

	<h2 style="color: #0056b3;">Loss of four category 2 sealed sources.</h2>
<b>Date and location of the event (detection)</b>	12/12/2024
<b>Mode of transport</b>	Air Mode of Transport (airport handling activities)
<b>Type of package involved</b>	B(U)
<b>Radioactive material transported</b>	Four special form Se-75 sources.
<h3 style="color: #0056b3;">Description of the event</h3>	
<p>On Thursday 12th, a consignor in the Czech Republic sent a B(U) package containing four encapsulated Se-75 radioactive sources of 3.4 TBq each (used for industrial radiography) to a radioactive facility in Madrid. The package was dispatched from Prague Airport and arrived at Madrid-Barajas Airport at 13:05.</p> <p>On Friday 13th, staff of the consignee tried to arrange for the cargo handling company to pick up the package and transport it by road to the radioactive facility.</p> <p>The cargo company indicated that they had received no notification of the package being delivered to their facilities, and therefore did not know its location.</p> <p>Throughout Friday, the consignee searched for information about the cargo at the origin (Prague) and destination (Madrid) with the customs broker, freight forwarders, consignor and airline. The result confirmed that the loss occurred at Madrid airport.</p> <p>On Monday 16th, at 11:30 am, the consignee informed the CSN Emergency Room (SALEM) of the event, in accordance with IS-18 (CSN instructions concerning radioactive facilities). However, it was redefined as a transport event, in accordance with IS-42.</p> <p>Once the notification had been received, the CSN took the following actions:</p> <ul style="list-style-type: none"> <li>- At 13:38 the consignee was contacted by telephone to confirm received data, update the event status and request additional information.</li> <li>- At 14:28 the handling cargo company was contacted to confirm the shipment data, after which they indicated that they had never received the package at the freight/cargo terminal.</li> <li>- At around 17:00 the CSN decided to send a team of personnel to visit the cargo handling agent's facilities at the airport and notified them of the visit.</li> <li>- While waiting for the CSN team to arrive at the airport at 19:00, communications with the consignee and handling agent were repeated in an attempt to gather additional information, but no new data was obtained.</li> </ul> <p>Accompanied by airport Judicial Police personnel, the CSN team began collecting more detailed information from the cargo handling agent's managers. The cargo handling agent had contacted the ramp handling agent, the company responsible for ground activities at the airport.</p>	

The agency responsible for customs control and airport security joined the search for the missing package, reviewing security camera footage to establish whether it had been unloaded from the aircraft. During this check, the handling agent's staff identified the entry corresponding to the missing package in their terminal goods receipt register after a closer examination.

Finally, the package was located at another terminal.

Once the CSN had carried out the appropriate radiological controls and found the package to be in perfect condition, it was transferred to the cargo handling's in-transit radioactive materials storage facility, where it was verified that it was stored properly in compliance with the physical protection measures.

In accordance with the INES manual (Table 6, Section 4), the event has been classified as Level 1. This is because the lost package was found intact, meaning there was no degradation of its safety functions or radiological consequences for people. This event was reported to the IAEA.



### Actual consequences

- No radiological consequences
- Loss of control of category 2 sealed sources.

### Main causes of the events

**Main cause:** No security measures were applied (particularly with regard to the chain of custody).

**Secondary causes :**

- errors in the internal communications of the cargo handling company resulting in the event not being communicated to the authorities,
- errors in the airport's internal communications: no communications from the cargo terminal where the package was found about the presence of a dangerous goods package during the reception of the goods.

### Summary of actions adopted

- A team of CSN and police officers visited the cargo handling company at the terminal (on the same day).
- Two inspections have been carried out since then, one to the ramp handling company and the other to the cargo handling company involved. (shortly time after the event)

- Three meetings were held between CSN, the air competent authority and the company in charge of the airport to analyze the causes and to find solutions:
  - Confirmation of a gap in the package chain of custody.
  - A change in Spanish air security regulation is underway to avoid this gap.

### Main lessons learned

- There is a serious lack of awareness of certain radioactive materials, such as Category 2 sources, among all those involved in this transport, particularly with regard to the custody and traceability of the package from the moment it is unloaded from the aircraft until it is received and stored in the cargo terminal warehouse.
- There is a lack of knowledge and incorrect application of the criteria for reporting incidents in the transport of radioactive material in accordance with IS-42, which would be almost impossible to comply with under the current system of tracking shipments with hand-filled forms. In compliance with the Instruction, the event should have been reported by cargo handling or consignee within one hour of becoming aware of the loss of the package.
- The operational action taken by the CSN, with the deployment of personnel to the cargo terminal, triggered the mobilization of all the human resources necessary to locate the package revealed an excellent coordination between CSN personnel and the State Security Forces and Corps.
- There were improvements to the flow of information throughout the internal organization (airline to ramp and cargo companies..