F4N
Fit For Nuclear

Guidance for the F4N nuclear capability questionnaire (NCQ) and online self-assessment

NUCLEAR **AMRC**
ADVANCED MANUFACTURING RESEARCH CENTRE

The University Of Sheffield.

CATAPULT
High Value Manufacturing

Fit For Nuclear

Guidance for nuclear capability questionnaire and online self-assessment
f4n.namrc.co.uk

The Fit For Nuclear (F4N) programme is designed to help UK manufacturing companies measure their current operations against the standards required to supply the civil nuclear industry; and take the necessary steps to enter the market in new build, operations, and decommissioning.

F4N has been developed by the Nuclear AMRC with support from our top-tier industrial members.

The F4N process will identify any gaps in your company's operations in terms of meeting the standards expected by the reactor vendors and their supply chain partners in key areas of business operation and performance.

This document lists the information you must provide and the questions you must answer to complete the online F4N self-assessment. It is intended to help you prepare to fill out the self-assessment and keep track of your responses.

We recommend that you print this document to use to prepare your answers before starting the online self-assessment.

Nuclear capability questionnaire

You will first be asked to provide some background details about your company's activities and performance. This will help us understand how we can best support your business. You must complete this questionnaire before you can access the full F4N online self-assessment.

The F4N online self-assessment

Your F4N advisor will then give you access to the full online self-assessment. You will be asked to provide information about your company's operations and performance in six categories. In each category, you will see a series of topics with multiple-choice responses – for each topic, simply select the statement that best describes your company.

Your company directors and senior managers will need to agree with the submission and participate in the follow-up activity. The categories covered in the self-assessment are wide ranging, and will require input from all functions in your company to ensure that the responses give an accurate picture of your current capabilities.

Your data

The business information you provide in response to the online questionnaire and self-assessment will be held securely.

Operational and performance data will only be used by the Nuclear AMRC and delivery partners for the purpose of your company's participation in the F4N programme.

The Nuclear AMRC may use your contact details to update you about relevant activities and initiatives to support your F4N journey, such as supply chain support programmes, projects, events and training opportunities.

Once you have been granted F4N status, the Nuclear AMRC may also share your contact details with businesses (for example, industrial members of the Nuclear AMRC board) which are seeking suppliers for the UK new build or decommissioning programme. We will delete your data if you request it at any time.

Before proceeding with the F4N programme, you will be asked to accept data sharing terms and conditions, as detailed on the F4N online portal (*f4n.namrc.co.uk)*.

If you have any queries regarding the F4N programme, please email *f4n@namrc.co.uk*

All Fit For Nuclear content, including self-assessment questions, is copyright Nuclear AMRC.

Nuclear capability questionnaire

Background information

Company:
- Name
- Registration number
- Ownership
- Website
- Definition (large company, SME, micro-enterprise)
- Local Enterprise Partnership (LEP)
- Previous nuclear experience?

Registered trading address

Assessment address

Contact person:
- Name
- Email
- Position
- Telephone

Collaborative or strategic alliances

Performance

Turnover
- Percentage of turnover from export
- Turnover in-year forecast
- Percent of in-year forecast from export
- EBIT (as percentage of turnover: <0; 0–5%; 5–10%; >10%)

Employment
- Number of direct employees
- Number of indirect employees

For the following topics, we can accept data in a range of metrics – please use whichever measure you use internally.

Profitability (choice of metrics)
- Gross profit for last financial year
- Net profit for last financial year
- Gross profit margin
- Net profit margin
- Other

Gearing (choice of metrics)
- Debt shareholder funds
- Stockturn
- Other

Safety (choice of metrics)
- Number of RIDDOR reported incidents in last year
- Number of lost time accidents in last year
- Number of days since last lost time accident
- Number of H&S training days in last year
- % of H&S audits completed

Quality (choice of metrics)
- Number of customer complaints in last year
- % internal scrap in last year
- Rework in last year
- Cost of quality in last year
- Number of major non-conformances raised in last year
- Number of minor non-conformances raised in last year
- Number of internal audits completed last year
- Other

Delivery (choice of metrics)
- % OTIF (on time in full) last year
- Number of deliveries missed in last year
- Delivery schedule achievement % last year
- Project on-time completion %
- Other

People (choice of metrics)
- Productivity added value per employee
- Absence percent
- Training spend per employee per annum
- Staff turnover percent
- Other

Products

Capability (select relevant areas)
- Material supplier
- Instrumentation and control equipment
- Pressure vessels, heat exchangers and tanks
- Pipework systems and seals
- Enclosures
- Testing and inspection
- Precision machining
- Steel fabrications
- Light and medium fabrications
- Heavy fabrications
- Heating and ventilation
- Castings
- Forgings
- Fasteners
- Mechanical handling and cranes
- Coatings and treatments (inc heat treatment)
- Bearings, seals and drives
- Pumps and valves
- Power and data supply
- Workshop equipment
- Other

Suppliers (list)

Do you manufacture a product in the UK?

UK products and services (list)
Products and services manufactured outside the UK

Customers (list)
Registered client portals (list)
Supplier contacts (list)
Codes and standards (list)

Maintain continuous improvement plan?
Accreditations (list)

Additional supporting information

Final checklist

Are you happy for us to share your data with our partners and stakeholders?
Have you received public funding in the previous two financial years?
Are you receiving *de minimis* aid in the current financial year?

The F4N online self-assessment

Nuclear safety and quality culture

The overriding priority of the nuclear power industry is to maintain safety and cause zero harm. This means safety not only for today and tomorrow, but for future generations. To achieve these safety standards, the industry insists on a shared culture of rigour and discipline.

Any company wanting to enter or compete in the civil nuclear supply chain needs to create a company culture of quality, safety and rigour in process and procedures.

Always remember: a quality issue for a supplier may later become a safety issue for a nuclear power plant.

Best practice

Many UK manufacturers already deploy best practice in many areas of design, manufacturing, and assembly. Based on the expectations of the nuclear industry's top tier, best practice can be summarised as follows:

- Safety first – a culture that starts in the foyer and extends to the loading bay.
- Process assurance, giving confidence in repeatability of output and quality.
- Product qualification and quality assurance.
- Configuration control, such as manufacturing routing and design controls.
- Materials and supply chain management, for conformity and traceability.
- Consumables control, for conformity and potential traceability.
- Change management, covering design, product, materials, consumables, process, etc.
- Open culture and leadership, encouraging process ownership and responsibility.
- Learning culture – consistently aiming for continuous improvements through structured methods such as lean, Six Sigma and lessons learned, coupled with informal activity such as staff-led initiatives.

The following pages list the 10 topics under each of the six sections of the F4N online self-assessment.

Each topic has four statements – please select the one which most closely resembles your current practice. Don't worry if you feel that the options don't quite reflect your business, as we can review and discuss each point during the verification visit to your site.

Each item also includes some notes about best practice, and what we will look for during the verification visit to determine your position.

For best results, get your colleagues to help complete the self-assessment, and treat it as a robust and honest critical view of your business.

1. Strategy and leadership

"The organisation has developed a vision of the future that is supported by company values and a clearly defined strategy that is deployed and fully integrated into daily business activities. Senior management sees the need for change and continuous development of the organisation."

This section aims to establish if the company has a strategic vision and deployed strategic plan. We also wish to assess the leadership engagement in any change programme.

Strategic plan:
- o   No business plans exist. The business is run with a focus on today.
- o   The business doesn't have a clearly defined vision. It is managed through an annual operating plan and budget.
- o   The company has defined its vision and values and developed a strategy. A deployment system needs to be put in place to cascade objectives to front line staff.
- o   The company's board has defined its vision and values. It has developed a strategy that has been formally deployed and cascades down to front line staff.

We are looking for companies to have a fully developed strategic plan that has identified nuclear as a key growth requirement, with a strategic plan available for discussion at the verification visit.

Management vision:
- o   Management are focused on short term goals.
- o   The plan is owned and controlled by the managing director.
- o   The vision and strategy are owned by the board and senior management but there is a need to involve other staff.
- o   The vision and strategy are owned by the board and senior management. The senior management have developed plans and involve their staff to support the strategic plans.

We are looking for a clear management vision and strategy which is available for discussion at verification.

Strategic awareness:
- o   No strategic business planning experience within the company.
- o   The managing director has strategic business planning experience. Training of senior management is required.
- o   Some management have been trained and have experienced strategic business planning techniques. Strategic plans are being developed by the senior management.
- o   Senior management have been trained and adopted strategic business planning and policy deployment techniques. They are fully involved in the company's strategic planning processes.

We are looking to identify that the senior management have the skills and experience to develop a formal business strategy, and the extent to which they have been involved in the strategic planning process. We will want to discuss this during the verification visit.

Strategy deployment:
- o Communications are mainly reactive on a need-to-know basis.
- o Communication throughout the organisation needs improvement. The senior management are developing a plan for this.
- o Communication of the plan rests with senior management. A deployment and communication system is needed to involve front line staff.
- o The strategic plan has been deployed to all areas in the business. All employees have targets and goals that support the strategic plan.

We are looking for the extent that your strategic deployment process engages people in the organisation. We would like to see the deployment documents, and how the strategy is deployed and reviewed.

Strategic reviews:
- o No formal reviews of the strategic plan or performance are carried out.
- o No strategic reviews are carried out. The management process is by regular review of operating performance and budgets.
- o There is a formal management process to review progress against the strategy.
- o There is a formal process to regularly review progress against the strategic objectives at all levels of the organisation through a policy deployment process.

We are looking at how the strategy is reviewed, who's involved and the frequency. We would like to discuss the process and see any supporting documents at verification.

Leading change:
- o A traditional management style exists. Management don't see the need for change.
- o Some senior management show lack of commitment to continuous development. The need for greater involvement of employees has been recognised, and leadership development is required.
- o Some senior management see the need for change and the continuous development of the organisation. Some employees are involved in business improvement activities.
- o All senior management see the need for change and the continuous development of the organisation. They involve all employees in business improvement activities.

We are looking to establish the extent to which leadership involve employees in change programmes, and to see who is involved in leading improvement programme and how these programmes link to the business's strategic goals.

Visible leadership:
- o Employees work to management instructions. Coaching and support for employee development does not take place.
- o Management do not provide significant coaching and support for the development of employees. The managing director has recognised the need for improvement in this area.
- o Some management are approachable and visible, providing coaching for employees to develop and deliver goals and objectives.
- o All management are approachable and visible, providing coaching for employees to develop and deliver goals and objectives.

In support of leading change, we are looking at the leadership capability and its impact through coaching of staff to achieve goals and objectives. We want to establish how leaders have been developed, and how the plans and activities are currently being undertaken.

Roles and responsibilities:
- o   Leadership roles and responsibilities aren't clear.
- o   Roles and responsibilities aren't as clear as they need to be. This is reflected in the lack of accountability and performance of some management.
- o   All managers have clearly defined roles and responsibilities. Some managers need to show more accountability for the development of people and a performance culture.
- o   All managers have clearly defined roles and responsibilities. They see the need for continuous improvement and people involvement. Leading change is evident with all management using their skills to develop a performance culture through responding to employee ideas and leading formal improvement activities.

We are looking to assess how well the roles and responsibilities are defined throughout the business. It is useful to see examples of written documents at verification.

Leadership development:
- o   Leadership training is not generally given and these skills are developed on the job.
- o   Some leadership development has been given. This has generally been done to meet a specific need or request.
- o   Leadership development is seen as important to the business success. Leadership training has been given, generally when appointments or promotions are made.
- o   All managers have been formally appraised and have development plans linked to the business strategy. Leadership development is seen as key to business improvement and training is given to meet the strategic goals.

We are looking at the leadership development process and how leaders are appraised and developed, and whether there are any skills gaps and weaknesses. We would like to see development plans and appraisal documents to support the verification discussion.

Communication:
- o   Leaders rarely communicate to employees.
- o   Many of the leaders in the organisation see communications as a need to know activity and respond accordingly.
- o   All managers see the need for effective communications and they have a system for providing business and performance information to all staff. Communications tend to be top down with limited employee contribution and feedback.
- o   All managers see the need for effective communications and they have a system that is visible, providing business and performance information for all staff. Communications are effective with good employee contribution and feedback.

We are looking at how the business communicates key business information to its staff, and how engaged employees are. At verification, we would like to review the communication process and its effectiveness, and establish how employees contribute and feedback.

2. Design and project management

"The organisation has a proactive approach to design and project management. The organisation has the infrastructure and processes to deliver high value projects to its customers to budget and on time. The organisation sees the need to review projects as a means to improvement and becoming a learning organisation."

Not all companies will have a design element to their business. Some companies only make to print – if so, this will be acknowledged during the verification visit.

Design systems:
- o   No CAD systems are used.
- o   First generation CAD is used.
- o   2D CAD is used for designing products such as Auto CAD.
- o   3D CAD/CAM is used for designing products (eg Catia and NX).

We are looking to establish the type of design that is done (if any) and what systems are deployed. We would look for the company to comment on the design system and requirement, and show any supporting designs and documents at verification.

Design capability:
- o   The organisation doesn't have a design capability. It requires instructions for manufacturing.
- o   The organisation requires its customer to design components and products. It has the capability to do small designs to assist the customer.
- o   The organisation can interface on concept designs. It normally has designs defined and works to detailed instructions from the customer.
- o   The organisation has a capability to take concept design requirements and translate these into mainstream products with arrangement and detail designs that meet customer requirements.

We are looking to establish that the company has the design capability to meet the requirements of your customers and, where applicable, the nuclear vendor. A discussion and presentation is required to explain the design capability and examples of how this is deployed and utilised, where applicable.

Design FMEA:
- o   The organisation doesn't understand this concept.
- o   Design FMEAs are required. The company understands the need but as yet hasn't introduced this process.
- o   The organisation understands design FMEA and is developing its capability. Some generic design FMEAs have been introduced. More work is need on proactive risk management.
- o   The organisation understands and is proactive in using design FMEA. There is a formal process to assess new designs to reduce risk.

There is a requirement to establish how well risk is managed as part of the design process, if applicable. We are looking to establish how the company manages risk in the design process, and if design FMEA is understood and utilised. At verification, we would wish to see examples of design FMEAs and have a discussion of how these have been deployed.

Design for manufacture (DFM):
- The organisation doesn't understand this concept.
- DFM is a process that some people in the organisation understand. There is no process evident at present.
- DFM is a concept that the organisation understands. The organisation is developing a process to introduce this concept. Limited trial work has been carried out to learn about the benefits of DFM.
- DFM is a concept that the organisation understands. The organisation has a process and a team that looks to design cost benefits into the process. This is well established.

DFM is a process that looks to influence cost at the design stage through multi-functional group activity. At verification, we are looking at the extent to which the company deploys this process and how the manufacturing costs are improving as a result.

Design control:
- Little design process control exists.
- The design process lacks a formal system of control. An improved system is required.
- There is a good design process in place. The company could consider moving to a software support system (eg SAP Solution Manager) as a system of control.
- The design process is in full control with drawings and changes to designs being fully in control. There is a software support system (eg SAP Solution Manager) controlling the process. There is evidence that there is a continuous improvement process in place with a team of people who see the need to consistently improve this process.

Depending on the design requirement, we are looking to review the system and process for controlling design and design changes. We would like to discuss the systems used. At verification, a written procedure or process diagram/flowchart would be beneficial to explain what is done.

Infrastructure:
- Project management resources aren't identified. Preliminary project plans are not in place.
- Projects are often managed reactively without considering the resource requirements. Preliminary plans need improvement.
- Resources are normally identified (such as people, material, equipment, and documentation). Preliminary project plans exist on some large projects.
- Resources are always identified (such as people, material, equipment, and documentation). Preliminary project plans are always developed.

Depending on the nature of the business and projects, there is a need to allocate resources and define the leadership and structure. At verification, we'd like to see the process of how programmes are resourced, how resources are identified, and how the programmes are set up and managed.

Project definition and objectives:
- No formal process. Improvement needed. Objectives and goals aren't as clear as they need to be.
- Project objective setting varies and needs improvement. Risk is managed reactively. The project definition process needs to improve.
- Project objectives and scope are usually defined, but not always. Risk is usually managed, and there is a formal process for this. Benefits are not always defined.
- Project objectives and scope are always clearly defined. Risk is always managed and there is a formal process for this. Benefits are clearly defined.

Programme objectives need to be effectively defined to meet demanding deadlines. We would like to see the process and examples of project plans to support the submission at verification.

Project planning and cost control:
- o   Improvement needed. Objectives and goals aren't as clear as they need to be.
- o   Project planning isn't formal, but it exists in the form of key activities management.
- o   Detail work plans and schedules exist and are effectively managed. Costs and resource management could improve. Critical path analysis isn't used.
- o   Detail work plans and schedules exist and are effectively managed. Costs and resources are effectively managed to budgets. Critical path analysis is used.

Programmes need to have detailed work plans with cost in control. At verification, we would like to see examples of live projects and how costs and programmes are reviewed.

Risk management and project control:
- o   The organisation reacts to circumstances. Planning isn't a strength of the organisation.
- o   Project control is via a key individual. Risk management needs introducing to control project activity.
- o   Formal project planning exists using MS Project or similar. Risk management needs an improved system of control. Reviews are carried out but reporting and communication could be better.
- o   A formal planning system such as Prince 2 is used for project management and controlling risk as defined by the design FMEA. Formal project reviews are undertaken with progress reports communicated.

Depending on the nature and size of your projects, there is a need to have a formal planning system to manage the activities and also a process to establish and manage risk. At verification, we would like to discuss the process and the systems you use and see how risk is managed (for example, through risk registers).

Project closure and review:
- o   Project management and control systems don't exist.
- o   There needs to be an improved system of control as projects are often late or over budget.
- o   There is a formal process and work plans for closing out a project. A post implementation report is usually circulated. A final project review learning process is needed.
- o   There is a formal process and work plans for closing out a project. A post implementation report is circulated. Lessons learnt are used to improve the process, performance, and knowledge base.

Projects, however well they are planned and organised, have issues from which we can learn. At verification, we wish to see the process for project closure, and review to see how lessons learnt are applied back to future project activity.

3. People excellence

"Employees are seen as a competitive advantage to the organisation. They have total involvement, are fully aware of the business's vision and goals and their development is central to the strategic aims of the organisation."

This section aims to establish how much employees are involved, and the extent to which they help drive the business forward.

Employee commitment:
- o   Employees are generally unaware of the strategic aims and values of the business.
- o   Employees have been told about the company strategy and values but don't understand their role in delivering the plan. Employee commitment is low.
- o   All employees are aware of the company strategy and values and some have demonstrated commitment through their actions and contributions.
- o   All employees are aware of the company strategy and values and have demonstrated commitment through their actions. Significant change is evident through employee-led initiatives and continuous improvement activity.

We are looking for employees to be fully up to speed with where the business is going and evidence of proactive delivery of the company vision, which is central to long-term business success. At the verification visit, we would like to see examples of how employees are engaged, and how proactive they are in delivering their part of the business plan.

Employee objectives:
- o   The benefits of deploying employee targets and goals are not understood by management. No employee targets or goals are set.
- o   There is some awareness of the need to set employee targets and goals, but no system is in place to develop and manage these.
- o   There is no formal policy deployment system. Some employees have targets and goals, but these aren't fully driven and linked to the business strategy.
- o   There is a policy deployment system that cascades targets and objectives to employees. Performance is measured at all levels as part of the formal strategic process.

We are looking to establish whether employees have deployed targets and goals from the business plan and deployment system. At verification, we would like to see how the process works and examples of employee targets and objective and the contribution they are making.

Employee accountability:
- o   Employees don't generally get involved in business improvement. Management don't see the benefit of total employee involvement.
- o   Continuous improvement activities are limited. This is normally led by management, with employees involved when requested.
- o   Formal continuous improvement groups exist in some areas. Some employees are proactive, but generally the need to implement change is driven by management.
- o   Formal continuous improvement groups exist and are driving a performance culture within the business. Employees are proactive in coming forward with ideas for improvement and are able to implement change from their contributions.

We are looking at how employees contribute and take responsibility for delivering improvement. At verification, we would like to see the process used to drive improvement, and the extent to which employees participate. Examples of activity should be provided.

Employee culture:
- o   Employee surveys aren't carried out or planned. Morale is an issue.
- o   Employee surveys are being considered as part of future plans. Morale is generally satisfactory.
- o   Employee surveys are carried out with mixed results and action to address issues raised is planned. Morale is generally good with most employees satisfied with their role and support from management.
- o   Employee surveys are carried out and are showing positive trends. Morale is good with the majority of employees satisfied with their role and support from management. There is a formal recognition process led by management.

Having a performance culture with total employee commitment is the ultimate goal. We would like to see at verification how the feeling and opinions of employees are established and used in the ongoing development of the business process. Employee surveys, if used, should be presented.

Employee development:
- o   No employee training and development takes place.
- o   Some limited training and development takes place. No formal review of personal development plans takes place.
- o   Some employees have appraisals and personal development plans linked to the business objectives. Skills development is seen as an important business priority, but further work is needed to fully integrate the strategic plan, employee goals and the appraisal system.
- o   All employees have appraisals and personal development plans linked to the business objectives. Skills development is seen as an important business priority and is driven from the strategic plan and the appraisal system.

We are looking for evidence of fully qualified staff who are encouraged to continuously develop themselves to support the business vision. At verification, we would like to see the employee development process along with examples of appraisals down to shopfloor operators, if used.

Employee records:
- o   HR records aren't kept.
- o   HR records are kept but not always accurate.
- o   HR records are kept to support staff personal development in most cases.
- o   HR records are kept to support all staff personal development plans and objectives.

HR records are required to support employee development. Please provide an example of a live employee record on the verification day.

Skills and competence:
- o   There are skills gaps in key areas of the organisation and there is no plan to address this.
- o   The organisation trains employees to meet business needs. Some skills shortage exists but this isn't impacting on day-to-day running of the business.
- o   The organisation has a skills assessment process linked to the business's needs. The company has competent people in most key areas of the organisation. Some skills are required for the future, but at present the business is OK.
- o   The organisation has a skills assessment process linked to the business's needs. The company has competent people in all key areas of the organisation. The process covers safety, quality and process requirements and is linked to employee appraisals.

Having the skills to meet the current and future business plan is key to long term business success We would like to see how the skills assessment process works to identify the skills required and any perceived gaps to meet the business strategic plan. Examples of succession plan or skills matrices, if these are used, should be presented at verification.

Ideas and suggestions:
- o   Employees are not proactive at generating ideas.
- o   Employee ideas and suggestions are sought but with limited success. Managers are aware that there is a need to implement this process.
- o   There is a process that maximises employee ideas and contributions. This process is facilitated by line leadership and generates implementable suggestions from some employees. Most of the ideas are fully evaluated with some implemented.
- o   There is a process that maximises employee ideas and contributions. This process is facilitated by line leadership and generates implementable suggestions for all employees. All ideas are fully evaluated and implemented.

Having a process to maximise employee ideas and suggestions is a necessary part of continuous improvement. At verification, we would like to see the process used and examples of ideas generated by employees as part of their role.

Communication:
- o   Communications are poor or ineffective. Information isn't normally shared with employees.
- o   Communication is essentially one way and management driven. Employees are involved on a need-to-know basis.
- o   Communication is good throughout the company. Management tend to lead on this. There is some two-way feedback, but management are aware that this can be improved and there is a plan.
- o   Effective two-way communication is evident in the organisation. Employees are fully aware of business plans and company activities. The employee feedback process including group activities is proactive without management driving this.

Providing employees with timely business information is key to employee engagement and contribution. At verification, we would like to establish what the communication process is, and what employees are told, along with examples of briefings and other documents.

Change and empowerment:
- o   The organisation is traditional in its approach. Employees are given instructions. Little empowerment exists.
- o   Change is starting to happen in areas of the business. Management are planning to drive employee involvement.
- o   Some employees embrace change and are actively involved in improvement programmes and group activity. Management are driving employee involvement.
- o   Employees embrace change. All employees are actively involved in improvement programmes and group activity. Change is evident in all areas of the company.

The rate of change in businesses today is significant. Globalisation and emerging economies are just some of the challenges. We are looking for companies who recognise this and are proactively involving all staff in addressing these issues. At verification, we would like to see how the business addresses change and utilises employees to achieve this, including examples of change and the extent to which employees contribute.

4. Process excellence

"The organisation sees the need for continually improving their business operation.
They have a formal strategy for process improvement across the organisation.
They are proactive at driving efficiency up and cost down."

To address change and drive business competitiveness, there is a need to have a formal improvement strategy and process. This section aims to address how proactive you are, and what processes you use to drive improvement.

Manufacturing strategy:
- o   There is no manufacturing strategy or plan for process improvement.
- o   The organisation is aware of process improvement principles and it has carried out some improvement projects.
- o   There is no formal manufacturing strategy, but improvement plans have been implemented in some areas of the organisation and have shown good progress.
- o   The board has developed a manufacturing strategy in order to achieve world class performance. This strategy has extended to all areas of the organisation and is fully integrated as part of the business's vision through policy deployment.

We would like to see that you have a formal manufacturing strategy which is deployed from and supports the business strategy. This should include investment and ways to drive cost and productivity improvement. We would like to see a copy of the strategy, along with a summary of the key drivers at verification.

Value stream management:
- o   Management isn't aware of the value stream management assessment tools.
- o   The management understand the need for value stream management but have yet to plan for its introduction.
- o   Value stream management is understood and being introduced. A current state value stream map has been developed for the main product by an improvement team.
- o   Value stream management is evident. Product value streams have been identified along with the development of current state and future state maps. Improvement plans are being managed by the value stream mapping teams.

Lean manufacturing techniques are proven to drive improvement in any business. In order to plan a successful lean programme, value stream mapping and management is required. At verification, we would like to see how you plan for improvement, and a copy of any work on value stream mapping.

Performance measurement:
- o   KPIs aren't controlling the key processes. Data collection and problem solving are not used for business improvement.
- o   KPIs are understood but are only deployed in selected machines/areas. No visible performance measurement is evident. Reviews of performance tend to be informal. Data are sometimes captured to solve specific problems.
- o   KPIs are developed for some key business metrics such as quality, cost, delivery, and safety. Data are captured and analysed, but improvement actions aren't fully delivering results.
- o   KPIs are developed for some key business metrics such as quality, cost, delivery, and safety. Data are captured and analysed as a basis for problem solving and continuous improvement. Improvement actions are always implemented and closed out. Performance trends are achieving targets.

One key element of driving efficiency and productivity is performance measurement, with key performance indicators. We want to see this deployed and visible, with front line staff fully engaged. At verification, we want to see copies of KPIs and charts showing performance. During the plant tour, we will look for KPI visibility and want to establish how engaged employees are in the process.

Process improvement training:
- o   Process improvement benefits aren't understood or part of the organisation culture.
- o   Some process improvement training has been introduced. Training, however, is limited to one or two key people. Senior management haven't been trained, and have delegated this to others.
- o   Most employees have been trained and demonstrate an understanding of process improvement methods. There are some champions for process improvement who have the responsibility to deliver this.
- o   All employees have been trained and demonstrate an understanding of process improvement methods. All key people are champions for process improvement and are proactively driving the process forward with good achievements.

To support a culture of continuous Improvement, employees need to be fully trained and engaged in the process. At verification, we will look for what process improvement training has been carried out and planned, and how this training has been effectively deployed and utilised.

5S workplace organisation:
- o   5S workplace organisation has not been implemented.
- o   5S has been tried but not sustained.
- o   5S workplace organisation is partially implemented and planned to be rolled out. More work is needed to ensure the process is sustained.
- o   5S workplace organisation is fully implemented and is being controlled and sustained.

5S workplace organisation is a foundation process for lean manufacturing that can work in any organisation. We require you to have a sustainable 5S process driving improvement as part of a lean strategy. At verification, we will look to see how the 5S process has been introduced and how well the process has been sustained.

Standard work methods:
- o   Standard work methods of control aren't used.
- o   Standard work methods are being introduced.
- o   Standard work methods are used as a basis for business control and improvement in some areas.
- o   Standard work methods are used as a basis for training, quality control, problem solving and process control disciplines.

Standard work is a process to set out what to do, how to do it, the checks to make, and the time required for each work element. Standard work is required to ensure the products being manufactured conform to specification, quality and cost. At verification, we will want to see live copies of standard work instructions during the plant tour.

Planned maintenance:
- o No planned maintenance is carried out. Plant is serviced when problems occur.
- o Maintenance is carried out by maintenance staff on most of the equipment. The activities aren't scheduled as well as they could be. Maintenance records need to be improved.
- o There is a process for routine planned maintenance on most of the equipment. The schedules are always maintained. Accurate records of plant performance are kept. Maintenance staff deal with all planned maintenance activities.
- o There is a process for routine planned maintenance on all equipment. The schedules are always maintained. Accurate records of plant performance are kept. Operators are involved in asset care maintenance procedures.

Plant reliability is an essential part of being able to deliver on time to demanding schedules. At verification, we would like to see how the process for plant maintenance is managed, and copies of maintenance schedules and records kept.

Communication:
- o Communications aren't in place, other than on a need-to-know basis.
- o Communications aren't in place, other than on a need-to-know basis. This is an area management know they need to address.
- o A communication process exists. This promotes and reviews quality performance. This tends to be top down with limited feedback from employees. Management have identified this, and plans are being introduced to improve employee contribution.
- o A good communication process exists which involves briefings, quality improvement groups, with visible quality performance data throughout the organisation. Feedback is effective with employees being proactive providing two-way feedback.

We are looking at how the business communicates key business information to its staff, and how engaged employees are. At verification, we would like to review the communication process and its effectiveness, and establish how employees receive work instructions and communicate at plant level.

Supply chain management:
- o Supply chain partnerships are not seen as important.
- o The importance of supply chain partnerships is being evaluated.
- o The importance of supply chain partnerships has been recognised. Supply chain partners are being sought as part of the business strategy.
- o Key suppliers are aligned to the organisation with agreed improvement goals and objectives. The organisation is an approved supply chain partner with its major customers.

Building strong relationships and delivering value through the supply chain is a key requirement. At verification, we would like to see how the supply chain is managed and identify how many strategic supply partners you have.

Environmental management:
- o There is no environmental management system in place.
- o Some limited environmental activity takes place such as recycling and waste management.
- o The Organisation is working towards an environmental accreditation (ISO 14001).
- o There is a formal accredited environmental system in place (ISO 14001).

Protection of the environment is something we all have to take responsibility for. Although we aren't, at this stage, insisting that companies have ISO 14001, we would like companies to be working towards this and planning to incorporate it into their businesses. At verification, we would wish to see a copy of your accreditation if you have it, or a plan that you are working towards if you don't.

5. Health and safety culture

"The development and sustainability of a health and safety culture is the organisation's top goal and is everyone's responsibility. The organisation has a proactive approach, it is led by the board of directors, it demands everyone to demonstrate total commitment to safety without compromise."

Developing a health and safety culture is paramount in any industry, especially nuclear. We will be looking to establish how proactive you are, and how the process is led and managed throughout the organisation. We would like to see companies working to achieve accreditation to OHSAS 18001/ISO 45001.

Policy and strategy:
- o   No formal health and safety policy exists.
- o   Health and safety activities take place but there is no formal policy.
- o   There is a health and safety policy and established management system in place. The Organisation is working towards a formal accreditation (OHSAS 18001/ISO 45001).
- o   There is an accredited health and safety policy and management system in place (OHSAS18001/ISO 45001).

We want companies to have or be working toward OHSAS 18001/ISO 45001. At verification we would like to see either a copy of the accreditation or a plan with timescale to achieve accreditation.

Management commitment:
- o   Management don't demonstrate an understanding or commitment to health and safety.
- o   Management react when health and safety problems arise.
- o   Management are involved in health and safety performance management.
- o   The board leads the health and safety process and is proactive in driving compliance and performance.

We want to see that your board takes responsibility for, and leads, the development of a proactive safety culture. At verification, we would like to see how the board is engaged, the direction it gives, and how this is integrated into the board meetings.

Targets, goals, and objectives:
- o   There are no health and safety targets and monitoring systems.
- o   The need for health and safety targets has been identified but not in place.
- o   There are health and safety targets in place and a formal management review takes place. No formal system for improvement is evident, but this is being developed.
- o   There are health and safety targets defined and a formal management review takes place. A formal system for improvement is evident and driving safety performance.

To consistently drive for improvement in health and safety culture, we would like to see objectives, goals and targets deployed and reviewed as part of board activity and the formal H&S process. At verification, we would like you to show copies of the formal documents used as part of the OHSAS 18001/ISO 45001 process that explains the specifics of your system.

Responsibility and accountability:

- o Safety is seen as a management responsibility. Employees are constantly reminded of the importance of adhering to safety standards. Safety is managed reactively. Some safety concerns need attention.
- o Safety is seen as a management responsibility. Everyone in the organisation has been made aware of the importance of adhering to safety standards. Safety is managed reactively. Improvement is needed.
- o Safety is seen as a collective responsibility. Everyone in the organisation has been made aware of the importance of adhering to safety standards. Safety performance is good, but management have to constantly drive to achieve these safety standards.
- o Safety is a collective responsibility. Safety is put first when taking decisions. Everyone in the organisation understands the importance of adhering to safety standards and takes personal responsibility for safety in their own work area without compromise.

Safety is a collective responsibility requiring everyone to play their part and take personal responsibility for driving an H&S culture. At verification, we would like to see the process that engages employees in safety culture activities. During the plant tour, we will look for evidence that all the safety standards are being maintained.

Competence:

- o Health and safety training is lacking in key areas of the business.
- o Some training is given for health and safety representatives, but most employees aren't involved.
- o Health and safety training is given and evaluated. Not all staff have had formal training, but this is planned for completion in the next six months.
- o Health and safety training has been given to all staff. The effectiveness of the training is reviewed and evaluated. Employees are competent and involved in health and safety improvement activities.

To achieve an effective H&S culture, all staff will need to be involved and well trained. They will have to have a clear understanding of the requirement, have the appropriate knowledge and skills, and be kept informed of the progress you are making. At verification, we will require you to show how the training has been developed and introduced, who has had training, and how effective the training is, with an explanation of how you review its effectiveness.

Safety culture:

- o Safety is managed to comply with legislation. Communication and employee participation in safety matters need improvement.
- o Safety is managed to comply with legislation. Everyone in the organisation has been made aware of key safety objectives. Employees raise concerns about safety. Management act on the concerns and keep employees informed on a need to know basis.
- o Safety is a top business priority. Everyone in the organisation has been made aware of key safety objectives. Employees raise concerns. Management act on the concerns and keep employees informed of progress. Management lead improvement activities with some key individuals.
- o Safety is an overriding business priority. Everyone in the organisation understands this and is trusted to play their part. There is a questioning attitude to safety with concerns being raised without fear of retribution. Improvement ideas are always encouraged and acted upon.

We require a safety culture that isn't compromised, that is the top organisation goal, and that involves everyone in the organisation being proactive and taking personal responsibility for delivering this culture. At verification, we would like to see safety records and safety performance data. During the plant tour, we will look to identify areas of best practice.

Control and records:
- o   Records aren't well kept or are non-existent.
- o   Records are kept, but there are issues and non-conformance in some cases.
- o   Records are kept, and documents are usually in control.
- o   Records are kept, and documents are always in control without exception.

It is important to have accurate records with timely close-out of incidents and non-conformances. At verification, we would like to see how the process works and examples of the records you keep including the status of non-conforming activities.

Major incident planning:
- o   A major incident plan is not in place.
- o   A major incident plan is being considered.
- o   A major incident plan is being drafted.
- o   There is a major incident plan in place.

We would like to see a major incident and business continuity plan as part of your management systems. During verification, we would like to see a copy of your plan.

Audit:
- o   No audit procedure exists.
- o   Health and safety audits aren't always carried out to schedule or corrective action taken as required.
- o   There is a formal procedure for health and safety audit, and this is accurate and up to date. Management have to constantly push for conformance and compliance.
- o   There is a formal procedure for health and safety audit that is accurate and up to date, with complete records. Conformance and compliance are high with all issues addressed in a timely manner.

It is a requirement to audit the procedures and processes. We wish to see an audit schedule and be updated with the current status at verification.

Risk management:
- o   Risk management is a concern with several examples assessed.
- o   Risk assessments are carried out as instructed by management. Employees need to be more involved and aware.
- o   Risk is managed proactively. There is a process for assessing risk. Most employees are involved in assessing risk for new products or processes. This is a management led process.
- o   Risk is managed proactively. There is a process for assessing risk. All employees are fully involved in assessing risk for new products or processes. This is an employee led process.

Risk management is a key requirement of any H&S process. At verification, we would like to see how risk is managed, and copies of any relevant documents such as risk assessments. We would also like to see how employees are involved, and the extent of this involvement.

6. Quality management

"To develop, sustain and continuously improve quality is a top strategic goal. Building quality into the products and services and developing and sustaining a culture of continuous improvement is a key management imperative."

Building quality into your products and services, and developing a culture of continuous improvement, is what we are looking for as part of your quality management system.

Policy and strategy:
- No quality policy exists.
- There is a quality policy but no accredited quality system.
- There is a quality policy and the company is working toward an accredited quality management system (ISO 9001).
- There is a quality policy and accredited quality management system (ISO 9001).

ISO 9001 is mandatory. At verification, we will wish to see a copy of your accreditation.

Management commitment:
- Management are heavily involved in day-to-day activities, and quality systems aren't evident or followed. The company needs to review its approach to quality management.
- Management have recognised the need to take a more systematic approach to quality improvement, they have delegated responsibility to the quality manager. A quality management system is being developed.
- Management has demonstrated a commitment to quality and defined responsibilities throughout the organisation. They have a plan to achieve accreditation (ISO 9001).
- Management proactively lead the quality improvement strategy. They have demonstrated commitment to quality by developing a framework and providing resources to drive improved quality performance.

Management will have defined, taken responsibility for, and provided the resources to support the QMS system. At verification, we wish to review the QMS and the board leadership and involvement.

Quality planning:
- There are no quality plans. Quality problems are addressed as and when they arise.
- Quality is managed with inspection ensuring quality standards are achieved. Quality improvement objectives aren't used.
- Some quality objectives have been agreed. Quality plans are used in some areas of the organisation.
- Quality objectives are established from the manufacturing strategy. These objectives are deployed to all areas of the business. Quality plans are operational throughout the organisation.

Quality plans are needed to show how you will achieve the quality requirements, along with the quality assurance processes that you have put in place to achieve the quality standards. At verification, we will wish to see how the quality planning process works and live examples of quality plans.

Responsibilities and accountability:
- o Responsibilities aren't as clear as they might be. No improvement activity takes place. Corrective action is reactive to circumstances, and this is having a negative impact on quality performance.
- o Responsibility for quality is with a director or senior quality manager. Improvement activity tends to be reactive and involve a few key people.
- o Responsibilities for quality have been established and deployed. There is a senior manager responsible for the quality system and performance which is reviewed at management level.
- o The quality system is led by the board. They are proactive in quality matters and are briefed and updated on a monthly basis. They hold formal management reviews and provide support and resources to drive quality improvement.

The responsibilities for quality will be defined by the board. There will be a senior manager responsible. At verification, we would like to see the structure and responsibilities as defined in the quality manual, and how the process works in your organisation.

Competence:
- o Training is seen as a cost and done when it is essential.
- o Appropriate quality training is given as and when required. Competence checks are not generally carried out.
- o Appropriate quality training is given, and its effectiveness is generally reviewed. Training is determined by business needs and to meet any skills gaps. Appraisals and employee development are being planned.
- o Quality training is deployed from the business strategy to meet the company's development and improvement needs. There is an employee appraisal and development system in place to identify the need for training and record its effectiveness. Quality communication is effective and visible throughout the organisation. Competence is measured and signed off to standard work methods.

We are looking for suitably qualified people to support the quality strategy. At verification, we are looking for suitably qualified people with training to support the quality processes, and how appraisals and reviews of the people and processes are carried out.

Process capability:
- o Process capability isn't used to improve quality performance.
- o Process capability has been recognised as the way to control and continuously improve product quality. No action has been taken to develop this approach.
- o Process capability has been recognised as the way to control and continuously improve product quality. Some key plant has defined process capability that statistically meets customers' requirements.
- o Process capability has been established as the way to control and continuously improve product quality. All key plant has defined process capability that statistically meets customers' requirements.

We are looking to establish how capable processes are to meet customer requirements. Some manufacturers, depending on manufactured volumes, have defined statistical process control capability studies. At verification, we wish to review statistical capability charts if you use these, or to understand the capability and quality levels of key processes if you don't.

Documents and records:
- o A few records and documents are kept. There is need to improve the control of documents and records.
- o Some records and documents are kept. There is need to improve the audit and control and ensure they are up to date. An improved system is needed.
- o Records and documents are kept and are generally in control with an odd exception. The company is operating in line with and working towards an accredited quality standard.
- o An accredited quality management system is in place and fully compliant for the control of documents and records.

The use of documents and record control as defined in the ISO 9001 QMS. At verification, we want to see examples of the documents and records used, and the management process defined in the QMS.

Traceability and non-conforming products:
- o There is no process for product traceability and management of non-conforming products.
- o There is a process for product traceability and management of non-conforming products. This process it isn't always followed.
- o There is a process for product traceability and management of non-conforming products. This process isn't part of an accredited management system. This is being addressed as part of a move towards accreditation (ISO 9001).
- o An accredited quality management system is in place and fully compliant for management of non-conforming products and product traceability.

Traceability and non-conforming products are as defined in the ISO 9001 quality management system. At verification, we would like to see how the process works, and how material traceability is managed with examples during the plant tour.

Audit:
- o No audit procedure exists.
- o Audits aren't always carried out to schedule.
- o There is a formal procedure for audit that is accurate and up to date. Management have to constantly push for conformance. More needs to be done to develop the quality culture and management have plans to address this.
- o There is a formal procedure for audit that is accurate and up to date. Records are in control without exception. Employees are actively involved in quality management and improvement activities.

It is a requirement to audit the quality procedures and processes. At verification, we wish to see an audit schedule and be updated with the current status.

Continuous improvement:
- o Firefighting tends to exist in the organisation.
- o Improvement activity is usually incident driven. Management lead and involve employees as they see fit. Improvement trends are not showing tangible improvement.
- o The organisation carries out continuous improvement activities. This is management-led and involves key people in the organisation. The management plans to roll this out across the organisation.
- o The organisation has a formal continuous improvement process (eg Kaizen). The process operates company wide. It is employee-driven, and addresses quality, cost, safety, and people performance. Improvement activity is communicated visually and there are positive improvement trends.

It is important to have a process for continuous improvement to drive cost, improve standards and push for excellence. At verification, we will wish to see the process used to continuous improvement and supporting documentation. We will look for examples of visual control during the plant visit.

----------- End of self-assessment -----------

Once you have collated all your responses, please complete the online self-assessment on the F4N online portal (*f4n.namrc.co.uk)* and submit your responses.

You will receive an initial automated rating, based on the information you have provided. Your F4N industrial advisor will then be in touch as soon as possible to arrange a visit to your company to review and verify your answers.