

Can AI Safety Arguments Be Trusted?

Even flawless AI predictions are useless if regulators can't verify them.

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THE DATA

72 hours

Anomaly Detection Lead Time

AI models now predict reactor anomalies up to 72 hours in advance with 96% accuracy.

This breakthrough, reported by the Global Nuclear Forum, marks a leap in proactive safety. But accuracy alone doesn't meet regulatory standards if the decision path remains opaque.



01

Auditability is the new safety threshold

The IAEA's newly released guidelines mandate that all AI-driven safety cases must include a traceable, human-interpretable decision trail. Even a 99% accurate model fails if it cannot explain why it flagged a risk. This shifts the burden from performance to verifiability.



02

Transparency enables regulatory trust

The UK's Nuclear Energy Council has endorsed AI-driven predictive maintenance only when accompanied by explainable models. This isn't a technical preference—it's a legal necessity. Without auditability, AI cannot be part of the safety case, regardless of performance.

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