Transport of Radioactive Materials in the European Community

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ABSTRACT

The creation of the European Single Market is expected to have a major impact in the field of international trade. This paper describes the current situation relating to the transport of radioactive materials within the European Community, and emphasises the expected effect of the European Single Market in this field.

INSTITUTIONS OF THE COMMUNITY

The European Community is made up of twelve Member States: Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and the United Kingdom. The legislative and administrative work of the European Community is conducted in four main institutions.

Central administration is conducted by the Commission of the European Communities. The Commission has the sole power to propose legislation, which must be based on the EC Treaties. It ensures observance of Community rules and implements some decisions taken by the Council of Ministers within limits laid down by the Council. The 23 Directorates-General (DGs) cover specific policy areas such as energy and the environment; the DGs are headed by 17 Commissioners appointed by their Member States and are staffed by civil servants in the Commission Services.

The Council of Ministers is the final decision-making body of the Community. It meets in specialist forms each composed of relevant Ministers from national governments eg the Transport Council is attended by Transport Ministers. There are usually two formal meetings of each Council during every six-month Presidency; and in some cases also one informal meeting - the former can make

legislation but not the latter. A separate body is the six-monthly European Council or "summit" of Heads of Government, Foreign Ministers and the President of the ommission, which does not take legislative decisions.

The European Parliament (EP) has 518 members and is directly elected every five years. The EP has limited powers. It exercises some control over the Budget, with power to reject and amend drafts. With the "co-operation procedure" introduced by the Single European Act, certain legislation is given a second reading in the Parliament, in particular Single Market legislation. The Parliament also has powers - never used - to dismiss the Commission as a whole (but not individual Commissioners). The Maastricht Treaty allows further power under the "negative assent procedure" by which the Parliament gives a third reading and can reject legislation.

The European Court of Justice (ECJ) judges cases involving the interpretation of EC law referred to it by the Commission, Member States, national courts and, in certain circumstances, individuals. EC law always takes precedence over national law in cases of conflict, so the jurisprudence of the ECJ is one of the most important areas of Community activity.

THE EUROPEAN COMMUNITY POLICY ON THE TRANSPORT OF RADIOACTIVE MATERIALS

The plan for a Europe without internal frontiers is close to completion, with barriers to free trade between Member States being dismantled and competition facilitated. The White Paper "Completing the Internal Market" [1] published by the European Commission in June 1985 pointed to three separate categories of internal barrier to the free movement of capital, goods, labour and services. They were fiscal, physical and technical barriers. Our concern among these is technical barriers due to differences in national legislations. One element in the Single Market is the necessity for close cooperation in the fields of industry and technology. The general motivation of the Single Market is to create a more favourable environment for stimulating enterprise, competition and trade. The free movement of goods is one essential factor. Safety is a primary concern in this context. In road transport, in particular, to ensure adequate levels of safety, the Commission has sought to promote alignment of Member States domestic legislation with the internationally recognised road transport agreement on the transport of dangerous goods (ADR)[2]. This agreement has been ratified by all but one of the Community Member States, but the Community is not a contracting party.

THE PERMANENT WORKING PARTY ON THE TRANSPORT OF RADIOACTIVE MATERIAL

In regard to the transport of radioactive material, in 1982 the European Parliament requested the Commission to set up a Permanent Working Party with experts from Member States. The object was to exchange information and advise on proposals for Community actions. In particular the Working Party has been given the objectives of:

(i) supporting the work of Member States in contributing to the continuous review of the IAEA Regulations; and
(ii) assuring the correct and harmonious application of the IAEA Regulations in the Community.

The composition of the Working Party comprises members representing countries which have been fully involved in the IAEA meetings on the Regulations, and countries with no direct involvement in them. It has, therefore, been able to act as a means of both inputting information on transport experience to the IAEA and of disseminating information on the provisions of the Regulations to the other countries.

The Working Party advises the Commission on measures to introduce regulatory provisions in Member States. The process by which such measures are initiated and given consideration is illustrated in the visual aid.

COMMUNITY ACTION ON THE TRANSPORT OF RADIOACTIVE MATERIAL
Examples of cases which have led to action are the sinking of the Mont Louis and the Transnuklear/Mol affair.

Examples of measures which have been taken in regard to transport are the following:

1. The Council Regulation 3356/91[3], brought into force at the end of 1991, abolishes controls at frontiers as regards road and inland waterway transport. This does not preclude nominal checks carried out within the territory of a Member State, but eliminates additional checks at the point of entry or exit of a country. This regulation liberates from border checks all dangerous goods carried in accordance with ADR (including consignments of radioactive material).

2. The Council Directive on the supervision and control of transfrontier movements of radioactive waste between Member States and into and out of the Community[4], was recently adopted. The Directive aims to prevent illicit transfer and dumping of such waste in the territory of

developing countries. In fact there have been no reported cases of dumping involving radioactive waste.

The Directive affirms the sovereign right of every State to prohibit the movement of radioactive waste into, from or through its territory and requires that all transboundary movements of radioactive waste take place in accordance with internationally accepted safety standards and national laws and regulations. It also requires prior notification and consent of the sending, receiving and transitting states.

SPONSORED RESEARCH STUDIES

Generally speaking, the Community has a responsibility for setting up standards for the health and safety of workers and the public with regard to radiation hazards. The Commission is currently preparing a draft Directive on radiation protection, taking into account the latest recommendations of the ICRP.

The Commission has supported the work of the IAEA, for a number of years, through the sponsorship of research studies into specific aspects of transport safety. In awarding contracts for studies, the Commission has encouraged collaborative work involving more than one Member State. The most recent list of studies is shown in the figure. The first two studies in the list can be taken as examples.

The first study is a CEC DG XVII funded programme of work on a databank of the arrangements within the EC for transport accidents involving radioactive materials. CEA/IPSN France and NRPB UK coordinated the contributions from Member States. The work has been divided into four phases:
feasibility study;
accident review, analysis and report together with lessons learnt;
handbook on emergency arrangements;
computerised system.

The first two phases have been completed; phase 3 will be completed in October 1992; the final phase has not yet been agreed.

The feasibility study examined regulatory requirements, existing emergency arrangements, procedures and information systems. A databank was recommended to cover such areas.It was recognised that the databank would need to be maintained and that the information would need to be reviewed and updated.

The review of accidents in Member States was for the period 1975-86: most of the detailed information came from France and the UK. There are major differences in the degree of reporting of such events; for example rail events are very comprehensively reported as are those involving nuclear materials. Under-reporting may occur in other areas: care is therefore required in any comparisons. Most accidents were reported on the roads, and radionuclides for medical and industrial use were most frequently involved. The only significant radiation exposures were to site radiography workers.

The second study is that currently examining problems affecting the use of Type B(U) packages in the Community. This is being carried out by R A O'Sullivan, a one-time member of the IAEA Transport Safety Secretariat. Any conclusions from it must be considered as very provisional since this study is still incomplete. Some facts, however, are becoming clear at this stage.

Many of the difficulties cited by competent authorities and users alike, are not peculiar to Type B(U) packages. One is the problem of language. This affects certificates of approval, and transport documents in general. It also shows up in the need for effective communications, especially in the event of an accident or incident. Some national authorities must have properly authenticated translations, in the case of important papers.

A recommendation from the study could be that an official centralized translation facility in the European Community would be advantageous.

A difficulty commonly found was that of identifying national competent authorities for purposes of communication and notification. The Agency's list of competent authorities (now No.23) can be insufficiently detailed: Member States' inputs to it may be too general. Some users were found to be either unaware of the existence of the Agency's list, or not to know how to obtain it. There may be a large unsatisfied demand for this booklet. The study suggests the Agency should now consider making it a priced publication, so that it would be more easily available, and could be publicised more widely.

The qualification of competent authorities to issue unilateral approvals has been questioned. The 1985 Edition of the Regulations places strong emphasis on responsibility for compliance assurance. This responsibility embraces not only package design approval, but also the correct use and maintenance of packaging

throughout its working life. It affects all countries through or into which Type B(U) packages go. The question asked by some contributors is: should the capability of a competent authority to carry out compliance assurance be itself subject to independent review? SAGSTRAM looked at this in 1978. No action was recommended then. But could current circumstances, including the emergence of new states which may need to set up competent authority organizations, justify a rethink now? The Agency has significant experience in carrying out safety reviews. Could the success of the OSART and RAPAT expert teams offer a model for a similar development in transport safety?

The registration of packaging serial numbers seems likely to be a potential problem area. Some contributors think that serial numbers should be registered by all competent authorities affected by consignments. For Type B(U) packages especially, the country of use may often not be that of manufacture, or that where the design was approved. Compliance assurance in such cases may be a problem. It could help the coordination of compliance assurance in the countries affected if packaging serial numbers could be used to uniquely identify packaging internationally. This could also aid control of the manufacture and use of packaging covered by the transitional arrangements of the Regulations. Contributors to the study saw the need for national packaging and package records to be supplemented and coordinated through an international database. In Europe, a Community-sponsored facility could be useful. But the greatest advantages were considered to be available if the database could be truly international.

All of these questions, and others I have not had time to mention, need more study. Hopefully a further inquiry stage now being undertaken, will throw more light on them. The final report on this study is due next November.

CONCLUSION

It is hoped that the Community institutions can contribute to the consolidation and further development of high standards of safety throughout the Community for the transport of radioactive materials. The aim must, of course, be to ensure that the use of radioactive materials, including that of nuclear power to satisfy energy requirements in Europe, including recently emergent non EC states, takes place in conditions which protect public health and the environment.

References

1. White Paper: 'Completing the Internal Market': European Commission (DG II): Com/85/310 Final.

2. European Agreement on the international carriage of dangerous goods by road (ADR): ECE/TRANS/80.

3. Council Regulation (EEC) No. 3356/91 of 7 November 1991 amending Regulation (EEC) No. 4060/85 on the elimination of controls performed at the frontiers of Member States in the field of road and inland waterway transport.

4. Council Directive 92/3/EURATOM of 3 February 1992 on the supervision and control of shipments of radioactive waste between Member States and into and out of the Community.

PROPOSALS OF THE STUDY CONTRACTS CONCERNING THE TRANSPORT OF RADIOACTIVE MATERIALS TO BE FINANCED IN THE FINANCIAL YEAR 1991.

Proposal No	TOPIC	Organisation(s)	Asked CEC contribution (ECU)
1	Handbook for the CEC database on transport emergencies involving RAM.	CEA-IPSN(F) NRPB(UK)	14.500 (100%) 14.500 (100%)
2	Problems associated with type B(U) packages in the transport of RAM.	R O'SULLIVAN(UK)	25.000 (100%)
3	Reprocessed Uranium. Influence of material composition on transport and storage.	NCS(FRG)	72.700 (100%)
4	Localization of radioactive material packages lost at sea.	NCS(FRG)	58.200 (100%)
5	TENERIFE. Experimental study of a UF6 container in a fire. Phase 1.	CEA-IPSN(F)	100. 000
6	Common approach within the E.C. for the study of problems relating to the containment of radioactive substances contained in transport and storage casks. Phase 1.	CEA-IPSN(F) AEA BAM(FRG) TRANSNUBEL(B)	40.000 (100%) 65.000 (32.5%) 40,000 (100%) 40.000 (100%)
7	Analysis of a transport system. The transport of radioactive waste and contaminated objects. Phase 2.	CEA-IPSN(F) AEA-CULCHETH(UK) TRANSNUBEL(B)	60.000 (100%) 60.000 (100%) 60.000 (100%)
8	Research and development program for a shock absorbing system analysis. Phase 4.	CEA-IPSN(F) AEA-WINFRITH(UK) TRANSNUBEL(B)	40.000 (100%) 40.000 (100%) 65.000 (100%)
9	Doses received by crew and passengers during the transport by air of RAM.	ENEA(I)	35.000 (60%)
10	Common limits of packages containing irradiated fuel with nuclear installations and the environment.	ENEA(I)	17.500 (60%)
11	Study on tie down systems of packaging for transport of RAM to conveyance. Phase 1.	ENEA(I)	52.500 (60%)
12	Study of a criticality accident which could occur in a pool storage containing irradiated fuel assemblies. Phase 1.	CEA-IPSN(F)	86.800 (63%)
13	Establishment of procedures for standardising design safety reports and certificates of approval for industrial and type A packages.	CROFT ASS.(UK) BAM(FRG)	50.000 (100%) 8.000 (100%)
14	Use of scale models for the characterization of gasket seals systems in RAM containers.	UNIVERSITY PISA (I)	93.500
15	Problems encountered with current IAEA regulations for radioactive package testing throughout the E.C. where ISO freight containers are being introduced for waste transport and disposal. Phase 1.	AEA-WINFRITH(UK) BAM(FRG)	17.500 (50%) 5.000 (50%)
16	Enquiry and analysis of national regulations applied in the Member States of the EC in the field of transport of radioactive materials.	TRANSNUBEL(B)	25.000 (100%)