SAFE ISOLATION ON A PERIODIC, AND WHETHER IT CAN BE DONE ENTIRELY DEAD

WHICH REGULATION COVERS WORKING LIVE?

SAFE ISOLATION COMES FIRST

Before any testing, the installation or the part of it you are working on is isolated and proved dead. The reason is legal as much as practical.

REGULATION	WHAT IT DOES
EAWR · Reg 4	Systems to be constructed and maintained to prevent danger, so far as is reasonably practicable
EAWR · Reg 4(3)	Maintenance work itself to be carried out in a manner that prevents danger
EAWR · Reg 14	Live working — the three conditions, all of which must be met
EAWR · Reg 29	The defence: having taken all reasonable steps and exercised all due diligence

Regulation 14's three conditions, all of which must be satisfied before live working is justified:

1. It is unreasonable in all the circumstances for the conductor to be dead
2. It is reasonable in all the circumstances to be at work on or near it while live
3. Suitable precautions are taken to prevent injury — including, where necessary, suitable protective equipment

✋ **A glove is not a licence.** Protective equipment for live work means heavy insulated gauntlets running well up the forearm, not thin rubber gloves — and it protects the part of you it covers, nothing else. Enough fault current will burn through it.

CAN A PERIODIC BE DONE ENTIRELY DEAD?

No — and it is worth understanding exactly why, because it is the clearest everyday use of Regulation 14.

LIVE TEST	COULD IT BE AVOIDED?	HOW
Z_e	Yes	Can be enquired of the DNO
Z_s	Yes	Can be calculated — $Z_e + (R_1+R_2)$
I_{pf}	Yes	Can be enquired or calculated
RCD test	**No**	There is no way to prove a trip time on a dead circuit

> `The RCD test is the one live test you cannot design your way out of`

An RCD operates on an **imbalance of current** between line and neutral, not on potential difference. There has to be current flowing for there to be an imbalance to detect — so the circuit has to be live and complete. Test at the **furthest outlet** where practicable.

> **So the RCD test is the one live test that cannot be avoided**
> , which is how condition 1 of Regulation 14 is satisfied for it.

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