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Denial and Delay of shipments : patience, prudence, creativity

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Abstract

Denial and delay in transport of radioactive material, only because it is radioactive, is not uncommon; but more cases have been reported in the last few years. The issue has gained prominence, making its way to the upper levels of the IAEA. Meanwhile, the vast majority of nuclear shipments reach their destination safely and on time. But with the nuclear renaissance on our doorstep, and with the development of other peaceful uses of nuclear energy, there will be a surge in transports that cannot be endangered by denial and delay.

There really are problems out there, and some transports seem to have no alternate routes or carriers. Solutions are not easy to find, as there is no obvious leverage on carriers and harbours. Our cargoes are small and potentially risky, and cannot compare with small volume/small risk or large volume/larger risk of other sectors.

There are responses to this situation. Some of us use imagination and find alternative routes. Some take their chequebook, and charter ships or planes. Some want to have relaxed rules for their wares. Some lobby governments for help.

There is no doubt that denials and delays exist, and are a costly obstacle to transport; but any solution must not have the adverse effect of frightening away all existing and willing carriers, because of the noise and exposure made before their clients, their shareholders, and any anti-nuclear activists. Soft and quiet responses will work better - hopefully.

This paper identifies the problems encountered, some genuine and some less so. It discusses the search for hard facts and the pursuit of effective solutions, so that we can continue to transport safely, securely, reliably and cost-efficiently.

Fashionable Denial

Denials and delays shall mean all those cases where shipments of radioactive materials are either refused or delayed, based on their radioactive nature, while all regulations are complied with. The arbitrary or discriminatory aspect is the main feature of denial. The denial may be economic, if surcharges are unwarranted.

Denials and delays, or simply denials, have become a buzz expression today, and the IAEA is taking it seriously. Meanwhile, the vast majority of radioactive shipments reach their destination safely and on time.

It has never been particularly easy to get a carrier to transport radioactive materials. The number of safety requirements imposed by the international regulations for these transports has been, most of the time, a great impediment to their acceptability.

Recently, some cases of refusals have prompted some actors to conclude that there was a tendency that more and more carriers would refuse RAM. Sometimes, a last-minute, urgent delivery of small radiopharmaceutical parcels does not get off the ground. In many cases, there is no easy backup solution, as for instance only one sea carrier goes from A to B without other port calls. Nominally, several major sea carriers refuse Class 7 shipments.

The idea also emerges that transport denial will be a bottleneck for the "renaissance" of nuclear power, the new perspectives for mines, reactors and repositories in new places, and the expansion of nuclear medicine.

Parties involved in transport of radioactive materials for medical uses seem to have faced the most problems, and they have tried alleviating the problems, but they do not carry enough weight, even collectively. Arguing that some medical radiological sources cannot wait and cannot be delayed to reach the patients, they have suggested in regulatory circles to create special (meaning relaxed) rules warranted by medical benefits.

The noise, the apparently increasing number of cases, and the claim that regulations are just too stringent and conflicting, have raised the level of awareness in higher circles.

Awareness of the heavyweights

Industry members have contacted their trade associations, such as the World Nuclear Transport Institute (WNTI), the World Nuclear Association (WNA), the International Source Suppliers and Producers Association (ISSPA)... and used these and their personal channels. The issue has thus gained prominence and made its way into the IAEA and the IMO.

Many exchanges ensued, particularly at the IAEA, during the International Transport Safety Conference of 2003 and the following annual General Conferences. IAEA and IMO proved willing to help; after all, IAEA has a mandate to promote nuclear energy, and IMO promotes international commerce by sea: if one class of dangerous goods would be refused, it would be an open door to stop other classes.

This culminated in the creation by the IAEA of an International Steering Committee, tasked to identify the origins of the problem and to find possible solutions. Member States and NGOs with observer status were all invited. Some 30 States sat in the first meeting, with high hopes that any problems could be solved. Subsequent conference calls attracted a limited participation, and fewer States showed up at the June 2007 meeting in Vienna.

The work of the Committee is interesting enough, with actions in the field of awareness, training, communication, lobbying, economics, harmonisation of regulations.

In the wake of the Vienna meetings, a regional workshop in July 2007 in Uruguay showed a high interest, with 16 States attending, and a will to solve regional problems, mostly appearing with ports and airlines. Some contradictions remain within a few States, that are vocal against alleged

high dangers of transport when they are not party to it, and feign surprise that carriers shy away from Class 7 for their own transports.

States have diverse responses to denial. Some consider there are no problems on their territory; some take a leading role in solving the problems on an international level, specifically for harmonizing the regulations. Importantly, States that could presumably take action, such as those with a blanket refusal by their ports; do not appear in the Committee or workshop.

Several Competent Authorities have rightly come to the conclusion that the complexity and the national differences in regulations are a major obstacle for the carriers. France, Germany, the United Kingdom on one side, Canada and the United States on the other, have started work on harmonisation, and the IAEA is set on stability of regulations with reviews that do not imply revisions. The IAEA and the United Nations Sub-Committee of Experts on the Transport of Dangerous Goods (UNSCTDG) are working together to harmonise respective transport safety standards.

Raising awareness on the international scene, though, may turn against transport, as carriers come to realize that their competitors do not accept Class 7 for reasons that may well apply to them too.

In the beginning, though, it was hard to tell whether denial cases were on the rise, or if some actors (such as in medical) were trying to solve their own problems by involving "bystanders" (such as in the fuel cycle), or if some long-existing denial cases were suddenly being counted to make up numbers. An inventory was sorely needed.

Searching for hard facts

WNTI started to collect information for a IAEA fact-finding forum in London, in 2004. At the time, a dozen cases emerged. With the Steering Committee, the data-gathering effort became wider. IMO offered to establish and maintain a database, populating it with data provided to them. From November 2006 to May 2007, only one new case was reported, but then the existence of the database and reporting system is still not well known.

The aim of the database is to list and categorize the cases, to determine the extent of the issue and to make the noted instances known to those who can help solve them.

Most of the problems relate to international shipments: sea carriers, harbours, airlines. In some countries, not a single port accepts Class 7; in others, they take only front-end materials.

In order to get a full and true picture, it will be necessary to discriminate real, arbitrary, denial cases from refusals for a score of other reasons, including commercial issues past or present, and real incidents without carrier/port responsibility. It appears also that actions from opponents to nuclear are not included in the denial issues.

Finding underlying causes

Stated and apparent causes are obvious enough: too much paperwork, too much training needed, too many complicated regulations, not enough business or profit to justify the expense, other

clients worrying... Some reasons given are perfectly legitimate: on a airplane, if a passenger shows up with a pet that goes in the hold, any radioactive goods will remain on the ground. In some cases, a carrier will transport radioactive goods for one client, but not for the next. There are very contrasting experiences.

However, denial is like the fear of flying: "Why don't you fly? - It is too expensive - Why doesn't your neighbour fly? - He is afraid". The real reasons are not always obvious: they are unclear, untold or concealed. It is necessary to address the underlying issues instead of wasting time on the stated reasons. It would be beneficial to start using the methods of quality control, such as the fishbone diagram and the Pareto diagram, to identify root causes.

Let us take an example in France. Nearly all transport incidents are with radio-pharmaceuticals at airports; Pareto suggests to address them first. In the fishbone analysis, it quickly appears that the parcels are small and lightweight, so they can be tossed around, bounce off vehicles, and get crushed. Handlers and airports do not like it. This is not necessarily to say that these packages should be made heavier and larger, maybe more visible would suffice, but that such analysis might show new paths that are within our remit.

A number of ports refuse Class 7, and others set conditions difficult to meet. One reason may be interim storage before trains or trucks can carry the containers away, and the port does not have the capacity, or maybe that capacity is used by other dangerous goods. This is not exactly denial: there are logistical problems that can be identified by analysis and questioning, and that can be possibly solved. The implementation of the ISPS Code for port and ship security has helped us, in that the security necessary to our shipments is now generalized. Some cases will never be solved though, for instance if a liner service stops at harbours that never accept Class 7.

Looking for solutions

Do hard facts require hard responses? There is a striking difference in approach, for instance, between potential beneficiaries of unimpeded transport. Some would be very assertive and want to write power letters to carriers and ports; others believe in quiet one-on-one-contacts. IAEA's Steering Committee as a whole would resort more to training and harmonization of regulations, not going directly to the key players behind refusals.

Solutions are not easy to find, as there is no obvious leverage on carriers. Our cargoes are small and potentially risky, and cannot compare with small or large volume/small risk or large volume/large risk of other clients. Actually, the standpoint of the carriers can be understood: the low volumes of Class 7 do hardly justify the work involved in arranging the shipments and dodging the ports not allowing transit for Class 7 materials. The States have little influence on private carriers, where often the nationalities of the flag, of the owner, of the operator are different; however they would have more leverage on their harbours and airports.

So could we count only on the willingness of some carriers, and satisfy ourselves with solutions without a back-up? One problem, beyond also the commercial inconvenience of reduced competition, is that a snow-ball effect might make the situation even worse: once a large carrier has announced it discontinues carrying Class 7, other carriers may be tempted to do the same...

The solutions below have been suggested by various organizations and individuals. They may or may not follow a search for underlying causes. They are listed here only because it may give the reader ideas. There is no preference order implied:

- harmonization of regulations,
- stability of regulations,
- education of transport partners (carriers, harbors...) by industry members, and/or trade associations and/or by States and/or by IAEA,
- increased lobbying towards officials and professionals,
- combination of producers for leverage or better rates through larger quantities,
- one-on-one discussions between service providers and industry members (or trade associations)

Other ideas may need restraint or common sense, as they might backfire and cause more problems to nuclear transport (the author has taken the liberty to offer comments in brackets) :

- power letter from transport organisations to service providers (the risk is to appear like bullies, and to antagonize prospective carriers and harbors for good)
- power letter from IAEA to carriers (unlikely anyway)
- power letter from States to carriers (carries little weight with carriers, would work with harbours when their business is on State property)
- special arrangements for air transport when sea transport is not feasible (this may be questionable on safety grounds)
- special rules according to end-use (safety is one)
- public outreach (awareness may cause opposition from people who would not care otherwise, and attract opponent response)
- compensation funds for the benefit of carriers, harbours... (open door to abuse from both careless shippers and greedy service providers)
- package tracking (large consignments are difficult to lose, small ones are impossible to equip with real-time tracking)
- naming and blaming and shaming (this is possibly the worst, even when not counting libel).

Relaxed regulations according to end-use require further comments. Attempts are made at the IAEA by a few States and trade associations to facilitate transport of specific radioactive materials, mainly in the medical field. The first problem is that end-use cannot be easily defined or enforced, with materials or sources that have multiple uses like cobalt 60; and it would not be long before, similarly, petrol for ambulances would become safe stuff, and why not nuclear fuel whose electricity powers hospitals?

Other problems are that, because of exemptions or the like, safety would not be uniquely defined, that healthy workers or individuals would be subject to undue risks, and that regulations would be even more complicated. The service providers would also feel good to accept medical, and would then have no qualms in rejecting the rest. It seems better that all sides of industry unite to have harmonized and stable regulations.

There is no doubt that denials and delays exist, and are a costly obstacle to transport; but any solution must not have the adverse effect to frighten away all existing and willing carriers, because of the noise and exposure made before their clients, their shareholders, and any anti-nuclear activists. Soft and quiet responses will work better - hopefully.

Ways forward: patience, prudence, creativity and above all perfection

It will never be known whether the recently gained prominence of the issue has been beneficial or detrimental, because you cannot replay that game. It certainly was beneficial on the regulatory side, where leading Competent Authorities and States have seriously tackled the problem on several fronts: training of service providers, harmonization and stability, mutual recognition of approvals. IAEA, IMO have proved sympathetic and supportive.

On the detriment side, apparently no damage has been done as yet. However, transport is treading on thin ice, with often only one economical solution from point A to point B. Rocking the boat (figuratively) may be costly. It is obviously better to try to solve problems quietly. "Speak softly and carry a big stick": as we have no big stick, other paths will have to be found.

Patience

There is no way to solve quickly and for good the multiple issues involved in denial and delay. Crying wolf may be necessary, but will not work when repeated; and denial will never disappear. While it may have been useful to shake the tree once, trade associations and other actors that use soft methods may well succeed better in the long run. A long-term view and plans are required, as is an ongoing exchange of experiences, good and bad, between the different sectors of radioactive transport.

Prudence

Most transports still take place without problems, while this is not evenly distributed. Making too much noise will not necessarily help the victims of denial, and may endanger the other transports. The good specialists are likely to survive, perhaps in some cases because they have deep pockets and will charter conveyances.

A better option is for all to join trade associations in order to pool efforts. There is a matter of trust, of faith, of fear, that simply cannot be overcome without establishing personal contacts, mutual visits... and this may take more time and money that any single company can recoup in revenues.

Too much noise may lead a parent company to "discover" that a subsidiary does Class 7 transport, and close that line of business. It will also attract unwanted opponent attention. Activists may think that our industry is drowning and may compound our issues with service providers.

With the nuclear renaissance new entrants will appear in transport activities. Let us not worry too much about the possible profits that some companies making no efforts will make due to the dedication and success of others; but let us collectively check that fly-by-night operators do not ruin all our efforts trough carelessness. Just as for power stations, one mistake by one operator can mean doom for all others. After all, if transport was too easy, it would be an open door to fierce competition, criticism from one company of the other, illicit trafficking. It will be better, particularly for safety, that nobody cuts corners.

Creativity

Industry will have to find new responses through inventiveness. Of course not everyone can do what the Japanese, British and French have done together with success in Global Acceptance: efforts of quiet lobbying over more than 10 years, in over 25 countries, in the IAEA and IMO... on the other end it is not unreasonable to join a dedicated trade association that will provide information, a discussion forum, and support; the World Nuclear Transport Institute is a notable and effective example. Imagination can be used to find simple or elaborate solutions to denial.

Clearly a starting point may be to always have a back-up solution that is used from time to time to preserve its viability. The extra cost is like insurance: pay and hope you never get the money back. Other ways, without divulging company secrets, could be to use smaller harbours or smaller carriers that would welcome the additional business. After all, transport will almost always take place. Creativity will ensure it can be done at a reasonable price, while maintaining safety and security.

Conclusion: Perfection

Supposedly that is only an ideal state. Not for transport. Perfection in safe, secure, reliable transport is what it takes everyday to keep transport going. One incident involving any transport has the potential to stop many. Having reasonable and harmonized regulations, complying with them strictly, will go a long way towards the perfection that service providers, Competent Authorities and the public expect.

Denial is a curse and a complexity, but also a challenge that ultimately only the best professionals will meet. Let us all make sure that this denial story remains marginal, and that the nuclear energy story is not hindered by transport issues.