

OVEREXPOSED EVENT IN INDUSTRIAL GAMMAGRAPHY

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OVEREXPOSED EVENT

- The event occurred on 23 October 2007
- The event took place in an enclosure industrial radiography installation during the preparation of the radiography exposure
- The event involved a gammagraphy device with a 2 TBq Co-60 source



OVEREXPOSED EVENT

- The door interlock was broken
- There were two permanent radiation survey meters with visual alarm, located inside the enclosure but they had their acoustic alarm inoperable
- In this situation, the supervisor decided to place a mobile survey meter in the maze
- The supervisor ordered the operator to work following the procedure used in mobile gammagraphy operation outdoors
- The day when the events happened the mobile survey meter was inoperable because his batteries were exhausted

OVEREXPOSED EVENT

The worker carried:

- Thermoluminescent personal dosimeter
- Direct reading dosimeter with acoustic alarm
- A radiometer

The radiographer entered the enclosure to change the plates and:

- He forgot to operate the device to move the source to the shielding position
- He did not receive any acoustic and visual alarm
- He remained inside the room 10-15 minutes

OVEREXPOSED EVENT

- The worker realised he had been exposed because the plates appeared black when were developed
- The dose recorded by the personal dosimeter was 718 mSv

On October 29 the worker was submitted to:

- A medical review
- A dosimetry by chromosome aberration analysis

The dosimetry by chromosome aberration analysis confirmed a maximum dose of 731 mSv, a medium dose of 572 mSv and a minimum dose of 358 mSv

The official dose of 718 mSv have been assigned to him

OVEREXPOSED EVENT

•On side inspection has been carried out to evaluate the safety systems, working procedures and event circumstances

AS RESULT OF THE ON SIDE INSPECTION

- The radiographer operator license has been suspended temporally until he pass and additional training program in radiation protection
- The radiographer has been separated of the work with ionizing radiation
- It has been initiated and enforcement procedure to the licensee because he operated without compliance on safety procedures and requirements

OVEREXPOSED EVENT

- The result of the medical review has been normal
- The radiographer is asymptomatic
- According to “Rating of Transport and Radiation Source Events. Additional Guidance for INES National Officers”, approved in April 2006, level 3 in the rating for those events resulting in overexposed to the workers above few hundreds mSv.