

Appendix B -

NDA Estate – Summary of events confirmed as INES1 or higher during 2016/17

INES 1 events		
Magnox - Harwell	Incorrect transport package used for an ILW load despatched from Harwell to Sellafield. The error was discovered during a planned audit (Retrospective classification of an event in December 2015)	A routine physical inventory check determined that waste consigned to Sellafield in December 2015 included a drum containing Americium. Inclusion of this drum breached the limit for the type of packaging used for the consignment transport. Consequently, the transport packaging used was not rated to carry the drum. The package was received at the correct facility at Sellafield.
DSRL - Dounreay	Breach of Safety Management Requirements at LLW plant.	Operators failed to comply with operational limits for radioactive materials in waste packages destined for disposal in a LLW vault.
Sellafield	Unintentional exposure of a worker to a radioactive source used to test instruments in a cell.	The investigation of the incident identified inappropriate personal behaviours and poor safety culture. The operator did not receive a significant dose.
Sellafield	Ex Dounreay Exotics Fuel assembly dropped during a mechanical handling task at Sellafield.	Operators failed to follow the correct procedures to deal with the 'off-normal' condition of dropping the fuel assembly, which contained radioactive material.
DSRL - Dounreay	Dropping of a contaminated glovebox resulted in a release of radioactive contamination.	Analysis showed that the release breached the ionising radiation regulations. The operators received no dose, and there was no environmental impact.
Sellafield	Radioactive source exposure during cell maintenance.	During maintenance of a cell where radiation instruments are calibrated, a fault exposed a radioactive source while the cell door was open. The cell gamma alarm sounded, and a dose rate of 1mSv/hr was measured at the calibration table. No-one was in the cell at the time, or in a position to be exposed to radiation from the source.

INES 2 events		
Sellafield	The personal dosimeters of 2 radiographers alarmed on high radiation when they exposed an inspection source.	Two radiographers were using x-ray equipment and digital image plates to inspect the contents of crates containing radioactive waste, housed in a room in a redundant facility. Both radiographers made separate entries to the room to reposition the imaging plate, and on each occasion, their Electronic Personal Dosimeter (EPD) went into alarm. A reconstruction concluded that radiation measured on the EPDs was due to x-rays, not from background radiation in the cell, or the crates. Neither of the radiographers received significant radiation doses.
Sellafield	Personal contamination – worker received a dose to their hand in excess of the legal limit.	Following a routine sampling activity, contamination was found on the finger of a Shift Team Leader. This contamination was removed using the standard procedure. The Shift Team Leader received a hand dose of approximately twice the legal limit of 500 mSv.
Sellafield	Personal contamination – worker received a whole body dose in excess of the legal limit.	During reinstallation of a glovebox sump probe, the operator sustained a contaminated wound, which caused an internal radiation exposure. Medical intervention was required to remove the contamination. The operator received an internal dose of approximately 80 mSv, which is 4 times the equivalent annual limit for whole body effective dose of 20 mSv.

Process notes

- It is the SLCs' duty to report and investigate events on the site, to take action to control risks, and prevent recurrence. However, NDA takes the safety of people working with radiation seriously and we have, working with the SLCs concerned, reviewed all of the above. We were content that SLCs had carried out a proper investigation, and learned from what had happened.
- Events are given a provisional INES rating by the SLC
- The provisionally rated event is referred to the National Officer (an ONR Inspector), who decides the final rating reported to IAEA
- The latest information on INES events can be found at <https://www-news.iaea.org/>