
**COMMERCIAL VEHICLE SAFETY ALLIANCE (CVSA) /
DEPARTMENT OF ENERGY (DOE) COOPERATIVE
AGREEMENT FINAL REPORT**

**Prepared by
Commercial Vehicle Safety Alliance**

October 1999



EXECUTIVE SUMMARY

This report provides a summary of the activities conducted since September 1986 under cooperative agreements between the Commercial Vehicle Safety Alliance (CVSA) and the U. S. Department of Energy (DOE). These activities include the development of the Enhanced North American Standard (ENAS) inspection procedures for inspecting drivers, equipment and cargo involved in the transportation of radioactive materials. The activities also include conducting a pilot study to evaluate the soundness of the procedures, develop training curricula, conduct training, perform inspections and generate evaluations to support recommendations. The following are the main conclusions and recommendations resulting from the work performed under the cooperative agreements.

- The set of ENAS inspection procedures and out-of-service criteria was developed for select radioactive motor carrier shipments by a wide range of federal, state and provincial government officials and inspectors, motor carrier industry representatives, national radiological experts, a research organization, and CVSA staff. It has proven to be a viable and necessary set of inspection criteria, which will go a long way to insure safe and efficient transportation of radioactive materials. It also has the potential of alleviating the popular perception that transportation of radioactive materials is inherently dangerous.
- The point of origin "defect free" by the ENAS inspection is a standard that is attainable and if followed closely will insure a relatively defect free vehicle at the point of destination. The pilot test indicates that generally there is no need for en route inspections. Random point of destination inspections are recommended to evaluate the inspection program including inspector training.
- The research design of the original cooperative agreement changed considerably over the years due to the delay in WIPP shipments, funding shortfalls and other factors beyond the control of CVSA. Several other shipments were then used with mixed results, with the most effective and exemplary being the Cesium Campaign and the limited number of WIPP shipments just prior to completing this final report. The original research design called for the collection of data such as weather factors, road conditions, and terrain characteristics that had to be eliminated in the final pilot study design.
- There is widespread support for the ENAS within the CVSA organization, which consists of all the fifty states, the Canadian provinces and Mexico. This was demonstrated by the overwhelming approval of all the ENAS proposals placed before the CVSA membership, as well as the large number of requests for the specialized inspector training.
- In October 1997, the membership of CVSA adopted the ENAS for select DOE radioactive shipments. In July 1999, with the results of the pilot test and

encouragement of DOE, the CVSA membership adopted the ENAS for all highway route control quantities of radioactive materials and transuranic waste.

- The Outreach Program with the theme "Safety and Efficiency in the Transportation of Radioactive Materials" has proven to be a valuable tool in projecting the importance of the ENAS program and demonstrating what is being done to insure safe transportation of radioactive materials. The *RAD Inspection News* newsletter is a vital and important link to the inspectors and provides critical information to assist them in completing their responsibilities.
- The three day basic inspector training course has been revised over the years and now reflects a training course which is highly evaluated, cost effective, and sought after by a number of states.
- The industry inspection awareness training, as provided by CVSA, was instrumental in providing drivers who were familiar with the ENAS inspection and generally eliminated any problems prior to the ENAS inspection. This occurred during the Cesium Campaign and WIPP shipments, with both shipping campaigns being viewed as exemplary. These shipments also used dedicated drivers that greatly assisted in the shipments receiving their high ratings.
- The inspector refresher course requirement is necessary to maintain a credible, uniform and viable program. This needs to be maintained and monitored by CVSA to insure that the inspector requirements are met.