

WORLD NUCLEAR TRANSPORT INSTITUTE

GOOD PRACTICE GUIDE

Communicating Radioactive Materials Transport

Dedicated to the safe, efficient and reliable transport of radioactive materials



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Communicating Radioactive Materials Transport

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Introduction

This guide has been developed by transport communicators from the WNTI Industry Members in order to share good practices in communicating the safe transport and packaging of radioactive materials. The document describes the context that communicators face when trying to inform the various identified stakeholders of their operations, and the basic messages that they may consider communicating. The document may be used to assist in the drafting of a communications strategy.

Context

Radioactive materials are transported internationally and have been so for over five decades safely and routinely. There has never been a transport incident that has caused significant radiological damage to people or the environment, as a result of the material being transported. Radioactive materials can be transported internationally by air, sea, road or rail by various conveyances and in many different packages. It is a highly regulated sector with a complex set of regulations.

Nuclear utilities around the world depend

on safe, efficient and reliable transport of the full range of nuclear fuel cycle materials. Due to the increase of decommissioning and the replacement of the large objects to support extended operation of nuclear power plants and nuclear fuel cycle facilities, it is expected that the transport of large objects will increase steadily. In addition, the expansion of the mining industry will mean many new transport routes. Nuclear power is not the only industry which relies on the transport of radioactive materials and in fact, the vast majority of the transports are not fuel cycle related. Other industries that rely on the transport of radioactive materials include medicine, agriculture, research, manufacturing, non-destructive testing and in the exploration for minerals. All of these factors mean the demand for radioactive materials transport will only increase, and with it, a need for effective communication.

In summary, while there can be an abundance of information to communicate, the main aspects that are specific to transport which should be considered include:

- the territory that it covers;
- the diffuse audience that can be directly



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or indirectly involved;

- the fact that it is in the public domain;
- the importance of communicating both aspects of transport and nuclear;
- the many industries that benefit from the transport of radioactive materials (not purely transported for the nuclear fuel cycle);
- that radioactive materials are one class of 9 dangerous goods classes.

Identifying Audiences & Stakeholder Engagement

Ahead of identifying your messages, a list of stakeholders must be established. Listening to the concerns of your stakeholders should allow you to understand their communication needs and enable you to best answer those. It is an important step in the establishment of a communications strategy. When your stakeholders have been identified, it is advised that you begin by engaging with the most relevant stakeholders first, as you may find that your list can develop as your project progresses.

Building relationships with stakeholders may be difficult at first but people are more willing to listen to organisations with a strong reputation and therefore effective media relations are essential. Stakeholders are also looking for timely responses and so briefings can be an effective way of bringing stakeholders together and making experts available. Different stakeholders require different considerations but it is important that the message you are conveying is consistent.

Below is a list, in alphabetical order, of

stakeholders that may be interested in the transport of radioactive materials:

- Academia
- Competent Authorities
- Emergency Services
- Employees
- General Public
- Government Agencies
- Health care providers
- International Organisations
- Local, regional and national authorities
- Local and national politicians
- Media and Press
- Member States of International Organisations
- Non-Governmental Organisations
- Online Communicators (bloggers)
- Politicians
- Suppliers

Perceptions & Common Messages

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 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 infatuated with anything connected to nuclear and they readily refer to the military's use of nuclear contents key message

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. However, while there are many anti-nuclear campaigners, there are also environmentalists who support nuclear power citing climate change as their main reason.

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 the 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 of your operation in order to address any misconception. In order to establish a level of trust and mitigate any concerns, a good communications strategy is vital.

Key Messages for the Safe Transport of Radioactive Materials

Whatever the message, it is important that it is direct, understandable and truthful. It is best to keep information simple and to use language that the general public can understand. Overloading people with too much information can often raise fears. Although referring to safety, security, crisis management and all of the various regulations can provide information on the important aspects of our operations, they can often be communicated in a manner that is too complex. The same information could be presented in a more interesting style by associating it with facts that people more readily identify with. For example, "if you stand next to this transport canister for 24 hours you will receive the same radiation dose as an 8 hour airplane flight"1. For further information, the IAEA handbook "Communications on nuclear, radiation, transport and waste safety" includes a section on 'Key Messages to be Communicated'. Listed below are some possible key messages to consider:

- the content and radioactivity of the package;
- the dedicated conveyance that will ship the package;
- that safety is vested principally in the package (see WNTI Fact Sheet: Package Types used for Transporting Radioactive Materials for further information);
- there are a number of test procedures carried out on the packages in accordance with the regulations (ibid);
- there is a graded approach to packaging whereby the package integrity is related to the potential hazard (ibid);

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- there is a stringent regulatory regime that has been continuously reviewed over several decades which apply to the safe transport of radioactive material almost anywhere in the world (see WNTI Fact Sheet: Safety Regulations Governing Radioactive Materials Transport for further information);
- there are adequate security measures outlined in the UN Model Regulations which can include security forces, access control, employee screening, satellite tracking of shipments and co-ordination with local and national security authorities in a graded manner (see WNTI / WINS International Good Practice Guide: Nuclear Transport Security for further information;
- who is responsible for the package at each stage of the shipment;
- there are comprehensive emergency response plans in place relevant to the operations.

Radioactive materials are safely transported in accordance to the principles of safety in depth and defence in depth as illustrated in figure 1.

For defence in depth, the three aspects which ensure the robustness of transport operations are:

- the strength of the packages, which are designed in accordance with the Regulations and in accordance with the chemical, radioactive and physical properties of the material transported,
- the conveyance with the associated safety requirements, as shipping options are considered carefully,
- the emergency organisation in the unfortunate event of an accident.

The safety in depth is provided by the various layers of protection around the radioactive materials, in accordance with their chemical, radioactive and physical properties. This process is often pictured as "Russian Dolls" which fit into each other to form layers of protection.

Fig. 1 Defence and safety in depth:



1. Strength of packagings

conditioning of material: ceramic fuel pellets, inert borosilicate glass



fuel rod, canister 2. Compliance with safety requirements

cask



3. Organisation for emergencies



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Communicating Radiation Protection

It can be challenging to communicate about radiation release and protection for a number of reasons. Perhaps what is most demanding of communicators is to try to reverse the fear factor that the public seem to have established. While we all take risks in life, how familiar you are with a particular risk will affect your perception of it. Radioactive material transports are still unfamiliar to most people and so may seem more risky than situations that are more familiar (e.g. transport of gasoline).

Another reason people fear radiation may be due to the fact that while it is detectable and measurable, it is invisible. To add to this, we may communicate about radiation and radioactivity using various words to describe units such as becquerels, grays and microsieverts. Using jargon like this is often lost on the media and public, making it difficult to comprehend.

In order to reassure stakeholders about any radiation issues, there are already groups in place that provide information on radiation protection activities such as the International Commission on Radiological Protection (ICRP), the International Atomic Energy Agency Regulations for the Safe Transport of Radioactive Materials and the International Radiation Protection Association (IRPA) which all provide guidance on radiation protection.

Reassuring information to communicate includes:

- Radiation occurs naturally and is all around us.
- It can be dangerous at high doses but there is no evidence of adverse health effects at low doses.
- Radiation is used in technology that can save lives, improve industry and help us learn more about the universe.

The ICRP has published the International System of Radiological Protection⁴ which is used as the common basis for radiological protection standards, legislation, guidelines, programmes, and practice.

Channels & Tools

Once your message and audience have been determined, the next stage is to think about how to disseminate the information. While there are many communications tools available, your choice will depend on factors such as your resources, timescales and cost but will also be suggested by your audiences and messages.

Print

A traditional method of communicating, print forms can come in many types such as newsletters, articles, posters, brochures and flyers. They have been an effective way of communicating for many years and should not be forgotten. They are simple to manage and usually quick to prepare. However in order to reach a wide audience, distribution can be costly and slow. Campaigns benefit greatly from print media as they can last for long periods. Posters are also a good way of carrying a simple message or slogan.

Media Relations

Working with the media and providing them with useful information will ultimately enhance your credibility. Journalists are looking for good material so by identifying contacts and building relationships, you can easily provide them with the best material for their story. Press releases, news conferences and press briefings are all good examples of coordinating with the media. While this proactive approach can help you to control the information; you will also have to be reactive in responding to media enquiries. It is important to maintain regular contact with the media and to not be dependent on one operation or transport. The benefits of communicating in this way include its ability to reach a wide audience and its low cost.

Spokespersons

A trained and experienced spokesperson to represent your organisation is a necessity. They provide positive media exposure and are a point of contact for the media. A good spokesperson should be comfortable under pressure, is likely to be high profile and must be available at short notice. Spokespersons who appear as technical and not communicators are usually seen as bringing more credibility. The main benefit of having a spokesperson is being able to control what is being said and how it is delivered. This becomes especially important during emergencies.

Online

There are a myriad of ways of communicating online nowadays via emails, blogs, wikis, forums, websites and social networks to name but a few. The advantages to using these forms of communication include their low cost, interactivity, global reach and speed. Quite often in today's society, people do not have the time to read lengthy articles and prefer short bursts of information and the World Wide Web can provide this information (e.g. the WNTI website houses all of its publications electronically). It is important that organisations are aware of the conversations that happen on social media sites in order that they can protect their reputation and ensure the correct messages are being communicated (see next page for more detail).

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Social media

In today's society, everyone can become a "journalist" using many online communication methods. The most used platforms include social media sites such as Facebook and Twitter. Via these sites, news can be shared at an astonishing rate and links to various news articles, blogs, photographs etc. posted with ease for people to then make comments. These platforms are not only used by the general public but by many groups from start-up companies to large organisations with many passionate and active people sharing opinions and news. Engaging in these social sites may require more resources, however, they are free to use. The media often look to online conversations these days for news stories and while you may decide to remain inactive, you may find it more difficult to control your message. If you are prepared for a dialogue, social media can give credibility to your messages, with the impression that you are confident to share your opinions online. You can also take advantage of these commonly used platforms by simply monitoring the exchanges, weighing up whether a topic is important enough to react to or if it will pass. You may find that these sites make available to you a new circle of contacts, which may make direct communication easier.

Third parties

Third parties such as academia and independent experts represent important sources of information on radioactive materials transport. Having a lesser interest in the transport operation, the third party may prove useful when trying to reassure and inform stakeholders who may be more problematic to reach. In addition, their presentation skills usually make them effective communicators. It can therefore be beneficial to maintain regular contact with a trusted third party and provide them with routine information.

Transparency vs. Security

'A general principle of good transport, is transparency (or openness) — at least to the extent permitted by security considerations such that safety decisions can be accessed and understood by both the regulated industry and the public when necessary'.³ It is good practice to be open and honest about the nature of your transport in order to establish credibility and confidence, to best prepare the community in case of an emergency and also for better compliance.

Of course there are limits to what information you can disclose for security reasons which will very much depend on the Security Regulations of the countries where the transport is taking place. The States will identify and define which transport information is sensitive and needs to be protected, based on the materials transported, the operational features of the transport, and the threat assessment carried by the State. This information may not be limited to routes, times and the quantities of material but also to escort forces, response forces, back-up personnel, design and security measures of the package and the conveyance. There may be several different State agencies involved in the transport operation each with their own rules for information protection; if so, procedures may have to be established for information exchange and sharing between the interested parties and Industry will have to comply with these.

In order to work within the many restrictions that apply to transport, it is important to engage with the public and media well in advance of the operation. It is likely that your operation will be high profile for the media so there is a need for precise planning. In being prepared, you can also help the media to be primed. Relaying as much information as possible before an operation takes place can work in your advantage as it may help to prevent a media frenzy and reinforce your message. Providing useful information will ultimately enhance your credibility.

Emergency Crisis Communication

Even if transport operations have been carried out safely for over 50 years, this should not be taken for granted. Emergency preparedness and response are important elements in the preparation and operation for a transport, and should include communication. News can travel quickly which is why the planning of your communications strategy should include how to respond during an emergency. Should an incident occur, having an agreed strategy in place with identified spokespersons will inform your stakeholders and hopefully, minimise any damage to your reputation. However, it is also important to remember that just because a situation may be high profile, it does not make it a crisis and remaining calm will help to diffuse the situation.

In order to prepare your reactions, try to determine everything that might happen. Having all of the important information to hand will ensure that you can give a timely response. In addition, having a list of contacts already in place can make sure that you get the correct information to the most important places quickly. Investing time with the media before a transport operation takes place can be of great benefit; cooperation will only improve relationships and so providing truthful, useful and consistent information will not do any harm. Of particular importance is the acceptance of responsibility, if it lies with you, and to apologise accordingly.

Preparation in emergency response is key, and this includes preparation in the communication to the general public, media and interested stakeholders. This encompasses:

- the early identification of spokespersons for each segment of the stakeholders' groups,
- the management of issues and the preparation to the most expected situations,
- the inclusion of communications (to the media, stakeholders, general public...) in emergency crisis exercises and learning the lessons of these experiences.

Issue management can be regarded as the preliminary preparation of communication messages and actions in the unfortunate event of an accident. As time is critical during a crisis, more efficient time management is highly beneficial for communication. Exercises organised to prepare for the event of an accident should address media queries, providing information to and answering questions from stakeholders including local politicians and public persons and informing the local population and the general public. Importantly, the validation process of press releases during an event should be shortened especially at the beginning of a crisis, so as not to delay the release of factual information. At that time, the information on the press release is only factual about the event, and the public is looking for information. Experience has also shown that the inclusion of technical experts in the crisis communication cell allows the information to be more accurately represented. At the same time however, it is important that they communicate using jargon-free language, as technical staff can explain the situation to communicators who can then formulate the facts of the event in a more easily understood way. The crisis communication cell, as part of the crisis cell, should be activated as soon as an issue is identified, as this provides the opportunity to answer in an effective manner the requests concerning the mounting issue, and is already set up, would a crisis develop.

Evaluation

Whatever the operation, however large or small, frequent or rare, lessons can be learned from each and it is no different when it comes to communicating. Recording your communication from beginning to end makes evaluating your strategy more straightforward. Moreover, without evaluating, you have no way of knowing if your communications strategy is working.

While it may be difficult to measure how effective your entire strategy proved, choosing a few aspects will make it easier. You may consider evaluating the following:

- how well your messages were spread/ covered,
- which platforms were the most effective in disseminating your messages,
- if your target group was reached,
- how many direct exchanges you had with your audiences,
- measurable statistics (e.g. website hits, number of emails opened, social media response etc.)
- how much interaction you had with the media.

You may also wish to focus on evaluating your internal communications as well as your external. Keep in mind that whatever aspects you choose to evaluate, and which methods you use, will have an impact on your time, resources and budget.

Conclusion

Whether your communications plan encompasses all of the issues covered in this Guide or just a few, what is important to remember is that a communications strategy is vital in order to communicate in the most effective way. Evaluating your progress after each communication will help you to revise, adapt and refine your strategy to help you to reach your goals most effectively.

References

- 1 IAEA, 1999. Communications on nuclear, radiation, transport and waste safety: a practical handbook [http:// www-pub.iaea.org/MTCD/publications/PDF/te_1076_prn. pdf]
- 2 IAEA, 2004. Safety of Transport of Radioactive Materials, Proceedings of an International conference, Vienna, 7-11 July 2003 [http://www-pub.iaea.org/MTCD/publications/ PDF/Pub1200_web.pdf]
- 3 International System of Radiological Protection, International Commission on Radiological Protection (ICRP), http://www.icrp.org/publication.asp?id=ICRP%20 2011%20Proceedings

Photographs

- 1 Rail transport of spent fuel
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