**Technical Specification for an Overcoater**

National Nuclear Laboratory (NNL) are looking to expand their fuel fabrication capabilities at their Preston Laboratory through the procurement of an overcoater. The system will be located in a Controlled Area (Radiation and Contamination) and will be used to TRISO kernels with a graphite-phenol resin.

Based on research in the literature, a graphite-phenol resin is milled and then used to coat active TRISO kernels, prior to compaction.

The required throughput of the bespoke coater system are further specified below:

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| Requirement | Essential |
| Coating thickness | >200 µm |
| Pneumatic powder flow rate | 200-250 m3/hr |
| Wetting agent flow rate | 1-20 ml/min |
| Volume per batch | 1-2 litres |
| Standards | UKCA marking or equivalent |
| Product handling | Contained product charging/discharging using butterfly valves |
| Throughput | 500gU kernels produced each day. |
| Safety | Split butterfly valves that can open and close. Empty the coater without exposing products to the atmosphere (contains product).  Load and unload samples.  Able to use flammable solvents (DSEAR). |
| Training | Training provided by supplier at installation |

The equipment will be delivered and installed in a Controlled Area (Radiation and Contamination). Suppliers should state any experience of installing equipment in such facilities and note any consumable items that may need to be taken out of the controlled area and returned to the supplier. Please also state the expected maintenance requirements for the upkeep of the system and what maintenance packages are available.

Please specify any additional features that can be combined with the furnace and whether these would need to be included during installation or could be added at a later date.