

## POWDERWAY

### Roadmap for powder metallurgy applications for nuclear components

#### OBJECTIVES

The core output of PowderWay will be a roadmap which shows the state of the art for powder metallurgy (PM) manufacturing and coating processes, their potential application in the nuclear industry, their potential benefits and a clear view of the gaps preventing commercial uptake coupled with the steps needed to close those gaps. This will provide a clear guide for the nuclear industry, showing what can be gained by uptake of PM, and what is required before PM technologies can be used – it will help focus future R&D in a clear and prioritised fashion.

#### DESCRIPTION OF WORK

The technical work of the project is divided into the following 5 technical work packages (WPs):

- WP2: Identification of priority nuclear components and their associated materials in LWR designs,
- WP3: Powder metallurgy manufacturing, repair & coating processes for metallic nuclear components,
- WP4: Testing and code acceptance,
- WP5: Roadmapping,
- WP6: Dissemination.

#### MAIN DELIVERABLES OR RESULTS

- Definition of end-user requirements (NUGENIA restricted)
- Determination of material properties of candidate components (NUGENIA restricted)
- Identification of candidate processes (public)
- Determination of process capabilities (public)
- Report on candidate applications, selected components and supply chain (NUGENIA restricted)
- Candidate process material properties, appropriate inspection methods, future tests & simulation requirements and status of code acceptance (public)
- Powder metallurgy capabilities compared with current processes (public)
- Roadmap & report on dissemination and exploitation activities (public)

#### DURATION

1 April 2015 – 30 September 2016  
18 months

#### PARTNERS

Nuclear AMRC / AREVA-G / AREVA-F / PNB / CEA / SWEREA / EDF

#### CONTACTS

**Technical Project Leader:**  
Will Kyffin (Nuclear AMRC)  
[will.kyffin@namrc.co.uk](mailto:will.kyffin@namrc.co.uk)