Addressing the challenges of entering the nuclear supply chain



Safety remains a critical part of the global nuclear supply chain. However, in recent years, there has been growing concern about the risks counterfeit, fraudulent and suspect items (CFSI) have on the nuclear supply chain.

Potential hazards posed by CFSI and the long life of civil nuclear facilities highlights the importance of embedding a robust nuclear safety culture, all while maintaining reliability and quality of products within the supply chain.

In our latest webinar, experts from LRQA discuss the challenges and risks when managing the supply chain in the nuclear sector and look at how organisations can prevent and detect CFSI.

They also consider how ISO 19443, the new international quality management standard which is designed to improve safety in the nuclear industry, can help organisations reduce the operational impact on their supply chain and give stakeholders confidence in their organisation.

Our experts



Simon Emeny Global Head of Commercial for Inspection Services | LRQA



Ross Haddow Senior Project Manager | LRQA

We asked our experts a series of questions relating to CSFI and explored how organizations in the nuclear sector can safeguard their supply chains with ISO 19443 certification.



Three key take-aways from our experts

1. What are CSFI, and what are their impacts and risks?

CFSI are items that are misrepresented as original or genuine goods when that's not the case. CFSI can affect materials, documentation (e.g., certificates, test results etc.), parts and/ or complete items of equipment and systems.

There are a couple of reasons for CFSI; it could be entirely by accident or mistake, it could be through ignorance, or it could be completely intentional depending on the motivation of the person or organisation providing the goods.

Whatever the reason, CFSI can have significant repercussions for companies.

Not only do CFSI create a safety risk, but they also have an impact on an organisation's reputation and in some cases, can even result in criminal investigations.

Why do CSFI occur?

With nuclear supply chain being a global operation, much of the equipment and materials are sourced from all over the world. This makes regulation and enforcement often more challenging, particularly if there is a lack of knowledge and understanding about the standards and requirements.

There are also pressures to deliver projects on time and can have an impact on products used and sadly, unscrupulous suppliers take advantage of maximising on profit at the expense of quality and safety.

Sometimes the profits raised from CFSI can be guite lucrative which can be a motive to fund wider criminal activity."

Ross Haddow

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2. Nuclear safety culture

What practical steps can organizations take to reduce CSFI?

When we talk about nuclear safety, it is broader than just the safety and security of your people, it's also about the safety of your assets and the environment in which your people use them. To achieve good safety practices and to reduce CFSI, organisations need to embed a positive nuclear safety culture right through the company.

> We find that organisations who have a good nuclear safety culture often have leaders that demonstrate a commitment to nuclear safety in their decisions and behaviours. They are leading from the front and communicating why they are making the decisions they are so everyone can follow by example.

This instils a level of personal accountability and responsibility in people at every level in the organisation to make the right decisions and can help to drive a good safety culture.

Education is also very important. If you and your supply chain can work collaboratively to really understand CFSI and what impact they can have on not only safety but the wider business, then this will also encourage a positive nuclear safety culture. This will involve putting processes in place to identify problems and work on effective resolutions to drive continuous improvements.

And of course, regular reviews and updates help to avoid complacency creeping in and prevent failure before it happens – a management system certification is not enough on its own. Encouraging everyone to be accountable for their actions and feeling empowered to speak up when something is not right will help to create a respectful working environment where people's concerns are recognised and actioned appropriately."

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2. Can you explain how ISO 19443 certification could help organizations in the nuclear sector manage CSFI?

ISO 19443:2018 is a quality management standard that applies the principles of the international standard for quality, ISO 9001, to the nuclear sector.

> It is used by organisations that are in the supply chain of the nuclear energy sector and are supplying products and services important to nuclear safety (ITNS).

The standard is also intended to encourage commonality of requirement between purchasers to an agreed baseline, reducing duplication of audit effort, and it works to capture best practice across the nuclear supply chain.

The nuclear sector has tight safety regulations throughout its supply chain, and gaining certification demonstrates that your quality management system (QMS) combines best practice in quality with the specific requirements of the nuclear industry. It also shows the quality and reliability of your processes, and your focus on areas for development.

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> Simon Emeny Global Head of Commercial for Inspection Services | LRQA

There are some real practical benefits to having ISO 19443 certification. It supports and acts as a great driver for continuous improvement across your nuclear safety culture, particularly around how you embed that culture across your supply chain to prevent CFSIs.

It also acts as an enabler to help you make sure that your suppliers understand the end-to-end quality requirements of the customers, and that they are encouraging a high level of nuclear safety culture, in turn raising the standard of auditing in the nuclear supply chain.

Simon Emeny



Other answers you may find interesting...

Are CSFIs in the nuclear industry a new trend and if not, do you think it is increasing or decreasing?

Simon I don't think CFSIs are a new trend; I think the industry has more awareness about the dangers around nuclear power through some very well-publicised examples of what happens when things go wrong, which has encouraged organisations to focus on CFSIs. More stringent standards, such as ISO 19443, are driving overall quality and understanding of the risks."

Is it possible to instil an internal nuclear safety culture through training alone?

Ross

You can certainly use training to help encourage your people to adopt a positive nuclear safety culture but it's not as simple as sending them on a training course. An organisation must work hard to embed the safety culture at the heart of its business through robust processes and its QMS.

> In addition, leaders must lead from the front, literally, and ensure they are providing their people with the right skills and tools to do their role. And as we discussed earlier in this guide, allowing everyone to feel confident to make their own decisions and call it out when they know something is not right will create the right culture. So yes, you can train but that training must sit as part of a wider journey that the whole organisation is on."



Nuclear suppliers are often audited by customers and auditors against their own requirements, and these are now included in the ISO 19443 framework. Is it therefore still important to encourage your supply chain to get certified?

Simon

ISO 19443 certification brings benefits not only to individual companies, but also to the nuclear industry, and I would agree that it is important to encourage your supply chain to understand and engage with the standard at the very least. I am sure that as the standard becomes more recognised and more widely used, then there will be an increase in take-up as customers and operators start to see the benefits."

Do you see ISO 19443 becoming mandatory for companies involved in the nuclear industry? If so, will this inflate costs?

Simon

Much like ISO 9001 is an expected given today, I think ISO 19443 will go the same way in the future and it will become an expectation, not least because the standard drives an organisation to consider nuclear safety in more depth.

If ISO 19443 is implemented and then delivered in the right way within an organisation and it helps to drive efficiencies, then I think having the certification will reduce cost over time rather than drive the cost up. There is still some work to do to regulate the standard and accreditation bodies are conducting pilot schemes to look at how they will apply it, but I think this work will help to create more of a level playing field across the industry."



Why work with LRQA?

LRQA has years of industry experience managing the reliability, integrity and safety of operations within the nuclear industry – giving you the confidence in our ability to provide assurance.

We apply our unique insight to drive a positive impact both today and long into the future.

How we can help

We offer a range of services suitable for the nuclear industry, designed to help you prevent and detect

CFSI, and reduce operational and supply chain impacts. We work collaboratively with you to design the best audit and inspection options for your business.

Nuclear in-service inspection

We provide in-service inspection and testing of nuclear power plant components performed to standards such as ASME Sec. XI for the periodic inspection and testing of components.

We can also help produce risk informed in-service inspection programmes that enhance safety and economics by focusing inspection on areas with the highest potential for reduction of plant risk and maintenance costs.

Certification and audit

ISO 19443 certification from LRQA demonstrates that you have a robustly designed and implemented management system for quality with the specific requirements of the nuclear industry. It also shows the reliability of your processes and that it has been audited to the highest standards.

Supply chain assurance

To help you maintain trust in your supply chain, our wide network of inspectors with sector-specific knowledge and expertise can work as your partner to provide you with a range of services including vendor audits and vendor site inspections to ensure your supply chain meets your requirements.

We can support you in managing project risk and wider supply chain risk, which means you can trust your supplier to deliver your product safely, with compliance, and to specification.





YOUR FUTURE. OUR FOCUS.

About LRQA:

By bringing together unrivalled expertise in certification, customised assurance, cybersecurity, inspection and training, we've become a leading global assurance provider.

We're proud of our heritage, but it's who we are today that really matters, because that's what shapes how we partner with our clients tomorrow. By combining strong values, decades of experience in risk management and mitigation and a keen focus on the future, we're here to support our clients as they build safer, more secure, more sustainable businesses.

From independent third-party auditing, certification and training; to technical advisory services; to real-time assurance technology; to data-driven supply chain transformation, our innovative end-to-end solutions help our clients negotiate a rapidly changing risk landscape – making sure they're shaping their own future, rather than letting it shape them.

Get in touch

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