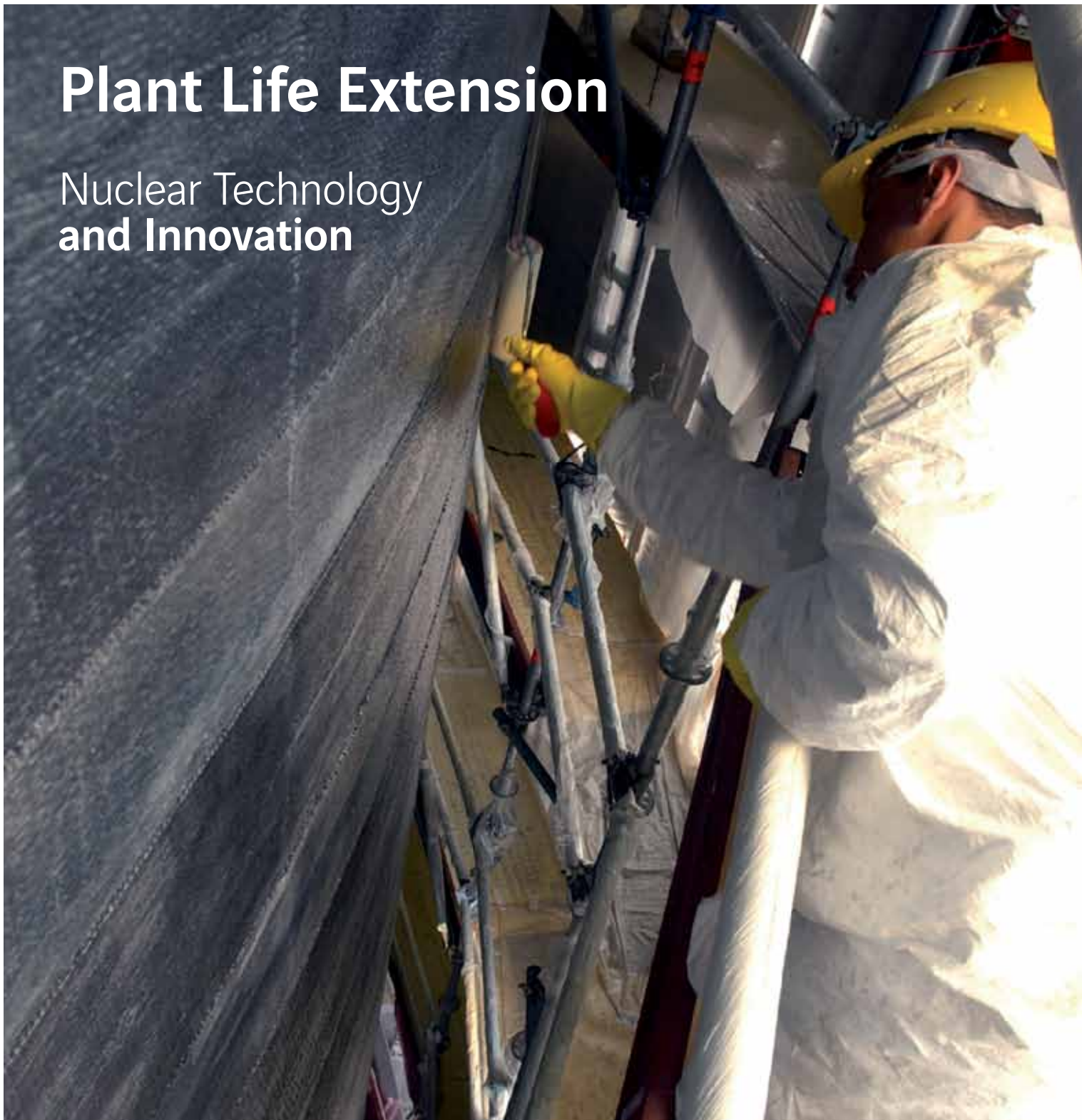


Plant Life Extension

Nuclear Technology
and Innovation



The Challenge

Nuclear power is an important component of the world's energy supply mix and it is increasingly recognised as having a key role to play in long-term, low carbon, sustainable energy strategies.

For many operating nuclear power plants it has been demonstrated to the satisfaction of regulators that plant life can be extended through the application of technical improvements, safety upgrades and other modifications so that the plants can be operated safely and efficiently for a significantly longer period than was envisaged when they were designed.

Nuvia - A Unique Know-How

Our multidisciplinary teams take charge of the entire project, integrating all the technical specialisms that need to be deployed in a nuclear environment whilst taking account of radiation protection, safety and security requirements.



Innovative products and proposals based on real plant experience

Organisation

Nuvia is organised to deliver to the world-wide nuclear power market by providing integrated teams from across its technical units. Our products and services are designed to support clients through all stages of the nuclear life cycle.

With a resource base of approximately 1900 to call upon, including internationally recognised experts, Nuvia is able to provide effective simultaneous technical support across a wide range of clients.



Our Solutions

Multidisciplinary Teams with Design and Build Expertise

Nuvia provides solutions intended to meet plant performance and regulatory requirements whilst seeking to optimise availability of the plant. We work with our clients on all phases of a project, from diagnosis, expert assessment, preliminary design studies, financial estimates and solution design through to construction and ongoing monitoring and control.

Nuvia has been involved in plant life extension operations on nuclear power plants for over 30 years. We provide a range of services covering maintenance, regeneration schemes, safety standard compliance works and plant modifications and upgrades to meet regulatory challenges and increasingly stringent safety standards.

Plant life extension requires coordination and responsiveness if solutions are to be adapted to the reality of a structure. Design and build integration means that we can offer innovative products and proposals - based on real plant experience - within a culture of sound cost and time management; a fully coordinated approach with global interface management.



Civil Engineering and Construction

- Concrete treatment, repair and renovation
- Structural modifications and reinforcement (steel or reinforced concrete and composite)
- Inspection and replacement of structural accessories
- Structural inspection, instrumentation & monitoring
- Sealing of hoppers and joints
- Seismic review and enhancement



Mechanical Engineering and Installation

- Engineering substantiation/plant condition monitoring
- Lifting and jacking of structures or equipment
- Repair, modification and upgrade
- Waste treatment plant/processes
- Glove box and cave line refurbishment
- Waste store upgrades
- Ventilation installation and upgrade



Electrical Control & Instrumentation

- Replacement of obsolescent equipment
- Performance enhancement
- Audit of EC&I infrastructure services
- Development and appraisal of options for optimising service
- Modification and enhancement to building and site electrical infrastructures



Systems for Passive Fire Protection

- Electrical installations
- Cableways isolation
- Concrete and metal structure protection



Fire Protection for Ventilation Ducts

- Fire dampers
- Air tight dampers
- Cut off valves

Key References

Anchor Maintenance (EDF CNPE 900 MW)

Inspection and additional pre-stressing of anchors for mechanical components. These operations include residual stress control, anchor upgrading and in some cases anchor replacement.



Maintenance of Metal Core Concrete Pipes (EDF CNPE Tricastin)

Corrosion activity measurement, video inspections, reinforced concrete structural repair and/or structural reinforcement.



Maintenance of Drainage Channels (EDF CNPE 900 and 1300 MW)

Sealing of radioactive waste collection zones by applying laminated coatings and replacing pipes and sumps.



Fire (EDF CNPE 900 and 1 300 MW, China Daya Bay, Ling Ao, Qinshan, Hong Yan He, Ning De nuclear plants)

Fire protection for the fibre-optic cables needed for control of the installations using the MECATISS MFP system. Over 100km of MFP were installed in all of France's nuclear plants as part of the Fire Action Plan.



Sealing

Protection (sealing, fire and biological protection) of electrical and mechanical bushings as part of the MRI project was carried out using MECATISS high performance products meeting multiple requirements.



Refurbishment of the Treated Radwaste Store (TRS) at Winfrith

TRS was required for the receipt and storage of the active drums from the Winfrith EAST Treatment Plant (WETP). Refurbishment involved: external cladding, cranes and control system (Supervisory Control and Data Acquisition (SCADA)), heating and ventilation, fire alarm and emergency lighting and electrical refurbishment.



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