

Effective Radioactive Transport – Perspectives on Today's Issues and Tomorrow's Challenges

Michio Takani
Specialist Advisor, WNTI

6th International Conference on Isotopes
Seoul
12-16 May 2008

The demand for all radioactive materials, for example, Cobalt-60 sources used for a range of important medical, humanitarian and industrial applications, will increase. These gamma sources are manufactured in very few countries and sea transport therefore is vital to distribute them to users worldwide. Nuclear power also is set to play an increasingly significant role in meeting the world's growing need for sustainable, clean and affordable energy.

A reliable transport infrastructure is essential to support all these industries, and the challenge will be to ensure this can be maintained safely and securely. More transport raises a variety of issues including compliance with regulation and harmonised standards; particularly in an environment where there already are increasing delays and denials of shipments. Indeed, will it be possible to assure availability of transport as demand increases?

Transport of radioactive materials cannot be taken for granted; it faces a variety of challenges, and there are a number of emerging issues in the wider nuclear industry that have important implications for transport.

1. Sustaining transport services

An essential question for the transport of radioactive materials in the future surely must be: Even if availability of radioactive materials can be assured, how can transport to support such an expanded programme be assured?

It already is a worrisome trend for global supply that some shipping companies, air carriers, ports and terminals, have instituted policies of not accepting radioactive materials. Maybe potential

service providers are unsure about insurance implications. Perhaps they worry about the perception of other customers whose goods they want to carry. Maybe they think special handling procedures or reporting requirements are too complicated, or too onerous. Perhaps they are put off by problems with ports, or terminals, which themselves are not prepared to accept Class 7 cargoes, or which raise seemingly complex issues. In short, the decisions taken by shipping companies are based in considerable part on maximising profit; if the return from carrying Class 7 materials does not seem substantial enough, then why bother?

This is a real and present matter for concern. Shippers tell us that in some regions service availability and acceptance levels have rapidly declined in recent years. Consignors increasingly confront departure, transit, trans-shipment, and discharge port limitations or restrictions. It is difficult sometimes to get a clear understanding, and, therefore, consistent interpretation of the regulations, within and between jurisdictions. Shipping companies fear that the carriage of Class 7 cargo will result in unexpected delays with port clearance processes or, at worst, refusal to dock. At least the problems of denial and delay now are showing up on the international radar screen and are being addressed in a variety of ways by several organisations including, importantly, the International Atomic Energy Agency (IAEA) and the International Maritime Organization (IMO).

Industry also has its own responsibilities in this regard. WNTI represents forty-two member companies worldwide involved in or dependent on the safe, efficient and reliable transport of radioactive materials. The WNTI membership is drawn from a

wide range of industry sectors, including producers of large sources, transport companies, package producers, fuel producers and fabricators and major utilities. The Institute created a Carriers Working Group several years ago, and more recently established an industry-led Sustaining Shipments Task Force to address the subject in a pro-active and positive way. In order to accentuate the positive, WNTI prefers the name “Sustaining Shipments” rather than “Denial and Delay”.

The easier part of the task is to define the nature and extent of the problems. WNTI, like other bodies, has its growing inventory of denial and delay incidents. These incidents have been categorised and analysed and solutions must be sought.

First of all, WNTI, on behalf of its industry members, is supporting international efforts to address the issues of denial and delay, in the IAEA, and also, in modal organisations such as the International Maritime Organization (IMO) and International Civil Aviation Organization (ICAO). Exchanges with port authorities in a number of countries have been initiated and meetings with the insurance industry, maritime authorities and liner services are organised. WNTI contributes to the work of the IAEA Steering Committee on Shipment Denials; WNTI conducted a sample survey of existing training possibilities for dangerous goods transport, including of course Class 7, to identify ideas which could emerge from best practices- training the trainers for example, or e-learning to sustain training once the trainers have gone away. WNTI is taking an active part in regional workshops convened by the IAEA to discuss local issues related to the denial of shipments, like the Asian region one planned to take place in Beijing in June.

Within WNTI, an “Industry Knowledge Base” was developed for the benefit of its member companies. This Knowledge Base comprises straight-forward, plain-speaking, factual information on issues that can arise in dealings with transport service providers; including such topics as insurance requirements, the international nuclear liability regime as it applies to transport, the physical properties and packaging characteristics of Class 7 materials, radiation protection requirements, segregation distances on carriers. Member companies also are supported by WNTI with the back-up of technical experts to help inform and educate.

2. Harmonisation of the regulations

Many officials beyond the nuclear and transport regulatory authorities have jurisdiction in areas that can impact directly on the ability to transport safely and cost effectively such as security, customs or health officials. It emerges from reported industry experience that joined-up regulation is not always apparent or easily accessed. For example, a security official at an international border crossing may interpret requirements in a different way from authorities at the centre. There may be differing expectations as to cleanliness standards for containers. The rationale for where maritime requirements end, and

inland waterway requirements begin, may not be well understood by all parties.

There appears to be a fairly widespread view among potential transport service providers that the transport safety and security regulatory regimes are onerous or too complicated. It is the operator who experiences at first hand the differences of interpretation and approach not only within, but also, between national jurisdictions. Such differences potentially can jeopardise safety and adversely affect cost-effective transport through confusion, duplication of effort, delays in obtaining approvals, and consequent inefficiencies for both industry and the authorities.

The designation within national governments of a centralised contact point to offer advice when a Class 7 issue arises could help clear up confusions. A directory of prime contacts across government for use by operators might be a first step. This would at least give the operator some well established points of reference. More ambitious still would be a designated centralised, first access point, perhaps through the office of the national nuclear regulatory authority, which would provide a coordinated government response when issues cut across responsibility centres such as customs, security and so on. Such a co-ordinated approach to resolving issues could help to ensure consistency of interpretation and application of requirements, and a better understanding of the impact of one set or requirements on another.

More regular, collective exchanges within countries, between those whose job it is to develop and to enforce the regulations and standards for Class 7 transport, and those whose job it is to operate within those regulations and standards, can only help. This might be, for example, an annual or semi-annual meeting of officials drawn from a host of government departments and agencies on the one hand, and the various industry sectors on the other, for an exchange of information. Such exchange could include latest changes to the national and international transport regulations, current security, customs and other requirements as they potentially affect Class 7 transport, and importantly, their relationship to each other, and as well, a sharing of industry experiences of operating within the regulatory regime.

Continuing efforts to harmonise regulations that affect Class 7 transport are welcome. Valuable work has been done to bring the IAEA Transport Safety Standards, and the United Nations Model Regulations, the so-call Orange Book, into harmony. Similarly, efforts to harmonise, to the extent possible, the growing body of transport security guidelines and regulations would be welcomed.

The foundations for the transport safety regulatory regime are the over-arching United Nations Model Regulations for the Transport of Dangerous Goods, and the IAEA Class 7 Transport Safety Regulations (TS-R-1). While the IAEA regulations are reviewed every two years, it has been accepted that this does not imply they should change substantially every two years. In this regard, WNTI has for long espoused the principle, “change if necessary, but

not necessarily change". Stability in the international regulatory regime enhances safety through predictability and familiarity. This in turn gives assurance to transport service providers.

Clarity and even, simplicity, in the iteration of the regulations and their supporting guidance material would assist in making them more user-friendly and so help to avoid the kinds of confusion that can impact both on safety, and on the willingness of carriers to accept Class 7 consignments. In this regard, to the extent that domestic regulations can actually be a direct reference to international regulations helps. Indeed, actually repeating the language of international regulations in national regulations can enhance clarity and thereby, increase understanding.

There is no one answer or magic solution to the emerging issues in transport and in particular the many problems of denial and delay. But, all who care about making the benefits of radioactive materials available to where they are wanted the world over have an interest in sustaining cost-effective transport options. There still are carriers on some routes prepared to accept Class 7 consignments. In order to maintain sustainable, cost-effective and safe shipping options for the future, all stakeholders - intergovernmental organisations, national governments and industry - have an imperative to work together, without let up, to exchange experiences, ideas and to develop responses.

For further information contact:

WNTI
Remo House
310-312 Regent Street
London, W1B 3AX
Tel: +44 (0)20 7580 1144
Fax: +44 (0)20 7580 5365
Website: www.wnti.co.uk
e-mail: wnti@wnti.co.uk

Conference Paper