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Transport of Radioactive Material: Regulations and Industry Good Practice Guides, the winning combination

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The World Nuclear Transport Institute (WNTI) was founded in 1998 to represent the collective interests of the nuclear transport industry and those who rely upon it for the safe, secure, efficient and reliable packaging and transport of radioactive materials. The WNTI has grown to nearly 50 member companies representing a wide range of the nuclear industry.

WNTI, as an Industry representative organization, fosters the exchanges between its members, and between the transport industry as a group (collectively) and the stakeholders and the public.

For that purpose. for instance, meetings and workshops are organized. These are fora where the members can share information and receive information from other companies.

As another important tool, WNTI issues publications. These publications are based on the knowledge of its members and provides a mechanism to share the information and to transfer the knowledge. The WNTI publications include information papers, fact sheets, good practice guides and standards. At the end of 2018, the portfolio of WNTI publications includes thirty publications.

As examples of publications, we can highlight the WNTI best practice for checking shipping containers prior to loading drums of uranium ore concentrates and before dispatch, and a fact sheet dedicated to Industry interpretation of transport index (TI) and criticality safety index (CSI) limits for the transport of uranium hexafluoride (UF_6) packages by sea.

Publications are freely available to members and the general public via the WNTI website. A process for reviewing and revising the publications has been developed to assure that the publications are regularly reviewed and updated.

This paper provides information about the existing and future publications and the process for issuing and updating these publications. It also details the potential audience of the publications, how they allow the sharing of knowledge between the members and then reduce the risks of an accident. Finally, the paper describes how

these publications contribute to support the nuclear industry in bringing confidence to all professional stakeholders involved as Authorities and transport service providers, and by consequentially reducing denials of shipment and enhancing acceptance of the transport of radioactive material.

“Fear always springs from ignorance" - Ralph Waldo Emerson / American writer, philosopher and poet (1803 - 1882).

RADIOACTIVE MATERIALS TO BE TRANSPORTED: AN OBVIOUS NEED OF COMMUNICATION

Each day, thousands of shipments of radioactive materials are transported around the world and, to those who are involved in the industry, it is business as usual. For the general public, they are mostly unaware of the large amount of transports and, if one was to be brought to their attention, it is likely that they would think it to be something uncommon. Communicating the fact that the transport of radioactive materials is a regular occurrence, that is highly regulated, may dispel some of the fears that may be perceived.

Transport operations are carried in the public domain and can often be observed closely, especially by the media and campaigning organisations. The media are sensitive to nuclear and they readily refer to the military's use of nuclear materials as well as past nuclear power plant accidents. Accidents at nuclear power plants, for example the Chernobyl accident of 1986 and the more recent 2011 Fukushima Daiichi accident, have reinforced negative perceptions of nuclear with their heightened media coverage; and even though transport was not involved, the negative connotations remain.

It is also common for shipping lines and carriers to refuse radioactive materials due to similar perceptions and quite possibly the complexity of the regulations. These rejections or interruptions to shipping can have adverse effects on the material being transported. For example, nuclear medicine radioisotopes have a short life making timely transport vital.

Although some stakeholders, such as competent or port authorities, are regularly involved in the transport of radioactive materials, others show intermittent interest. Many emergency responders (although not all) would have received dangerous goods training (including radioactive materials) and will only be contacted and react when needed, whereas the general public may be interested in understanding either the specifics of a transport or the overall strategies for radioactive materials transport activities.

While it is clear that radioactive materials transport may be a highly debated topic, it is important to make effective communication a key aspect in order to address any misconception. In order to establish a level of trust and mitigate any concerns, a good communications strategy is vital [1].

There is a large range of audience if it is decided to communicate: from decision makers to the public and the 'nuclear community' and influential non-governmental organisations (community groups, professional societies, lobbying groups, etc.) with reference to their likely concerns, expertise and experience.

FROM WNTI INFORMATION PAPERS AND FACT SHEETS TO GOOD PRACTICE GUIDES

WNTI started to develop communication tools very early after its establishment in 1998. There was a myriad of ways of communicating in the early 2000's, mainly through papers, magazines, etc …

Very quickly, WNTI decided to use its website to communicate information about transports of radioactive material: this allowed WNTI to connect not only with its members but also with the professional stakeholders involved in the supply chain of radioactive material transports.

Even if the target is the one stated above, WNTI also adopted the strategy to share this information with the public. The WNTI publications are freely available on the WNTI website [3].

Sharing the information with the widest audience is more than a strategy. It is a philosophy.

WNTI Members always agreed on the fact that the more people know what transport of radioactive materials means, the better it is regarding acceptance of transport activity.

For that purpose, first, WNTI developed Information Papers and Fact Sheets, two types of publications focused on factual information regarding radioactive material transport and international regulations.

At this stage, the objective for WNTI was to share simple information and facts regarding transport, a very generic level of education towards professionals and public in the same time.

Indeed, sometimes, it can be noted that the regulations are able to be interpreted in different ways, and this is particularly true following the various steps of translation of the international regulations into national regulations. To be sure the regulations will be interpreted in a uniform way by the operators (consignors, carriers, consignees), it appeared to WNTI members the interest to put in common their expertise and experience to establish common positions on different items of the regulations, in case the regulations are not precise enough or could be subject to interpretation.

Furthermore, even if the regulations are very clear and well understood by all the operators, there may be a need for guidance (advisory material) about the best methods to comply with the regulations.

As a result, the WNTI Transport Industry Good Practice Guides and Standards were born.

Today, WNTI shares a wide range of thirty-one (31) publications including ten (10) Good Practice Guides and two standards [3].

A Good Practice Guide is a publication which can aim to different objectives:

- To facilitate the understanding of the regulations associated with the transport of radioactive material,
- To harmonise within the Industry the implementation of the regulations [4],
- To provide valuable information to achieve successful installation of a part or use of a package [5],
- To establish transport documents [6] in giving examples of how to complete a transport document in compliance with the international regulations in force [7],
- To assist operators in checking their transport operations [8].

WNTI is committed to providing the highest standards of support to its Members.

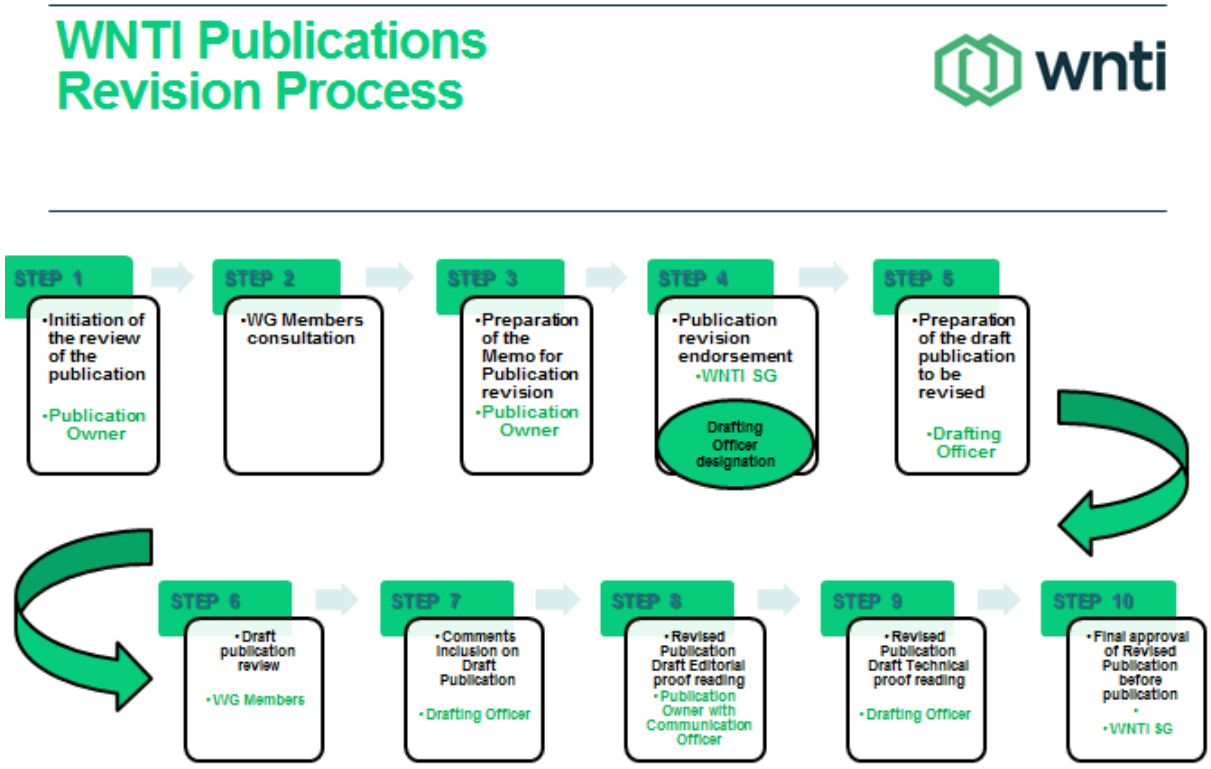
To ensure that the publications remain up-to-date and provide the highest level of information to the reader, WNTI considers it is crucial to have a process to continually review these publications. For that purpose, WNTI has established a structured revision process to be implemented through each Industry Working Group (WG), involving the experts concerned.

Every five (5) years, if no need of revision came up before, each Good Practice Guide and the other categories of WNTI publications is subject to a ten (10) steps process of revision. The process is implemented by the WNTI members themselves.

This international peer review process is the guarantee of the highest level of professionalism and accurate information delivery. It is recognised in WNTI that the messenger is as important as the message itself.

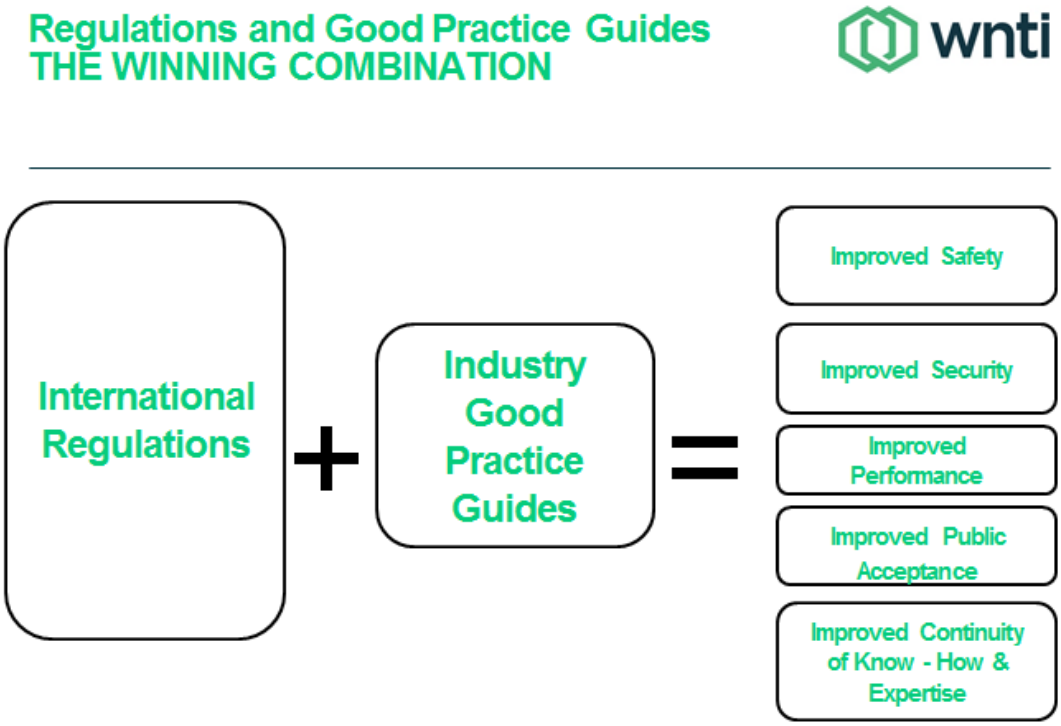
The Good Practice Guides, and also the other categories of WNTI publications are assigned, depending on their scope, to a specific group of experts, in charge of the evaluation of the guide and, its review and revision, if necessary.

Each round of revision is the opportunity for the Members to evaluate the interest of the guides to them. A round of revision might come to a merge with another guide or a cancellation if its application is no longer valuable for the Industry.



THE BENEFITS OF THE COMBINATION OF REGULATIONS AND INDUSTRY GOOD PRACTICE GUIDES

The WNTI Good Practice Guides have been developed to ensure that the operational experience from the transport industry supports the regulatory implementation. The use of WNTI Industry Standards brings confidence to all parties involved, from Authorities to service providers and stakeholders, and also to the public.



- ✓ ***IMPROVEMENT OF SAFETY AND SECURITY***

Good Practice Guide results of feedback, expertise shared among specialists of radioactive material transports. A Good Practice Guide is an additional barrier of defence in depth.

This approach also reinforces the culture of security and safety in sharing common practices among the same industry. A guide establishes a line of reference to be followed by the industry, a line established by the greatest experts in their domain. A Good Practice Guide aims to limit the risk of an accident in identifying good practices to implement the regulations.

- ✓ ***IMPROVEMENT OF PERFORMANCE***

In establishing common practices shared by all, a Good Practice Guide helps the industry stakeholders not to spend time to create a new process to be compliant with the regulations. The company can apply the guide directly.

To comply with a Good Practice Guide is a source of assurance of good quality services and by consequence satisfaction of authorities and customers, and guarantee of durability for each company.

For WNTI Members, to be compliant with the regulations and with the methods described in the Good Practice Guides ensure to them the highest level of safety and security and quality in their transport operations

- ✓ ***IMPROVEMENT OF ACCEPTANCE***

A Good Practice Guide is a major tool to be used to communicate with the stakeholders associated with the transport of radioactive materials. Each Guide aims to provide useful, timely, clear and appropriate information to them including rigorous data. Experience gained in having using the guides many times during the first steps of discussion with new-comers in the transport industry has shown that the Guides are of great support to build trust and confidence in the acceptance of radioactive material transport.

The Good Practice Guides allows improving safety and security (as explained before) and this contributes also to improve acceptance.

As a result, a guide is one of the tools that the transport industry must use to support areduction in denial of shipments.

- ✓ ***IMPROVEMENT OF KNOW-HOW AND EXPERTISE CONTINUITY***

It is more than vital for industry to keep the highest level of know-how and expertise to be able to cope with the upcoming challenges. An industry Good Practice Guide facilitates the know-how and expertise continuity. It does represent the memory of the practices of the industry at a certain period of time. A Good Practice Guide represents a highly valuable source of knowledge for the next generations of workers in the nuclear industry.

CONCLUSION

Communication about transport, if not natural for industry decades ago, was and will be the only way ever to protect the transport industry in keeping the routes open and in helping people better understand about our activity and better understand the need to transport radioactive materials. Open and transparent communication is the best way to engage with the stakeholders.

This process starts with a dialogue, and is about sharing more high quality information. Talking about information, is talking about better mutual knowledge with a better understanding of the respective constraints. When the misunderstanding is reduced step by step, the perspective of a wider acceptance is possible.

Industry must be vigilant that fear does not spring from ignorance but from of a lack of available information supplied by the Industry.

The WNTI will continue to play its part in this, with its members, non-members and key stakeholders.

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