



cavendish  
nuclear

PEOPLE  
WHO  
INNOVATE

## OUR CAPABILITIES:

# Electronics Obsolescence Services

## OVERVIEW

Cavendish Nuclear's Electronics Obsolescence Service has a proven reputation for resolving issues with obsolete electronics assemblies. Our team provides a fault finding, repair, refurbishment and re-manufacturing service for a range of original equipment manufacturer (OEM) assemblies and individual printed circuit boards.

## OUR EXPERTISE

Our Electronics Obsolescence Service provides a comprehensive fault finding, repair, refurbishment and re-manufacturing service for a range of OEM assemblies and individual printed circuit boards (PCBs) to ensure the continued availability of critical spares. Our workforce are highly skilled and trained in radiometric and electronic fault-finding, and have expertise in the following areas:

- Detailed assessment of an assembly or PCB for repair, refurbishment or re-manufacture, down to individual components level.
- Identification and sourcing of obsolete components including, for example, OEM bespoke design transformers.
- Anti-counterfeit screening of

obsolete components to AS9120A certification.

- X-ray Fluorescence (XRF) analysis of original assembly for solder alloys and PCB substrate materials, ensuring identical materials are used during repair, refurbishment or re-manufacture. This reduces potential systems failures such as those caused by mixing different solder alloys, incorrect application of lead-free solder leading to short circuits caused by "tin whisker" growth, etc.
- Identification of assembly testing requirements and the subsequent design and build of test rigs.
- Development of a job specific "technical file" to support engineering justifications for use on plant.



*Cavendish Nuclear maintains and repairs radiological protection instrumentation from its facility on the Sellafield site.*

## OUR CAPABILITIES

Cavendish Nuclear has a purpose designed, modern electronics workshop at its Greeson Court facility on the Westlakes Science and Technology Park at Whitehaven in Cumbria. All work is carried out by IPC 7711 / 7721 accredited engineers, allowing the team to repair / re-manufacture defence related equipment. This is supported by a suite of ISO 9001 Procedures and Processes that have been used to re-manufacture safety related equipment on nuclear facilities.

Cavendish Nuclear also runs one of the largest facilities for the repair and calibration of both installed and portable Radiation Protection Instruments in UK. This service is provided from our facility on the Sellafield site. Instruments are repaired down to discrete component level in our specialist workshop and checked after repair with radioactive sources. Our personnel work on a wide range of instruments from those using discrete semiconductors to the most modern microprocessor driven devices.



All work carried out by IPC 7711 / 7721 accredited engineers

## BENEFITS OF OUR APPROACH

The workflow for a specific assembly or PCB is typically split into distinct phases, where each phase is carried out to de-risk subsequent phases and the overall work package. Each phase is generally offered on a fixed price basis, allowing customers to manage budgets and review progress prior to commencing the next phase. Work flow phases comprise:

- Electronics obsolescence review down to component level.
- Identification of obsolete components.
- Identification of minimum order quantities and pricing.
- Issuing of report to customer detailing whether the electronics assembly could be repaired or re-manufactured. At this stage the customer can make an educated decision whether to repair and maintain the existing equipment or replace it.
- Design the facility to repair or re-manufacture as required, including the development, design and build of test harnesses or test rigs plus test documentation which can be reviewed by the customer for acceptance purposes.

- Production of the technical file following the first repair or re-manufacture. This technical file is comprehensive and includes gerber files, datasheets, anti-counterfeit reports, first article reports on the new PCB, etc.

Moreover, replacement of electronics systems is expensive and normally requires a "System Replacement Justification Process", especially on safety systems and safety related equipment. Our service typically removes / reduces the requirement for engineering and support activities associated with the replacement of equipment, including:

- System replacement justification process.
- Procurement.
- Installation.
- Commissioning.
- Operator training and Operator Instructions.
- Maintenance Instructions.
- Staff training.

## FOR MORE INFORMATION, CONTACT:

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