Optimize the assessment of your RPV Control Rod Guide Assembly (CRGA) and split pins

The challenge
In the frame of their long-term operations strategy, utilities have to conform to several regulatory procedures and provide the necessary studies, inspections, component repairs & replacements to support their license renewal or periodic safety review efforts as well as their Aging Management Program (AMP) commitments.

RPV internals aging effects have to be managed by utilities through AMP which have to insure that the RPV Control Rod Guide Assembly are perfectly fit for purpose. The wear effects on the guides and issues with cracked or ruptured pins need to be fully assessed as well.

The solution
AREVA has developed several tools and methods to allow for state-of-the-art full scope RPV Control Rod Guide Assembly assessments and upgrades

- Aging Management Plans and Studies
- Inspection tools
- Engineering Evaluation / Analysis
- Component Repair and Replacement

Thanks to dedicated inspection tools designed by Areva, utilities can improve their assessment of the wear condition and evolution and also bring the objective and factual data to support their justification for the long-term operations of their CRGA.

Key features

Inspection
- Different tools have been developed to address specific requirements of utilities in terms of accuracy for CRGA inspection. When required, high camera accuracy of ± 0.06 mm as well as digital image analysis w/ pattern recognition can be provided on our underwater remotely controlled inspection systems.

CRGA wear studies
- Measurements are analyzed by our experts to help you build your justification files and advise on your CRGA overall strategy.
- Efficient justification files can also be built to justify the use of existing split pins.

CRGA replacement & repair
- Alternative CRGA can also be installed at your plant if necessary
- Replacement generation 4 split pins can be offered by AREVA to replace your older generation split pins
Your benefits at a glance

- Benefit from the integrated approach offered by AREVA which combines inspection, justification file setup and component repairs or replacements for an easier Aging Management Program preparation project.
- Improve the accuracy of the assessment of the CRGA condition evolution thanks to our specifically designed inspection tools and adaptable analysis models to optimize your AMP strategy accordingly

AREVA References:

Control Rod Guide Assembly (CRGA) inspections have been performed in Europe and in the United States on several reactors using different tools developed by Areva.

New Generation NG89 PIN Replacement Solutions:

NG89 Pins have been installed on ~ 50% of the Guide Tubes in French 900 and 1300 MW Plants and on nearly 10 Foreign Plants in Europe (e.g. Tihange, Belgium) and in the United States (Ginna).

AREVA has designed specific tools for CRGA inspection which have already been deployed in several countries.