

## **Training of Hazardous Materials Drivers in Europe: What It Is About and How 28 ADR Member States Can Harmonize Their Training Requirements**

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In the interest of safe carriage of dangerous goods, it is extremely important that vehicle drivers are properly trained. No rule, not even the best, serves its purpose if it is not being complied with. Rules that are unknown are not applied. Thus it is plain to see that mandatory training is required.

### **LOS ALFAQUES 1978**

It would appear that new regulations are far more likely to be observed once accidents have occurred. In 1978 in Spain a severe tank truck accident happened because the driver simply had not been aware of the inherent danger from his overfilled tank of propylene. The accident killed more than 200 and left several hundred severely injured.

Only in the wake of this accident in Spain was it possible to introduce, for the first time, tank-truck-driver training. It started in Germany, and by 1984 it was applied to transboundary carriage under the ADR-Agreement (European Agreement Concerning the International Carriage of Dangerous Goods by Road).

There were no specific contents in the training syllabus for drivers of RAM tank trucks, as only very few carriages of radioactive materials in tanks have ever been carried out in Germany. Up to the present day, no more than perhaps 10 (!) drivers have received training for this special type of carriage.

Soon after tank-truck-driver training was introduced, its usefulness showed: the number of accidents of tank trucks declined. At present, no more than some 40 accidents occur in 1 year, comparing favorably with the previous average of 83.

### **PACKAGED-GOODS DRIVER TRAINING: GERMANY SINCE 1990, ADR SINCE 1995**

So carriage in tank trucks has become safer, but carriage in packages - packaged-goods carriage - has not. In 1987 the Economic Commission for Europe - ECE - realized this and agreed on requiring training for vehicles that are subject to labeling requirements and whose maximum

permissible weight exceeds 3.5 tonnes. It should be noted that ADR requires labeling of the transport unit according to the degree of danger and the quantity of the dangerous goods: for radioactive materials, labeling is mandatory for all carriages of substances of schedules 5 through 13. Due to the fact that, as a rule, radioactive material is carried by vehicles below 3.5 tonnes, the limit value of 3.5 tonnes was not held applicable here. Thus training was mandatory whenever radioactive material of schedules 5 through 13 were carried.

Because it was anticipated that thousands of drivers would have to be trained, a rather long transitional period was provided for: it ended this year. In Germany this long period was seen as fraught with difficulties, because of the tendency not to do anything at all during the first years - to wait and see - and toward the end of the transitional period, call for 'urgently necessary' extension. So in Germany dangerous goods driver training was introduced in steps over several years. Drivers of radioactive material of schedules 5 through 13, for instance, had to be trained after mid-year 1991, in all some 3,500 vehicle drivers.

Training of Dangerous Goods Drivers	
1978	'Los Alfaques' accident (Spain) (220 killed)
1980	First training in Germany (tank truck drivers)
1983	ADR introduces training (tank truck drivers)
1987	Training for packaged-goods drivers (transitional provisions January 1996)
1989	EU-Directive (mandatory training for domestic carriages)
1990	Training for packaged-goods drivers effective in Germany: 7/91: - vehicles $\geq 38$ tonnes, - carriage of RAM schedules 5 through 13 - and of explosives 1/93: - vehicles $\geq 7.5$ tonnes 1/95: - vehicles $\geq 3.5$ tonnes
1995	Training for carriages under ADR: 3/95 Rome meeting: Establishing of course syllabus 4/95 1st discussion WP 15 - Geneva - 10/95 2nd discussion WP 15 - Geneva
1997	Uniform syllabus for all ADR Member States

Fig. 1 Time Table: Training of Dangerous Goods Drivers

While only the basic contents of the training were laid down in the ADR, model course syllabi were drafted in Germany. Duration and running of the training courses, for instance, were prescribed in detail in guidelines. By the way, responsibility for all questions arising from driver training was delegated to the Chambers of Commerce and Industry by ordinance as part of industry's self-administration. Everybody that meets the demanding criteria for approval as course operator may operate training courses. Large firms often conduct driver training in-house.

Today the European Union comprises 15 States. Every EU Member State has rights as well as duties, and the Commission of the European Communities carries a certain responsibility for looking after smooth and frictionless exchange of goods among the EU Member States.

As early as 1988 the European Commission realized the adequacy of the ADR's driver training provision for transboundary dangerous goods carriage: however, this provision did not apply to domestic carriage in the EU Member States. So where is the problem, one is tempted to ask. Can't every State do as it pleases within its borders? Here mention must be made of the Common Market introduced in 1993: among other changes, it provides for services rendered in any of the EU Member States. Therefore everybody may carry goods, including dangerous goods and radioactive material, within any EU Member State. In Europe this is called "cabotage."

In practice this would have forced whoever carried dangerous goods within a Member State to comply with that Member State's domestic regulations. In extreme cases, this would have meant invalidation of a driver's training certificate for transboundary carriage (ADR Certificate) when used for domestic carriage.

The EU solved this problem by issuing a new Directive (EWG 89/684) that an ADR Certificate is valid for transboundary and domestic carriage and must be recognized in any Member State. However, even in 1988/89 it was well known that not all ADR Member States and EU Member States trained to the same standard, and therefore reciprocal recognition would have disadvantaged those States that required thorough training. So the Commission of the European Communities was requested to submit a report on the state-of-the-art of driver training in its Member States. It took rather long to draw that report, but in late 1994 it was available.

One insight was that, for instance, training of drivers for radioactive materials in Germany extended to 30 hours whereas other Member States considered 5 hours adequate. Obviously there was a need for harmonization of training duration and syllabus at the European level.

#### ECE AND COMMISSION OF THE EUROPEAN COMMUNITIES

Which organization should actually go about harmonizing the training requirements? Should it be the European Union with its 15 Member States, or the Economic Commission for Europe with 28 Member States? Ireland excepted, all States of the EU are also Member States to the ADR Agreement. Clearly, harmonization should therefore best be attempted by the ADR Member States.

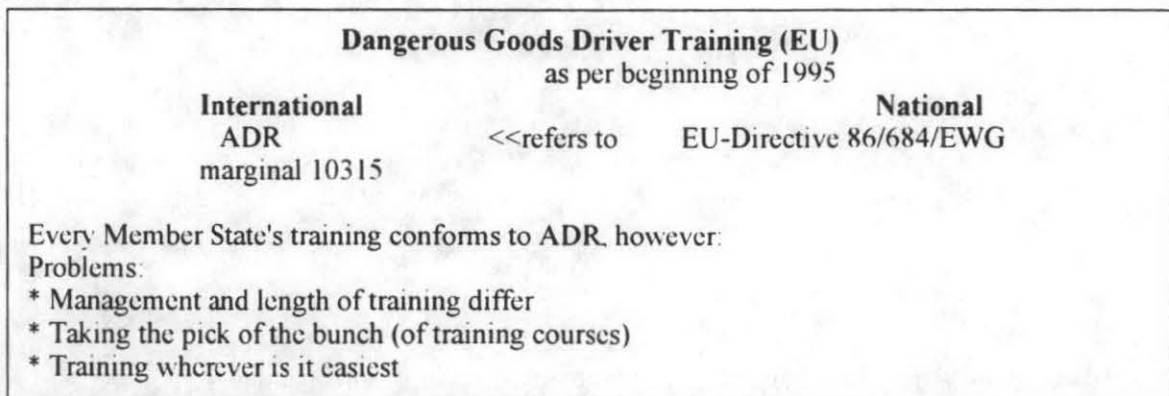


Fig. 2 Problems of Driver Training before 1995

<b>Basic Course</b>	
* General requirements	
* Main types of hazard	
* Environmental protection	
* Safety measures	
* Accident	
- first aid	
- road safety	
- basic knowledge	equipment
* Method of operation	technical equipment
* Mixed loading	
- prohibitions	
- precautions	
* Civil liability	
* Multimodal transport	
* Handling + stowage	

Fig. 3 Terms of the basic course

<b>ADR-Driver Training in force 1997</b>	
Initial course	Refresher course
	5 years
Basic Course	Basic Course
18 h	1 day
Practical Exercises	Test
Test	
+	
Special Course	Special Course
Tank	Tank
12 h	1 day
Practical Exercises	Test
Test	
+	
Special Course	Special Course
Class 1	Class 1
8 h	1 day?
Test	Test
+	
Special Course	Special Course
Class 7	Class 7
8 h	1 day?
Test	

Teaching units are 45 minutes each, with normally 8 teaching units per day

Fig. 4 System of Driver Training (in force 1997)



**Special Driver Training**  
- Class 7, ADR in force 1997 -

- \* All drivers schedules 5 - 13
- without**
- \* Drivers schedule 9
- total number of packages  $\leq 10$
- or**
- \* sum of TI  $< 3$
- but**
- \* Training by the employer
- or**
- \* Equivalent training under other regulations

Fig. 5 Special Driver Training for Class 7 (Radioactive Material)

Their work on ADR development is done by the Working Panel 15 (WP 15). In this case a special working group met at Rome in April this year. The essential results are listed in ECE document TRANS/WP15 R:

All vehicle drivers shall receive basic training of 18 hours duration:

Supplementary hands-on training:

Advanced training course for

- tank truck drivers, 12 hours duration plus practical exercises;
- vehicle drivers for radioactive material (RAM), 8 hours duration,
- vehicle drivers for explosive substances (EX), 8 hours duration;

Cancellation of present advanced training course for RAM and EX in case relevant other training has been received (for example, as prescribed by German radiological safety regulations):

Recognition of training by competent authorities:

Examination following each part of the training;

Refresher training within 5 years, duration 1 day for each course:

Examination following each part of the training.

Most of the special working group's draft was accepted by the WP 15 in May 1995. Statistically speaking, 90 % of all vehicle drivers carry loads with a total transport index  $< 10$ ; these would not have to be trained. The ECE draft further provides for training on radioactive material regardless of whether each vehicle's permissible maximum mass is  $< 3.5$  tonnes.

These new regulations are to enter into force on January 1, 1997. This is also the deadline for EU Member States' implementation of the ADR Framework Directive on the mandatory application of the ADR to domestic dangerous goods carriage in all EU Member States. The Directive EWG 89/684 mentioned at the beginning may then be dispensed with.

## **SUMMARY**

All 27 European States will train dangerous goods drivers uniformly in the future. ADR training certificates will be reciprocally recognized. Already it can be said that this will further increase safety in carriage of dangerous goods and radioactive materials. Can we ask for more?