# Nuclear fuel factory’s legal uranium discharge raises fresh environmental alarm on the Ribble



The recent disclosure that a nuclear fuel factory near Preston has dumped approximately three tonnes of uranium into the River Ribble over the past nine years has sparked significant environmental concerns. This revelation, prompted by documents acquired through freedom of information requests, highlights the legal yet troubling discharge of uranium into one of England's most protected environmental sites, a situation described as alarming by several experts.

The Springfields Fuels factory, located in Lea Town and about five miles from Preston, is responsible for processing raw uranium mined globally to create fuel rods. This site, pivotal in supplying fuel elements to reactors across eleven countries, has faced scrutiny due to its operational practices. In particular, the discharge point for uranium is within the Ribble estuary marine conservation zone—a site classified not only as a special area of scientific interest but also as a Ramsar site of international importance. This conservation status adds weight to the concerns raised by environmental experts, particularly regarding the potential long-term impacts of such discharges on local wildlife and habitats.

Documents indicate that the discharges peaked in 2015, with the factory releasing 703 kilograms of uranium that year—a volume deemed "exceptionally high" by Dr Patrick Byrne, a hydrology and environmental pollution expert at Liverpool John Moores University. The government’s Radioactivity in Food and the Environment report confirms that such discharges contributed to radiation levels that were approximately 4% of the safety limit intended to protect public health. However, according to Dr Ian Fairlile, an independent consultant on radioactivity risks, this still constitutes a “very large amount,” raising serious questions about the cumulative environmental impacts.

A 2009 study by the Environment Agency noted that the total dose rate of radioactivity in the Ribble and Alt estuaries had already exceeded acceptable thresholds, with calculated doses for certain organisms being more than ten times the agreed limit. This prompted a rigorous reassessment of the site, which concluded that under new operational changes, the dose rates to wildlife purportedly fell below harmful levels.

Currently, there are no restrictions on the weight of uranium the factory can discharge under its environmental permit. Instead, limits are set regarding the radioactivity, allowing an annual release of 0.04 terabecquerels, reduced from a prior limit of 0.1 terabecquerels. Critics, including Dr Fairlile, have expressed concerns about the reliability of the Environment Agency's risk assessment models, suggesting they may underestimate potential hazards. This situation raises pressing issues around regulatory practices and the adequacy of existing safeguards designed to protect both ecosystems and public health.

An Environment Agency spokesperson defended the regulatory framework by asserting that strict conditions are established for all nuclear operators in England. They claimed these regulations are grounded in comprehensive technical assessments designed to mitigate any risks posed by discharges. Yet, the spate of ongoing uranium releases adds to a growing body of evidence indicating that past practices may not have sufficiently safeguarded vulnerable environments.

Further compounding these concerns, research dating back to 2002 by the British Geological Survey already identified “anomalously high” levels of uranium sediment downstream from Springfields, pointing to a persistent issue that predated recent disclosures. While the UK government is looking to expand its nuclear capabilities to enhance energy security, including an ambitious target of 24GW of new nuclear capacity by 2050, the implications of current practices at the Springfields facility cannot be overlooked.

Environmental advocates, including Dr Doug Parr of Greenpeace UK, have remarked on the broader implications of heavy metals, particularly radioactive ones, entering marine environments. Dr Parr asserted that discharges of such materials are categorically detrimental, underscoring the need for stringent environmental oversight.

As the situation regarding uranium discharges unfolds, it remains critical for both regulators and the public to maintain vigilant oversight of nuclear practices, ensuring that the balance between energy production and environmental conservation is carefully managed. The outcomes of this scrutiny could have lasting impacts not only on the Ribble estuary but on the UK’s broader environmental health and safety standards.

### Reference Map

1. Paragraphs 1-4, 6, 8-10
2. Paragraphs 5, 7
3. Paragraphs 3, 10
4. Paragraphs 3, 7
5. Paragraph 8
6. Paragraph 9
7. Paragraph 6

Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

1. <https://www.theguardian.com/environment/2025/may/22/revealed-uranium-from-uk-nuclear-fuel-factory-dumped-into-protected-ribble-estuary> - Please view link - unable to able to access data
2. <https://www.theguardian.com/environment/2025/may/22/revealed-uranium-from-uk-nuclear-fuel-factory-dumped-into-protected-ribble-estuary> - An article from The Guardian reveals that the Environment Agency permitted a nuclear fuel factory near Preston to discharge three tonnes of uranium into the River Ribble over nine years. The discharges peaked in 2015 with 703kg of uranium released. Experts express concern over the environmental impact of these discharges, especially since the discharge point is within the Ribble estuary marine conservation zone, a site of special scientific interest, a special protection area, and a Ramsar site. The government's Radioactivity in Food and the Environment report notes that in 2023, the total dose of radiation from Springfields Fuels was approximately 4% of the dose limit set to protect the public from radiation.
3. <https://www.gov.uk/government/publications/radioactivity-in-food-and-the-environment-rife-reports/rife-29-radioactivity-in-food-and-the-environment-2023> - The Radioactivity in Food and the Environment (RIFE) report 2023 provides an assessment of radiation doses to the public from radioactive substances in the environment. It includes data on radiation doses from various sources, including the Springfields site in Lancashire, where uranium is processed. The report indicates that in 2023, the total dose from all pathways and sources of radiation was 0.040mSv, approximately 4% of the dose limit to members of the public. This assessment is based on monitoring and surveys conducted around the Springfields site.
4. <https://www.gov.uk/government/publications/impact-of-radioactive-substances-on-ribble-and-alt-estuarine-habitats> - This report from the Environment Agency and Natural England focuses on the impact of radioactive substances on the Ribble and Alt Estuaries. It discusses the habitats protection objective for the Ribble and Alt Estuaries Special Protection Area (SPA) and how this objective can be met. The report includes data on radioactive discharges from the Springfields Fuels Ltd site and assesses the impact of these discharges on the estuarine habitats, considering the agreed dose threshold of 40 microgray/h.
5. <https://www.osti.gov/etdeweb/biblio/78590> - This study presents measurements of beta dose and gamma air kerma rates at various sites throughout the Ribble Estuary between September 1991 and January 1993. The measurements were taken during periods when British Nuclear Fuels plc (BNFL), Springfields, was discharging effluent from the processing of uranium ore concentrates. The study found that excess beta dose rates of up to 20 μSv/h were recorded over fine-grained sediments deposited towards the tidal limit of the River Ribble and Savick Brook, indicating the impact of these discharges on the estuarine environment.
6. <https://www.osti.gov/etdeweb/biblio/20057758> - This article examines the vertical distribution of radionuclides in a Ribble Estuary saltmarsh to investigate historical discharge trends and waste-dispersal mechanisms. The study found that routine discharges of low-level liquid radioactive waste by British Nuclear Fuels plc (BNFL) at Sellafield and Springfields have resulted in enhanced levels of radionuclides in sediments of the Ribble Estuary. The vertical distributions of Sellafield-derived radionuclides reflect the time-integrated discharge pattern from Sellafield, implying a transport mechanism involving the mixing of sediment labeled with radioactivity from recent discharges and sediment labeled from historical discharge events before deposition.
7. <https://www.theguardian.com/uk/2001/jan/16/armstrade.world> - An article from The Guardian reports that 30,000 bags of nuclear waste containing depleted uranium were to be dumped on a municipal waste tip three miles from Preston on the River Ribble in Lancashire. The uranium, in powder form, was more radioactive than the material used to make shells and missiles fired in the Gulf and Kosovo wars. British Nuclear Fuels confirmed that the uranium was mixed with PVC clothing, paper, and other flammable materials, contaminated as a result of operations at its Springfields plant near Preston, where fuel is manufactured for nuclear power stations.