured that they all meet the standards no matter which state did the initial review. It would also allow for IAEA to identify weakness that may appear in a state's review program. The IAEA would be able to help that state improve its program and bring it up to acceptable standards. The last alternative would be for the IAEA to certify all packages and the individual states would only be responsible for domestic-only use packages. Fees paid by the company that is requesting the certification would cover the IAEA review of the packages. Certainly, combinations of these three alternatives will work as well. Both the industry and individual Competent Authorities are now spending unnecessary resources seeking multi-state reviews of packages for certification and use.

CONCLUSIONS

Packagers and shippers of radioactive materials need stable, risk-informed, safety-focused, and technically based regulations. Changing regulations on a two-year cycle to simply incorporate minimal, non-safety significant changes only consumes resources without significantly improving safety. It does not constitute a good use of either the industry's or the state's resources. Competent Authorities that do not have the resources or technical competency to issue certification of compliance should be provided a means to carry out their responsibilities consistent with international standards. This could be accomplished through the use of a Standard Review Plan and training or through their removal from the review and approval cycle altogether. The industry supports good technically based regulations and will continue to assure safety in the transportation of radioactive materials by going beyond the regulatory requirements. However, the industry does not want, and can not afford, to expend its limited resources on constantly changing regulations that do not improve safety.