Session IV Management of Incidents with Contaminated Scrap Metal

In this session a number of incidents and experiences with scrap metal containing radioactive material were described.

The presentations illustrated the wide range in the scale of the monitoring being used in different countries. In some countries monitoring at scrap metal yards and metal processing factories is very simple or non-existent. In others the monitoring systems are very extensive and sophisticated with detection systems at all entrances and exits, in the metal processing plant, at the plant dust collection facility and in the gas exhaust systems. Since the scrap metal industry is truly global with loads moving between most countries in the world, these differences in the level and extent of monitoring help to explain the continuing problems with radioactive material in scrap metal.

The accident in Seville, Spain in 2001 involving a ^{137}Cs source melted in a steel processing plant shows the magnitude of the costs that can result from such an incident. To enable the clean-up operations to be completed after the incident, the plant was closed for 1 month. The cost of the clean-up and waste management exceeded 3 million euros; this does not include the cost of the loss of production.

Recent incidents involving the discovery in France and Germany of metal components imported from abroad containing low levels of ^{60}Co illustrate the global nature of the problem. Although the levels are not such as to cause harm due to radiation exposures, the existence of radioactive material in the metal components is sufficient to disrupt the business of companies and to lead to a loss of confidence in the products. The problem clearly lies with the loss of control over radiation sources and the inadequate radiation detection systems at the premises of the scrap metal supplier and the metal melting facility. Finally, the import of the contaminated metal components into France and Germany had gone undetected at international airports.

An incident in Mexico involved ^{137}Cs being found in steel dust. Again, the levels were not high enough to cause radiation harm but problems were caused because the nuclear regulator had no jurisdiction over the facility where the material was discovered. Further, the country has no radioactive waste disposal facility and so the final disposal of the contaminated steel dust also presents a problem.

In the panel discussion after the presentations the following points were raised:

It was noted that in several of the incidents described in the session the international Convention on Early Notification in the Event of a Radiation Accident had not been invoked and that no notification had been given of the incidents.

The incidents described in the session provide strong evidence of the global nature of the problem but is the situation getting better or worse? The evidence seems to be inconclusive. The Code of Conduct has undoubtedly increased awareness in countries but sources now entering the metal scrap chain were probably lost from control before the

Code of Conduct came into being. Also, metal products are being produced and exported from more countries nowadays some of which have inadequate control and detection systems.

For large metal producing companies, the risks associated with radioactive contamination in their products are: health risks, financial risks and reputation risks.

There are examples in Spain, Germany and Sweden of steel from the nuclear industry being accepted by metal producers. In all cases this is because the metal industries concerned know and trust the supplier, are aware that the scrap quality is good and are confident in the quality assurance methods being employed.