SAFETY ALERT A131

Stay Safe

UK Power Networks Delivering your electricity

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Issue 01

RTU EXPLOSION

OVERVIEW

On 18th March 2026, an RTU in a substation in LPN exploded after it was energised following a long period of sitting idle.

The explosion ejected the RTU door into the opposite wall approximately 6m away.

Thankfully there were no injuries.

WHAT YOU NEED TO DO

- Fully inspect all components of an RTU before energising it.
- Replace batteries that have been idle for more than 1 year or are at less than11.8V.
- Keep sources of ignition away from batteries that are charging.
- Do not install batteries into an RTU if the RTU is not powered up.

DETAIL

The RTU had been installed in 2021 but was not able to be commissioned due to issues with communication. On Tuesday 17th March 2026, staff attended site to try and resolve the communications issue and switched on the RTU at approximately 15:00. At around 07:45 the following day, there was an explosion within the RTU that blew the door off. The door was found to have struck the wall on the opposite side of the substation causing damage to some conduit. Fortunately, nobody was on site at the time. Subsequent inspection has revealed no evidence of electrical failure, burns or scorching. The batteries also appear undamaged. The unit and the batteries will be sent to the manufacturer for further inspection. It is believed that a build-up of gas within the RTU was the cause of the explosion.



Going forward, please ensure the following is carried out:

- Always inspect all components of an RTU before energising it for the first time or after it has been de-energised. Do not energise if anything abnormal is observed.
- Replace batteries that have been idle for more than 1 year or which are charged to less 11.8V before energising an RTU with them installed to avoid significant off-gassing.
- Ensure there are no naked flames or other sources of ignition present while batteries are being charged. Sealed Lead Acid batteries can give off Oxygen and Hydrogen gas while charging.
- Do not install batteries into an RTU that is not powered up.

Primary communication via Line Manager complete by (X)		2 calendar days	x	5 calendar days		10 calendar days
Additional communication (X)		Stand down briefing		1st 15	x	Team Brief slide
Line management must ensure appropriate employees understand the content of this document within the timescale shown. This document is subject to compliance audits after the communication deadline.						