

AREVA Logistics Business Unit Transportation Risk Management Initiative

Catherine Anne
AREVA NC – Transnuclear Inc
7135 Minstrel Way, Suite #300
Columbia, MD 21-45, United States

ABSTRACT #9523

A safe, secure and reliable transportation organization is a key component for the success of the nuclear industry. With the forecasted increase of radioactive material transport flows in future and the changing environment, AREVA Logistic Business Unit (L-BU) must ensure that safety and security risks are minimized but also ensure of the chain supply for its various facilities (mines, conversion, enrichment, fuel manufacturing, reprocessing, etc). AREVA L-BU Unit is implementing a transportation risk management initiative for the radioactive shipments of the AREVA group across all the Business Unit involved in shipments of radioactive and nuclear materials. The paper will present the four main components of the risk management:

INTRODUCTION

AREVA is an important player in the fuel cycle from mining to reprocessing. As of result, AREVA is involved in shipping numerous type of radioactive materials such as U308, natural UF6, enriched UF6, fresh fuel, spent fuel, plutonium, MOX fuel, waste and contaminated equipment. Depending of the risk inherent to the material, the type of packages utilized the countries in transit and the mode of transport, each transport flow presents different type of risks and challenges. The AREVA L-BU is composed of TN International based near Paris, France and its four affiliated companies:

- Transnuclear Inc in the United States (MD)
- Transnuclear Tokyo in Japan
- Lemarechal and Mainco, two French based companies (Trucking and storage)

In spite of the fact that the L-BU is responsible for most of the back-end shipments, the L-BU is not managing all the AREVA shipment especially the front end shipments which are directly handled by other AREVA Business Units. In order to minimize the security, safety, industrial and communication risks related to AREVA transportation activity, the L-BU has been mandated by AREVA upper management to ensure of best practices and also the chain supply.

PRESENTATION OF THE TRANSPORTATION RISK MANAGEMENT METHODOLOGY

The task is challenging considering that as of today, up to now, about 680 transport flows worldwide has been identified with multiple foreign AREVA organizations. The methodology for Transportation Risk Management includes four main components which

are summarized below. A dedicated L-BU team of 25 analysts in France and 2 analysts in the United States are responsible of the initiative implementation

Risk Analysis

Risk analysis is the initial phase of the TRMI. The purpose of the risk analyses is to understand and manage risk associated with transport of radioactive materials. The L-BU has developed a methodology and procedures for risk analysis. The methodology is based on different risk factors such as type and form of material, mode of transport, countries in transit and packages type.

The process consists of three steps:

- Identify and evaluate transport flows of radioactive materials or contaminated equipment to/from AREVA facilities and transport flows managed by AREVA entities.
- Identify and evaluate procedures and processes utilized to conduct and manage the transport operations in order to determine the level of risk management currently employed.
- Based upon the results of the evaluations, draft recommended actions to improve overall safety and security of the studied transport flows.

Suppliers Qualification and Inspections

The majority of the AREVA shipments are outsourced to transport suppliers using all modes of transport (road, train, maritime, air). To ensure that AREVA Business Units selected transport suppliers applies AREVA a management quality system including safety and security standard, the L-BU has developed procedures to audit suppliers who provide transportation services to the other Business Units. Given that there are regulatory differences between the different continents and countries involved with these shipments, adaptation to those procedures are performed as necessary

In order to verify compliance with the quality management system, the suppliers are audited every two years. As of today around 130 suppliers worldwide have been identified. In addition, the qualification process includes en route inspections to verify that procedures are adequate and that activities performed on behalf of AREVA comply with applicable requirements. In 2007 and 2008 about 120 inspections have been performed. This number should be increasing in 2009.

Logistical Models

Chain supply is an important element of the Transportation Risk Management Initiative. Transportation activity of radioactive materials has become more complex over the years mainly due increase in security requirements following 9/11 and the public perception. Shipment delay and denial have been increasing over the years. In this new environment, it becomes more important to ensure that AREVA will be able to supply its conversion, enrichment, fuel manufacturing and reprocessing facilities. The purpose of the logistical model studies are to ensure that licensed package will be available for perform shipments in the coming years, route and transport means will remain open and available and finally to study cost efficient logistic which may include the consolidation of AREVA existing and future transport flows.

Emergency Response

Typically, local authorities are responsible for emergency response in case of a transport event. However, to facilitate their role and expedite the recovery, it is important to provide our technical expertise during the emergency response. Accurate and responsive communication is also a very important component in case of a transport event. The L-BU has developed a comprehensive emergency management capability to address shipments organized and managed by directly by L-BU. This capability has been extended to other AREVA shipments conducted in Europe. In other countries such as North America, emergency management capabilities are separated and distributed amongst AREVA entities as each assumes responsibility for its shipments. As part of Transportation Risk Management Initiative, AREVA is in process of implementing an integrated emergency response capability for its worldwide transport activities.

Poster or presentation will provide indicators such as number of suppliers qualified, number of inspections performed, identified deficiencies, etc.

CONCLUSION

Other useful elements such as:

- Information technology tools for package fleet and transport management,
 - Regulatory watch to ensure compliance with new and future national and international requirements
 - Technology watch to monitor new technology developments that may impact transportation and shipping operations
 - Incident Watch and lesson learned database
- are also developed for communication to the other AREVA Business Unit.

The initiative has been deployed first in Europe. The effort has been initiated in North America in 2008. The overall goal is to complete the initiative implementation across all AREVA shipping Business Units by the end of 2010.

Finally, this Transportation Risk Management Initiative is an opportunity to share best practices and create an AREVA transport network between the different worldwide AREVA transport analysts.