

Transport Incident Cairo - Brussels

ERPAN Meeting 2018

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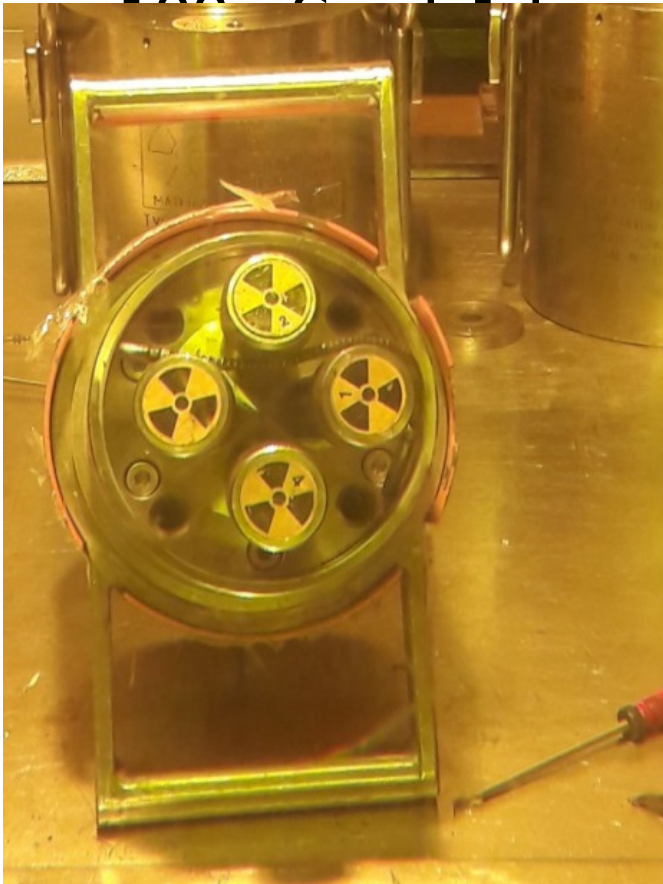
Transport Incident

Cairo - Brussels

- Description of the incident
- Immediate Actions
 - By operator and FANC
 - Dose Estimation
 - Contact with other authorities
 - Contact with concerned passengers
- Aftermath

What happened (1) ?

- 2017-07-25 – Arrival of transport collo at NTP-Europe



place holder

v/h at 5 cm, 2,6 mSv/h op 1 m

What happened (2) ?

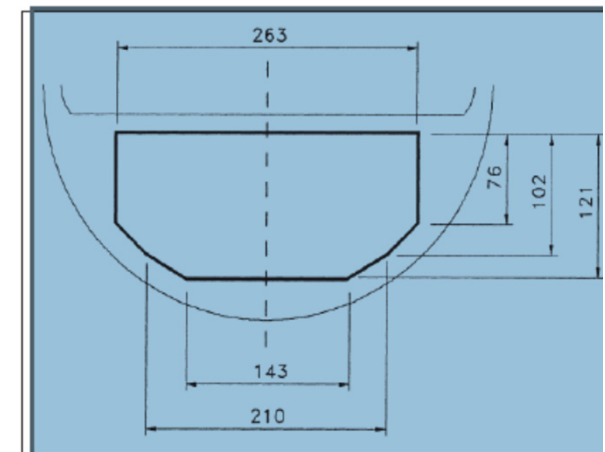
- Transport of the source via 2 regular passenger flights:
 - From Cairo to Zurich, Airbus A320
 - From Zurich to Brussels, Bombardier CS1
- Handling of the source in
 - Cairo (Airport handling)
 - Zurich (Airport handling)
 - Brussels (Airport handling)
 - Transfer from Brussels to Fleurus (road transport)
 - Reception and handling in NTP-Europe
- Resulting in exposure of several individuals
 - Radiation workers
 - Public

Dose estimation of possibly concerned passengers

- Initial dose estimations based on
 - Conservative cargo hall configuration
 - Conservative position and orientation of the source
 - Realistic time schedules
- Final dose estimation based on
 - Real cargo hall configuration
 - Real position and orientation of the source
 - Real time schedules
- Dose limits
 - Worker: 20 mSv/y
 - Public : 1 mSv/y

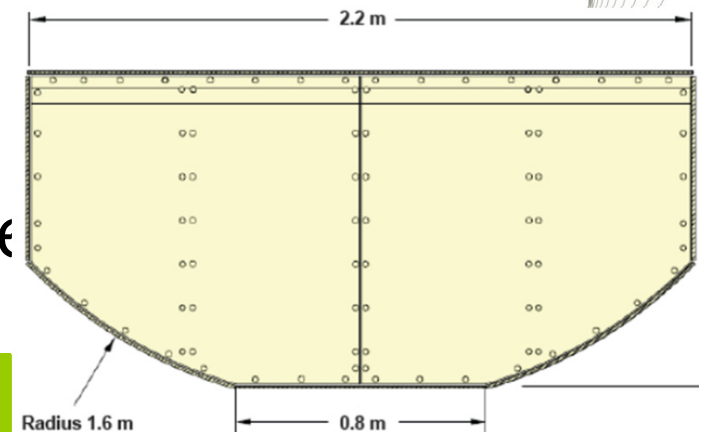
Dose Estimation Passengers (1)

- Flight from Cairo to Zurich
 - Duration : 5 h
 - 4h10 flight + 50 minutes boarding, taxiing, etc
 - Minimal distance between source and seat level : 140 cm
 - 96 cm (from source to top of cargo)
 - 44 cm (from top of cargo to seat level)
 - 6.6 mSv for highest exposure
 - 24 passengers possibly exposed above 1 mSv (actually 19 seats were taken)



s (2)

- _____



Dose Estimation Handlers (1)

- Handling Zurich Airport
 - 3 persons unloading
 - 1 person in close contact to source for 5 minutes : 0.22 mSv
 - 7 persons loading
 - Nobody in close contact for more than 5 minutes
 - 1 person in cargo hall : 0.05 mSv
- Handling Brussels Airport
 - Difficult to estimate due to several people, several actions at different places
 - Storage in dedicated bunker at airport during 10 days (but very low attendance and hence very low dose)
 - Not higher than driver

Dose Estimation Handlers (2)

- Driver Brussels Airport Fleurus
 - Several actions
 - Accept and check the package;
 - Bring the package to the van;
 - Loading and securing the package in the load compartment;
 - Driving to their warehouse;
 - Untie the package, unload and take the package to the storage area
 - Electronic Dose meter : 240 μSv
- Operators NTP-Europe
 - 8 persons, electronic dose meters
 - highest 360 $\mu\text{Sv/h}$, average 208 μSv

Contacts with other Authorities/Involved Parties (1)

- Egyptian Authorities
 - No or very little information
 - At some moment, complete denial of the event
 - Contact via diplomatic channels (GC of IAEA) not succesful
- Airport Authorities and Flight Companies
 - Full cooperation to get data on dimensions, cargo hall configuration, handlers information, etc...
 - Passenger list could not be given (privacy legislation), but they informed competent authorities

Contacts with other Authorities/Involved Parties (2)

- Swiss Authorities
 - Regular contact and exchange of information from the early moments
 - Ease access to other information
- Operating Organisation NTP-Europe
 - Correct and adequate reaction to the event
 - Full Cooperation during the investigations
 - Diplomatisch onderhoud gevraagd tijdens General Conference IAEA
- Court justice procedure initiated, no result
- Contact with passengers
 - 1 Belgian passenger,
 - Invited to FANC for further information and explanation

Aftermath / Lessons Learned

- New regulation (Transposition of BSS) foresees that RPO of places where radioactive transport collo are stored intermediately can also do measurements.
- Incident was discussed during EACA-Meeting
- Incident show importance of contact wiht other competent authorities and a specific role herein of IAEA.

Questions ?

The fact that Jellyfish
have survived for
650 million years
despite not
having
brains
gives hope
to many people.



DespicableMeMinions.org