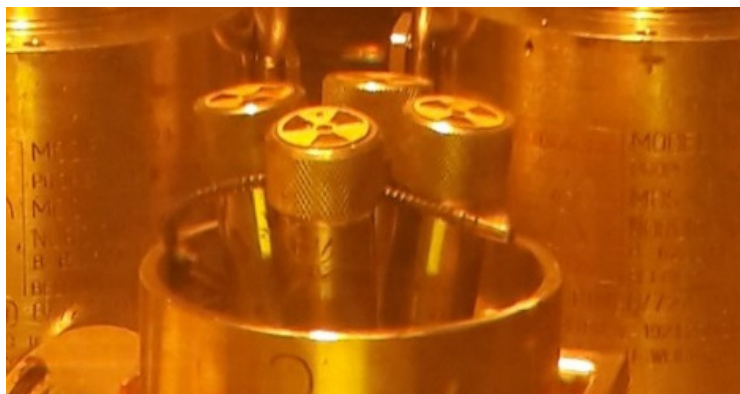




Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Department of Home Affairs FDHA
Federal Office of Public Health FOPH
Consumer Protection Directorate



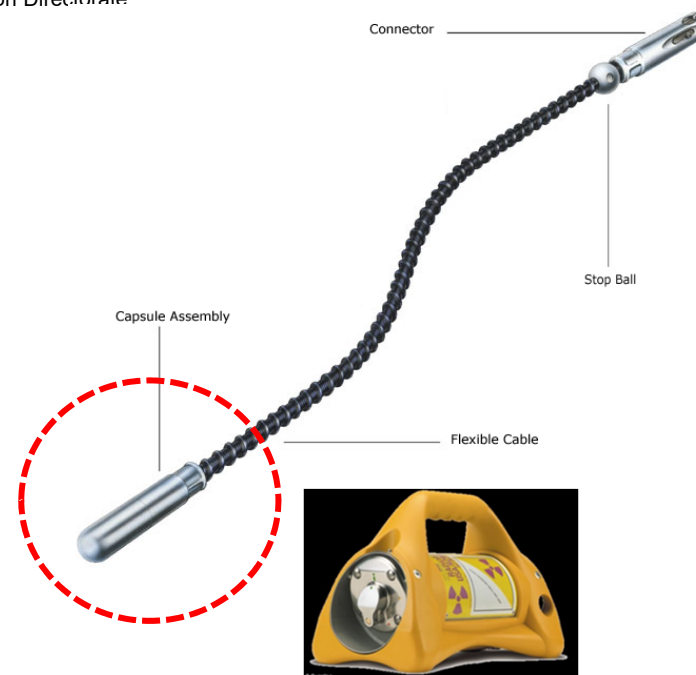
Radioactive dangerous good transport Swiss

Incident Ir-192 CAI-ZRH-BRU



Iridium source

- Source used **for non destructing test** by a firm in Alexandria in Egypt
- Source, cylinder metallic **sealed source** with a wire to be moved in a tube.
- Activity: **30 GBq Iridium-192** (HASS source)
- Half-life 73 days
- Source was not anymore used and has to be **shipped to Brussel in Belgium** to a specialized company for exchange / Recycling / waste
- Transport of such a source should be a **standard procedure**, often done.





Incident

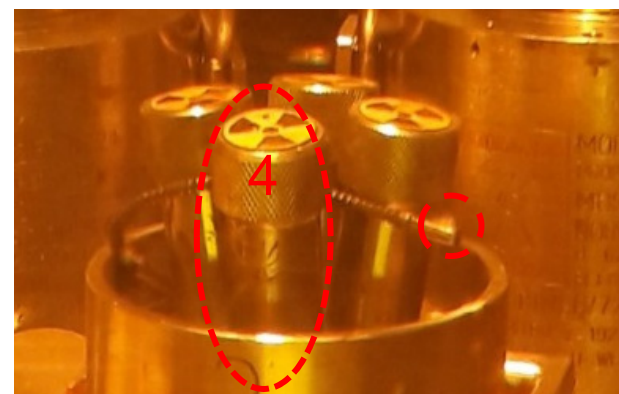
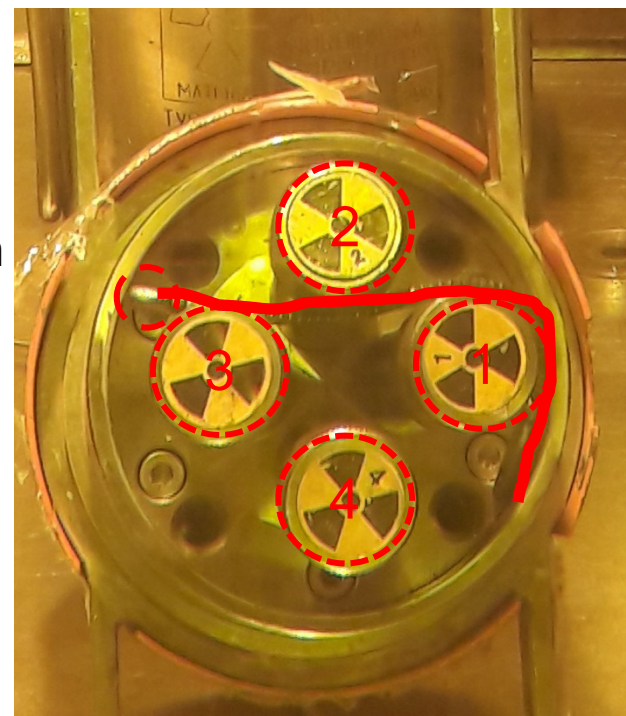
26.07.17,

Announce from FANC (Belgium authority) through our international alarm channel (**Swiss National Alarm Central**) that a radioactive transport was found with **high dose rate**.

27.07.17

We received more information about the transport :

- Transport of a dangerous goods with a **30 GBq Ir-192 source** from **Cairo to Brussel** through Zürich (CH); **by the Swiss company**.
- **Transport container** used was **not appropriate**
- Radioactive source was placed **around** the lead shielding **instead of inside**, the geometry of the container, shielding was inadequate for the source.





Incident

Dose rate	Distance
2.6 mSv/h	1 meter
55.0 mSv/h	5 centimeter

- The high **dose rate** was only **noticed two weeks** after the transport when the package arrived in the specialized company in Brussel.
- Two weeks of delay, because of some **administrative delay** by custom and **problem** between the company which was in charge the **transport the source from the airport to the company by road in Belgium**.



Analyse and measure

- FOPH ask to get the **list of passengers** from the Swiss company (we were able to get the list not through the radiological risk but over WHO-IGV "Internationale health convention" channel, Coordination with our Health NCP "national contact points").
- FANC did **an estimation of the passengers dose** with the data of Swiss and seat of the person and the position of the source during the flight
- FOPH made an estimation of **the dose to the ground personal** with the data of Cargologic und Swissport (ground service companies)



Analyse and measure

- FOPH send **a letter to all passengers** to inform them of the **dose** received and the **risk associated** (few questions arise from the population)
- FOPH performed **a lot of coordination** and **exchange of information** with all the competent authorities and company (BAZL (custom), NAZ (Alarm), SUVA, FANC, IAEA, SWISS, Cargologic, Swissport, Airport ZRH)
- FOPH **disseminated information** to other regulatory authorities (custom, Police, authority for the protection of the population, etc., EZV, ENSI, BFE, NDB, BABS, ...)

Consequence for the passengers

Dose estimation:

Number of person with a dose > 1 mSv	Highest dose	Flight
19	6.6 mSv	CAI - ZRH
7	3.1 mSv	ZRH - BRU

Ground personal / driver / workers : 0.4 mSv

Risk not high but the limit of 1 mSv for the population is achieved for 25 passengers.



Action undertaken from the FOPH

- Extensive report received from Swisscargo
- 11 measures were put into force in Cairo and in Zürich
 - Training and instruction for the ground personal (SWISS, Swissport).
 - New Checklist and control before take off
 - Installation of further measurements systems with alarm in several location in Airport Zürich
 -
- Coordination meeting between all the authority SUVA - FOPH - BAZL responsible for the air transport and radiations protection



Statistic von Swisscargo

Number of radioactive Transport in the last 18 month	11'200
Number of radioactive transport per day	20
Number of incident reported in the last 18 month	44
Incident in %	0.4 %

Incidents type	Number
related to the physical packaging (torn, wet, crushed, etc.)	17
NOTOC issues	11
related to the build-up and loading	6
with labelling and marking	3
violation of LX embargo or state operator variations	3
missing document	2
refusal	1
Dammage and leakage	1



Exchange between Belgian and Swiss authorities

- FOPH had several contacts with FANC und with the Swiss company to gather informations and discuss the measures
- Communication between FOPH and FANC was very good and instructive
- FANC, with the help of FOPH, send many Emails to the Egyptian authorities to get answer about the roles and responsibilities of the expeditor
- No answers received



Communication with the media / Passagers / Attorney

- News in the media FANC, 28.07.2017
- INES notification, INES II (Final), 04.08.2017
- News in the media FANC, 09.08.2017
- FOPH letter to Swiss passengers flight LX239 und LX780, 04.08.2017
- FOPH communication on the Internet, 09.08.2017
- No interest of the media
- FOPH denunciate the offense against unknown to the Office of the Attorney General of Switzerland (prosecutor office)
- we received a negative answer. No follow up because the unknown is to unknown and it is an international affairs, the case is closed

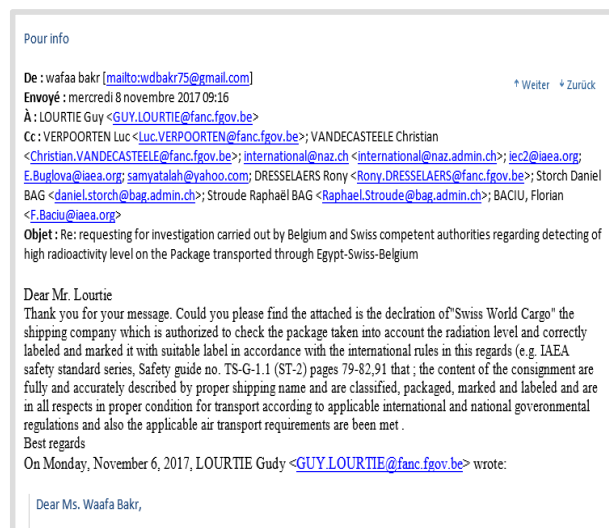
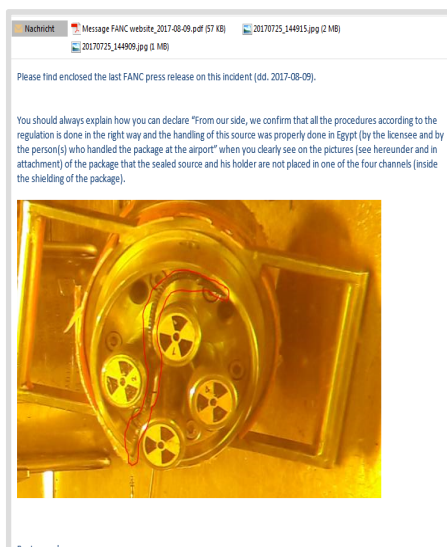


Exchange of information with Egypt

- No communication and discussion possible with Egypt
- No information received from the Egyptian radiation protection authorities
- Reaction of the Egyptian authorities only when IAEA-USIE announce system came into force and IAEA raised questions
- Egyptian authorities said that everything was done according to the regulations in Egypt and the problem has to be found in Swiss company or in Belgium. No mistake were done in Egypt.

Exchange Belgium – Egyptian Authorities

- Meeting at a diplomatic level during a IAEA meeting, Board of Governor was planned (Belgium – Egypt – Switzerland) to initiate a dialogue to try to improve the communication
- Meeting was cancelled from Egyptian authorities
- Fight between the authorities to define who is guilty (Expeditor or Transport) instead of taken measure to improve the situation



Shipper's Declaration for Dangerous Goods	
SHIPPER'S INFORMATION Name: ALI ALI ALI Address: ALI ALI ALI City: ALI ALI Country: ALI ALI	
CONSIGNEE'S INFORMATION Name: ALI ALI ALI Address: ALI ALI ALI City: ALI ALI Country: ALI ALI	
DECLARATION I, the undersigned, declare that the contents of this declaration are true and accurate and that the goods are properly packaged, marked, labeled and in accordance with the applicable international and national regulations. I declare that all the applicable air transport requirements have been met.	
24-HOUR EMERGENCY CONTACT TEL: +31 940 361 0887	



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Department of Home Affairs FDHA
Federal Office of Public Health FOPH
Consumer Protection Directorate
Radiation Protection Division

Thank you for your attention, any questions

