**Technical Support – Work Order Specification**

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| **Title: Provision of Human Factors Technical Support** |
| 1. Background to the project   ONR is the UK's independent nuclear regulatory body, with the legal authority to regulate nuclear safety, security and conventional health and safety at licensed nuclear sites in GB. This includes the existing fleet of operating reactors, fuel cycle facilities, waste management and decommissioning sites, as well as licensed defence sites (except for security, which remains within MoD’s remit, and non-safeguarded material), together with the regulation of the design and construction of new nuclear facilities. ONR also regulate the transport of nuclear and radioactive materials.  Our mission is to provide efficient and effective regulation of the nuclear industry, holding it to account on behalf of the public. In areas where the law is not prescriptive, the UK operates a goal-setting approach to nuclear safety, nuclear security and conventional health and safety. We seek to ensure the required high standards of safety and security in the nuclear sector are met. Our duty is to ensure that the nuclear industry reduces risks to workers and the public So Far As Is Reasonably Practicable (SFAIRP), controls hazards effectively and has a culture of continuous improvement.  Our regulatory structure has developed since ONR became a Public Corporation in 2014, under the Energy Act 2013, and we will continue to evolve to ensure that our functions retain a strong focus on the industry sectors we regulate. We have five divisions within the Regulatory Directorate:   * New Reactors * Operating Facilities (Operational Power Stations, Propulsion and Weapons) * Sellafield, Decommissioning, Fuel and Waste (SDFW) * Technical * Civil Nuclear Security and Safeguards   ONR is currently faced with an internal shortage of Suitably Qualified and Experienced Persons (SQEPs) in the discipline of Human Factors (HF). This is impacting the capability of the HF discipline to support inspection, assessment and other discipline specific activities. These activities require specialist HF support to inform wider ONR regulatory judgements.  Therefore, ONR is looking for ‘call-off’ HF Technical Support for a maximum of 150 days over the next 18 months, in the following areas:   * HF inspection in support of the Operating Facilities and/or Sellafield, Decommissioning, Fuel and Waste (SDFW) divisions * HF assessment in support of the Operating Facilities and/or SDFW divisions * HF assessment in support of New Build and Licensing activities * HF support to the Human and Organisational Capability Specialism. This includes support to activities such as research and maintenance of HF aspects of the regulatory framework |
| 1. SCOPE OF THE SERVICES REQUIRED   A high-level outline of the activities that may be required under each of these areas is provided below. **It is important to note that these are given as an illustration of the types of HF support that may be requested during the call-off contract and are not intended to form a definitive list of activities required.**  **Inspection Activities**  **Licence Compliance Inspection** – Individual Licence Condition (LC) compliance is inspected through planned inspections, on a sample basis according to information derived from Safety Cases and other operational intelligence. These may be combined into themed inspections as detailed below, or be combined with inspections of other relevant statutory provisions. HF SQEPs can be required to support a variety of LC Compliance Inspections, most commonly Incidents on Site (LC7), Training (LC10), Operating Rules (LC23), Operating Instructions (LC24), Control and Supervision (LC 26), Safety Mechanisms (LC 27), Examination, Inspection, Maintenance and Testing EMIT (LC 28) and Organisational Capability (LC36).  **Themed Compliance Inspections** – LC compliance may be evaluated under the framework of an over-arching themed or cross-cutting inspection, particularly where a subject of regulatory interest reads across more than a single LC. Such inspections may be cross functional in nature, drawing upon Site Inspector and specialist resource where relevant. For example, HF SQEPs can be required to support Conduct of Operations, Organisational Learning and Engineering Governance inspections.  **System Based Inspections (SBIs)** - SBIs are an essential element of ONR’s overall intervention strategy on a nuclear site and consist of a series of inspections which are intended to establish that the basic elements of a site/facility safety case as implemented in Safety Systems and Structures (SSS) are fit for purpose and that they will deliver their defined safety functional requirements. HF SQEPs can be required to provide HF support to a variety of SBIs on Safety Systems such as Reactor Post-Trip Systems, Data Processing Systems or Fuelling Machine and Decay Store.  For all Inspection activities the Technical Support Contractor (TSC) HF SQEP will be accompanied on site by an ONR Site Inspector, Project Inspector, Human Factors Inspector or other Specialist Inspector. The HF TSC will be expected to provide evidence, both verbally and in written form, to support inspection ratings and associated regulatory judgements.  **Assessment Activities**  Before ONR can permission key activities, we assess licensee Safety Cases, on a sample basis, targeting the areas of greatest risks or where hazards are least well controlled, to ensure that the licensee has demonstrated that the risks arising from these activities are reduced So Far As Is Reasonably Practicable (SFAIRP).  TSC HF SQEPs will be required to assess the HF elements of any Safety Cases and provide formal documented advice and guidance to the leading ONR HF Inspector to inform their judgement. The assessment will need to be informed by ONR Safety Assessment Principles (SAPs) and Technical Assessment Guides (TAGs) in addition to HF codes, standards and guidance considered as Relevant Good Practice (RGP).  **Assessment to Support Permissioning** - The permissioning process enables ONR to assess the activities of duty holders and to respond to duty holders who require permission to start, continue or cease specified activities under relevant legislation. Through the permissioning process, ONR exercises suitable, proportionate, targeted, regulatory oversight on such activities. Permissioning support can be undertaken at various stages of the lifecycle and frequently involves readiness inspection, where judgement is required on whether the Licensee is ready to commence an activity and compliant with relevant LCs. This can include those identified above as well as LCs 19-22.  **Assessment of Periodic Safety Reviews (PSR)** - The objective of PSR is to determine by means of a comprehensive assessment which considers the following.   * The extent to which the plant conforms to current national and/or international safety standards and operating practices. * The extent to which the safety documentation, including the licensing basis, remains valid. * The adequacy of the arrangements in place to maintain safety until the next PSR or the end of life. * Safety improvements to be implemented to resolve safety issues.   For all assessment activities the TSC HF SQEP will report the findings of their assessment (both verbally and via a report) to the ONR HF Inspector to facilitate the subsequent regulatory decision.  **New Build Activities**  ONR’s New Reactors Division regulates the nuclear new build industry from concept design to operations, applying regulatory influence to ensure that the new generation of reactors are safe and secure. There are three key elements of work in this Division.  **Support for Generic Design Assessment (GDA)** – ONR is responsible for providing a systematic design assessment of potential new reactor designs planned for operation in the UK. HF Support may be required to support the assessment of submissions by Requesting Parties for a new reactor design in advance of an application for a nuclear Site Licence being submitted. GDA is a joint process undertaken with the Environment Agency and focuses purely on the reactor design and does not consider any site specific issues  **Licensing Activities** – ONR is responsible for licensing companies that wish to construct and operate new nuclear power stations at sites in Great Britain. In support of this ONR assesses Licence applications to satisfy itself that the choice of site is suitable and that the applicant understands the hazard and risks from activities that it proposes to carry out. As above, the main focus of the TSC HF SQEP is to inform ONR HF Specialist Inspectors to enable the Inspector’s subsequent regulatory decision.  **Construction and Commissioning Activities** – ONR is responsible for regulating licensees that wish to construct and operate (commission) new nuclear power stations at sites in Great Britain. Where appropriate ONR may seek TSC HF SQEPS to support their associated Safety Case assessment and HF inspections.  **Specialism Activities**  The Human and Organisational Capability Specialism has responsibility for maintaining related elements of the Regulatory Framework. It also provides expert advice and guidance on technical and regulatory matters. As part of this work there may be a required TSC HF SQEPs to support related activities, for example, research projects, training and development or the review and development of guidance.  **Research Projects**  ONR’s objectives for research are:   * To ensure ONR has continuing access to independent scientific and technical expertise in areas where this is scarce * To identify emerging technologies with the potential to provide licensees with new ways of managing and reducing existing risks * To identify new information and understanding that might undermine existing Safety Cases * To improve ONR’s understanding of potential safety issues associated with technologies proposed for future deployment in the UK, where government has informed ONR that it has sufficient confidence that these may proceed * To enhance the efficiency and effectiveness of the nuclear regulatory system   ONR have a Regulatory Research Register on which there are a number of Human Factors related topics. There may be the requirement for TSC HF SQEP to undertake research to address these topics, with a view to providing technical expertise to underpin ONRs regulatory decision making.  **Training & Development**  There is currently a three day internal ONR Human and Organisational Factors course for non-HF Inspectors wishing to improve their general understanding and application of Human Factors in the nuclear industry. There may be opportunities for TSC HF SQEPs to assist in the delivery of these courses alongside an experienced ONR HF Inspector and to further develop material for the course in the future.  In addition, as the team of HF Specialists within ONR has grown to include a wider variety of levels of experience there is now a need for support to Continuing Professional Development across an array of relevant HF topics.  **Review and Development of Guidance**  In support of the regulatory framework, ONR produce a number of Technical Assessment Guides (TAGs) and Technical Inspection Guides (TIGs). The TAGs primarily provide guidance to ONR inspectors on the interpretation and application of the SAPs. Some also contain guidance relevant to principles underlining the enforcement of LC compliance, which supplements the TIGs. The TAGs also provide information to licensees and dutyholders regarding ONR’s expectations of the nature and content of relevant technical elements of Safety Cases and security plans. These TAGs are updated on a rolling basis and as such there may be a requirement for TSC HF SQEP support to the review of existing TAGs. |
| 1. Expected outcome/outputs   The lead ONR HF inspector for this contract will provide the prime point of contact for operation of the call off agreement with support from other HF inspectors who will provide the necessary regulatory oversight for individual work packages. However, the successful TSC must be capable of working with minimal supervision at ONR or Licensee Sites where necessary and may be required work alongside non-HF ONR personnel providing specialist HF support. The successful Contractor will be expected to demonstrate appropriate knowledge of nuclear legislation and ONR’s working practices to deliver contract outputs in line with ONR expectations.  There will be a variety of outputs depending upon the activity requested. Table 1 below outlines examples of such activities and their related output and estimated timescales. These are rough guides given only to assist in the production of a response to this Work Order Specification and should not be taken as a definitive scope of work.  **Table 1: Estimated Outputs and Timescales for Typical Activities**   |  |  |  |  | | --- | --- | --- | --- | | **Activity** | **Example Outputs** | **Estimated Effort (Days)** | **Timescales**  **(Duration in Days)** | | Inspections | Inspection/Intervention Report | 5 – 10 | 20 - 30 | | Assessment Activities | Assessment Report | 10 – 30 | 20 – 90 | | New Build Activities | Assessment Report | 15 – 90 | 30 - 300 | | Research | Research Report | 20 – 90 | 40 - 1150 | | Training and Development | Delivery of Training  Revise and Develop Training Course  Delivery of CPD sessions | 5  5 - 20  2 - 10 | 10  90  80 | | Review of Guidance | Revision and review of TAG or other guidance | 10 | 60 |   **Timescales**  The work is expected to start in October 2019 and continue for 18 months.  For each individual work package undertaken as part of the call off agreement there will a work package specification provided. For the purposes of responding to ‘call-offs’, it should be assumed that work will commence in the region of 4 weeks from the issue of the specification.  For a more detailed estimate of timescales that may be required for various activities please see Table 1 above.  **Meeting Requirements**  Following the award of the ‘call off contract’, ONR expects a formal kick-off meeting to be held between ONR and the successful Contractor. This should include an introduction of the Contractor’s team and also agree the formal arrangements for the ‘call-off’ process. This meeting will take place either at the ONR offices or the Contractor offices.  In addition to the formal kick-off meeting, it is anticipated that a short work package kick-off meeting will occur on commencement of each ‘call-off’ activity.  Brief monthly progress meetings between ONR and the Contractor should be assumed for the duration of the contract. These should be assumed to be by teleconference or videoconference; however they may be face-to-face if necessary. |
| 1. OBJECTIVES   The objective of this work is to provide ONR with additional short term HF capability to support regulatory activities. In providing this support, the TSC will provide direct support to ONR activities in the HF domain, the outputs of which will be formally documented and issued to ONR for approval. |
| 1. CONSTRAINTS   ONR will provide the initial documentation to the TSC. Requests for additional information from the licensees will need to be identified and requested by the TSC via ONR.  Written deliverables will be defined in relation to each work package and should be subject to the Contractor’s own internal QA processes to ensure high quality deliverables. At the award of contract, the Contractor shall submit to ONR the details of the assurance process to ensure its adequacy. Any exceptions to this must be by prior agreement with the lead ONR HF inspector for the specific work package.  The transmittal of all documents between ONR and the TSC will be through ONR's Joint Programme Office (JPO). This will be through encrypted email regardless of the security marking (unless the documents are publically available on the internet).  Any conflict of interest should be declared. Where a potential conflict exists, ONR will work with the Contractor to establish how this will be managed.  All information received from ONR will need to be treated in accordance with the ONR Technical Support Contact Framework agreement and non-disclosure agreement. The information or a certificate of destruction will need to be returned to ONR at the end of the contract.  Persons working on this contract shall be a minimum of SC cleared. The arrangements for security vetting and IT security established in the Technical Support Contract framework agreement will need to be followed. No information with a security marking above UK OFFICAL - SENSITIVE is anticipated as part of this contract. Most information will carry the licensee’s commercial marking.  When working in ONR offices, ONR Health and Safety arrangements shall be followed.  Whilst working on licensee sites (i.e. during inspections), all ONR and licensee Nuclear Safety and conventional Health and Safety arrangements shall be adhered to. |
| 1. CONTRACT MANAGEMENT   ONR shall be kept updated about progress and delivery of the required work in accordance with the Framework arrangements. This should include meetings as detailed in Section 3 under ‘meeting requirements’.  The TSC should agree with ONR appropriate and proportionate milestones during each work package to allow progress to be monitored and controlled. |
| **TECHNICAL RESPONSE** |
| 1. Response   The Technical Response must demonstrate a clear understanding of the work required and should:   * Clearly address all aspects of the specification identifying how they would meet the requirements and timings for a HF call off contract (including objectives, scope and constraints) * Clearly identify proposed team of named individuals (including details of relevant experience and qualifications) against the different types of activities that may be requested * Detail any limitations of availability of proposed individuals * Demonstrate both the depth and breadth of capabilities across the activities outlined within this specification * Provide an overview of any prior experience with ONR * Provide an outline of anticipated engagement with ONR (including project meetings & management) * Provide a clear strategy for ensuring ONR is kept informed of changes to availability of key individuals * Detail any assumptions or other constraints, including any potential conflict of interest |