Case study

F4N
Fit For Nuclear

NUCLEAR AMRC
ADVANCED MANUFACTURING RESEARCH CENTRE

Fit For Nuclear Q&A:
Somers Forge

Open die forging specialist Somers Forge entered the Fit For Nuclear programme to benchmark its capabilities for the sector. Technical and quality assurance manager Phil Postans explains how the programme also helped drive efficiency improvements.

Could you introduce your company?

Established in 1866, Somers Forge is a world leader in open die forgings best known for supplying critical parts to the world's navies.

We operate a number of forging presses and hammers offering an unprecedented range of products with unique capability from 1 kg up to 80 tonnes. Inhouse heat treat, machining, testing and steel stock operations allow components to be supplied finished machined, ready for installation. We hold vast experience in the forging of many materials, which include stainless, duplex and nickel alloys.

Why did you enter the F4N programme?

Somers already had experience in nuclear prior to F4N, in both small reactors for marine applications and power generation.

We recognised that the nuclear sector will continue to expand and, although we had the higher aerospace approval to AS9100, first-tier nuclear customers would associate better with F4N-awarded suppliers.

We have also invested in developing new technical capabilities for the nuclear market. With nuclear construction becoming a growing market, we were a key part of the TransForge research project which was funded by Innovate UK.

The project examined the feasibility of fabricating dissimilar weld joints for nuclear power plants. This project was needed after high failure rates in nuclear pressure vessels and the associated difficulty of inspecting joints inside the reactor, resulting in significant additional costs and ongoing repair work.

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Our approach was to find a way to remove the need for an in-situ dissimilar weld by the production of welding and re-forging dissimilar metals to make a fully consolidated composite forging.

The benefits from this research project included a reduction in failure rates, meaning an increase in plant hours due to a reduction in downtime. Also, it improved safety standards through standardisation of a novel transition piece which would reduce the risk to plant manufacturers through the elimination of in-situ welding of dissimilar metals.

What areas did the F4N assessment identify for development, and how did you address them?

Somers had recognised areas for continuous approval, and the F4N programme provided the tool/criteria to measure the effectiveness of progress together with an independent assessment to qualify the improvements.

From the gap analysis identifying key areas for approval, a series of team initiatives were introduced involving all areas of the business. These were driven by senior management in a focused operations meeting room, and cascaded down using various communication methods including SQCDP.

One of our key targets was to work towards achieving IOS45001 health and safety approval, to complement our existing environmental approval ISO 14001 and quality AS9100, This was achieved during F4N process.

What benefits have you seen from F4N?

As a forge and machinist manufacturing a range of metal components from small to very large, utilisation of space is always at a premium. The process organisation identified and created more effective workspaces, which in turn improved health and safety and general housekeeping.

Undertaking the F4N assessment has helped Somers to become more efficient as a company. Going forward, our aim is to continue to grow the customer base within the nuclear sector.

www.somersforge.com
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Fit For Nuclear (F4N) helps UK manufacturers get ready to bid for work in the civil nuclear supply chain.

F4N Fit For Nuclear

F4N is exclusively delivered by the Nuclear AMRC, and has been extensively developed and expanded to meet industry demand. The service lets UK manufacturers measure their operations against the standards required to supply the nuclear industry, and take the necessary steps to close any gaps.

Begin your F4N journey: **namrc.co.uk/services/f4n**

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To find out how the Nuclear AMRC can help your business:

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