



What is Life Extension?

Safe and cost efficient operation is achieved by good management of component life. Whether it is power generation, defence or any engineering structure, understanding and maintaining the lifetime of components and materials is vital to ensure the most effective processes.

Significant investments have been made in the energy industry to achieve Plant Lifetime Extension (PLEX). Plant, system and infrastructure lifetime plans and forward projection are crucial for stakeholders to assess investment plans.

The required extensive inspection of components is often difficult due to access issues, safety concerns or is subject high associated costs. Component life assessment (CLA) is a process that provides an alternative means of predicting current component damage and projecting component life via theoretical life assessment based on real plant data.

What is Component Life Assessment?

CLA is a process of monitoring the damage accumulation of components throughout service to ensure that it remains within an acceptable level (a limiting value before the initiation of a crack). This process involves calculation of fractional life damage from time dependent creep, fatigue and creep-fatigue degradation mechanisms. Regular monitoring and review of plant operational temperature trends and transients provides further support to ensure that the plant operates within the design intent.

The CLA process is often claimed in many safety case submissions as a means of achieving commitments in regard to structural integrity of plant components. Therefore the CLA process is a key factor in determining commercial and lifetime risk.

EASL Life Extension Services

EASL are experts in this area (with over 20 years of experience) and have been working closely to provide key advice on CLA and safety case submissions for the existing fleet of AGR power stations. With this knowledge, we are able to gain an understanding of the lifetime history of materials under such conditions.

This knowledge is easily transferrable to a wide range of applications, and our previous work has seen us assessing the component life of nuclear power plants, defence assets, utilities and structures and components in other industries. With a solution-focussed approach, we work with our clients to ensure realistic and clear results are delivered to ensure optimum lifetime of materials.

EASL can provide clear, reliable analysis of materials and components to help advise on lifetime extension for everything from individual plant components through to large commercial structures in a range of industries. Our highly trained specialists provide a bespoke service to ensure an efficient and cost effective solution.

If you have any more questions about life extension or EASL's services, take a look below at our related case studies and services, or get in touch on our contact us section.

Related Services

- Design Code Assessment
- Finite Element Analysis (FEA)
- Safety Case Production