**1. LEADERSHIP AND MANAGEMENT FOR SAFETY**

**1.1. Leadership for safety**

*How are leadership activities developed within the organization? How are managers trained, coached and assessed to improve leadership skills? [GSR Part 2 Requirement 2; 3.1]*

*How do leaders communicate the safety policy - and associated safety objectives and goals - to staff and interested parties? [SSR-2/2 Requirement 5; 4.2] [GSR Part 2 Requirement 2; 3.1] [GS-G-3.1; 5.26, 5.27]*

*How is it ensured that managers are regularly in the field to assess and discuss conduct of work and compliance with management expectations and objectives?* *[NS-G-2.4; 6.33] [GS-G-3.1; 2.16, 3.6, 6.12]*

*How are managers at all levels involved in field activities?* *[GSR Part 2 Requirement 14; 5.4] [SSR-2/2 Requirement 9; 4.35] [GS-G-3.1; 2.36, 3.6] [GS-G-3.5; 2.15, Appendix I(2)(d)]*

*How do managers and leaders demonstrate shared values and expectations, and support attitudes and behaviours that result in a sustainably strong safety culture?* *[SSR-2/2 Requirement 5; 4.1, 4.2] [GSR Part 2 Requirement 2; 3.1] [GS-G-3.1; 2.35, 3.2, 3.3] [GS-G-3.5; 2.15, 2.33, 3.12(b), 3.23]*

*How are managers and leaders using feedback on safety performance within their area of responsibility, and sharing this information across the organization to ensure continuous improvement?* *[SSR-2/2 Requirement 5; 4.4]*

*How are managers and leaders encouraging an open reporting culture and a readiness to challenge acts or conditions that are adverse to safety? [GSR Part 2 Requirement 2; 3.2, 3.6] [GS-G-3.1; 2.18, 2.36, 2.46, 3.10, 4.3, 6.9, 6.15, 6.34, 6.53, 6.61, 6.62, 6.69] [GS-G-3.5; 2.4, 2.26, 2.29(k), 3.13, 3.14(e), 3.21(e), 3.22(d)(e)]*

*How do management respond to constructive criticism and feedback from plant staff? [GS-R-3; 6.17, 6.18] [GS-G-3.1; 2.18, 2.36, 3.17, 6.59, 6.78, 6.82] [NS-G-2.4; 6.68, 8.1, 8.3] [INSAG-15; 3.4, 3.6]*

*How are managers and leaders developing a shared understanding of risks to safety, and supporting employees to achieve safety and improve safety performance? [GS-G-3.1; 2.5, 2.11, 2.13, 2.34, 4.12] [GS-G-3.5; 2.8, 2.11, 2.12, 2.19, 2.34, 3.15(d), 3.19]*

*How do senior managers show that they are committed to establishing a strong nuclear safety policy? [SSR-2/2 Requirement 5; 4.2] [NS-G-2.4; 5.6-5.11] [GS-R-3; 2.1-2.3] [GS-G-3.1; 3.1, 3.12] [INSAG-15; 3.1]*

*How do managers support and reinforce the safety policy, goals and objectives in day-to-day activities? [SSR-2/2 Requirement 5; 4.3] [NS-G-2.4; 5.6-5.11]*

*How do managers lead by example and demonstrate a motivation to improve plant performance and achieve the established safety goals and objectives? [SSR-2/2 Requirement 5; 4.2] [NS-G-2.4; 3.10, 3.20, 3.21, 5.11, 5.20, 8.1] [GS-G-3.1; 3.3, 3.6, 3.12]*

*How are decisions that are important to safety reviewed before being made?* *[SSR-2/2 Requirement 1; 3.2(c), Requirement 8; 4.32] [GSR Part 2 Requirement 7; 4.10] [GS-G-3.1; 2.8, 6.10] [GS-G-3.5; 2.10]*

**1.2. Integrated management system**

*How does the organization ensure that safety is the overriding priority?* *[SSR-2/2 Requirement 5; 4.1-4.5] [GS-R-3; 2.2] [GS-G-3.1; 3.10-3.24] [NS-G-2.4; 5.6-5.11]*

*How are arrangements for legal or regulatory requirements defined, understood and implemented? [SSR-2/2 Requirement 1; 3.3] [GS-G-3.1; 3.9] [GS-G-3.5; 3.6]*

*How is it ensured that all aspects of the plant programme for safe operation are covered in administrative procedures? [SSR-2/2 Requirement 8; 4.26] [NS-G-2.4; 3.1, 3.2] [INSAG 15; 3.2] [GS-R-3; 2.8-2.10, 5.11-5.13] [GS-G-3.1; 2.1-2.6]*

**1.2.1. Generic aspects**

*How is it ensured that all elements of management - including safety, health, environmental, security, quality, social and economic elements - are integrated in the management system? And how is it ensured that safety is not compromised?* *[SSR-2/2 Requirement 2; 3.4-3.6, Requirement 17; 5.1] [GS-G-3.1; 2.1-2.6, 2.36 2nd to last bullet point, 2.38, 2.46, 3.10, 3.11, 4.27, 5.3] [GS-G-3.5; 2.17, 3.20, 5.6(2)(e)]*

*How is the management system developed, implemented and kept up-to-date?* *[GS-R-3; 6.7-6.10] [GS-G-3.1; 2.22-2.24, 3.2, 3.18-3.20] [GS-G-3.5; 3.29, 3.30, 5.4-5.6]*

*How do managers foster and encourage the involvement of all individuals within the organization in the implementation and continuous improvement of the management system? [GS-G-3.1; 2.18, 4.2, 6.15, 6.54, 6.69] [GS-G-3.5; 6.66(b)]*

*How do managers demonstrate commitment to the establishment, implementation, assessment and continuous improvement of the management system?* *[SSR-2/2 Requirement 2, Requirement 5; 4.5] [GS-G-3.1; 3.6, 3.7, 4.3, 5.8, 6.1-6.10, 6.17, 6.18] [GS-G-3.5; 3.9, 3.13, 3.14, 3.22(d)(e), 6.66]*

*How is the management system reviewed and monitored? Which aspects are covered, and which measurement tools are applied?* *[GS-G-3.1; 6.4, 6.7-6.10, 6.17, 6.18, 6.22-6.30] [GS-G-3.5; 6.69]*

*How is the effectiveness of the management system and its processes monitored and measured, and how are identified issues remedied? How are the risks to safety assessed? [SSR-2/2 Requirement 9; 4.33, 4.34] [GSR Part 2 Requirement 9; 4.31, 4.32] [GS-G-3.1; 2.23, 2.54, 5.9, 5.14, 5.18, 5.51, 5.55, 6.3, 6.30, 6.47] [GS-G-3.5; 5.6, 6.6, 6.9]*

*How is risk assessment integrated in the management system? [NS-G-2.4; 5.12, 5.13] [GS-G-3.1; 2.21, 2.26, 5.58, 5.63, 5.71] [INSAG-13; 29-33]*

**1.2.2. Responsibilities of the operating organization**

*Who has prime responsibility for safety (license holder), and how is this responsibility for safety discharged?* *[SSR-2/2 Requirement 1; 3.1]*

*What are the responsibilities of senior managers?* *[GSR Part 2 Requirement 1; 2.1] [SSR-2/2 Requirement 1; 3.1] [GS-G-3.1; 3.1, 3.2]*

**1.2.3. Operating organization structure**

*What is the organization structure? How are responsibilities and accountabilities defined and documented in the management system? [SSR-2/2 Requirement 1; 3.1, 3.2, 3.6, Requirement 3; 3.8, 3.9] [NS-G-2.4; 2.12, 2.14] [GS-G-3.1; 2.14, 2.28, 2.31, 2.54, 2.57, 2.61, 2.62, 3.5] [GS-G-3.5; 2.3]*

*Does the management system collate information (in organizational charts, etc.) that demonstrates the extent to which the support functions are self-sufficient or dependent upon services from outside the plant organization? [SSR-2/2 Requirement 3; 3.8] [NS-G-2.4; 2.11]*

*How are the responsibilities and authority of the safety related committees defined? What is the interface between these committees and plant governance functions (e.g. are these interfaces described in the management system/presented in the plant organizational chart)? [GS-G-3.1; 2.28]*

**1.2.4. Policies, goals and objectives**

*What are the policies, goals and objectives of the organization? How do they support safety? [SSR-2/2 Requirement 1; 3.2] [GSR Part 2 Requirement 5; 4.3, 4.4] [GS-G-3.1; 2.4, 2.14, 2.52-2.54, 3.10-3.12, 4.11, 4.22] [GS-G-3.5; 3.10-3.24]*

*How do the policies, goals and objectives of the organization support management efforts to follow safety standards and fulfill expectations? [SF-1 Principle 3] [GSR Part 2 Requirement 5; 4.3]*

*Are established policies, goals and objectives realistic, measurable, challenging and limited in number to prevent dilution of effort in their achievement? [GS-R-3; 3.8-3.10] [GS-G-3.5; 3.25]*

*How are relevant policies, goals and objectives established in appropriate departments to support plant management policies, goals and objectives?* *[NS-G-2.4; 3.19-3.23, 5.6, 5.7] [GS-G-3.1; 2.7, 3.10, 3.11]*

*How are managers and supervisors held accountable for the achievement of assigned objectives? [NS-G-2.4; 3.24]*

*How do managers routinely review and record progress towards accomplishment of policies, goals and objectives? [SSR-2/2 Requirement 5; 4.1, 4.2, 4.4] [NS-G-2.4; 3.22, 5.17-5.22, 6.46-6.50] [GS-G-3.1; 3.2, 3.11, 3.13, 6.4, 6.19, 6.45, 6.48]*

*To what extent do managers at different levels in the organization conduct routine meetings to review progress in achieving goals and objectives? [GS-G-3.1; 3.11, 6.19, 6.45, 6.48]*

**1.2.5. Resources and staffing**

*How is it ensured that senior managers have the necessary experience and knowledge to manage the safe operation of the power plant?* *[SSR-2/2 Requirement 1; 3.2, SSR-2/2 Requirement 4; 3.10] [NS-G-2.8; 3.31]*

*How and by whom are the necessary staffing, (human and other) resources and capabilities determined and provided in order to carry out the activities of the organization (including outside normal working hours), while taking into account safety priorities? How are resources necessary to maintaining safe operation assessed and provided? [SSR-2/2 Requirement 4; 3.10-3.12, Requirement 7; 4.16-4.18] [GS-G-3.1; 2.23, 2.42, 3.4, 3.5, 3.11, 3.12, 4.1, 4.2, 4.5, 4.26, 5.8] [GS-G-3.5; 2.14, 4.17, 5.43, 6.3(b)(c)] [NS-G-2.8; 2.1, 2.2, 2.5] [NS-G-2.4; 2.3, 3.7, 4.8, 5.10, 6.2, 6.11-6.15, 6.29, 6.30]*

*How does corporate management ensure that the resources it sets aside for the plant are sufficient to enable it to respond to plant problems and plant requests for assistance? [NS-G-2.4; 2.3, 2.11] [GS-G-3.1; 3.12, 4.1, 4.2]*

*How does senior management ensure that all individuals, including themselves, are competent to perform their work, knowledgeable of the management system requirements and fully aware of the importance of their activity as regards safety?* *[SSR-2/2 Requirement 4; 3.10, 3.11, Requirement 7; 4.16-4.18] [GS-G-3.1; 2.11, 2.21, 2.36, 4.8-4.25] [GS-G-3.5; 3.19-3.21] [NS-G-2.8; 3.31-3.35]*

*How is the staffing policy used in order to retain a pool of experienced and knowledgeable staff? [SSR-2/2 Requirement 4; 3.11] [GS-G-3.1; 4.1, 4.2, 4.6, 4.7, 5.60] [NS-G-2.4; 2.7]*

*How are the necessary competences identified, developed and maintained in the organization, including for contractors?* *[SSR-2/2 Requirement 3; 3.10, 3.11, Requirement 7; 4.16-4.18] [GS-G-3.1; 2.61, 4.2, 4.6-4.8, 4.18, 5.60] [GS-G-3.5; 4.17] [NS-G-2.4; 6.16-6.21]*

*How are long-term staffing policy objectives and succession planning for human resources established and maintained?* *[SSR-2/2 Requirement 4; 3.10, 3.11] [NS-G-2.8; 2.2, 4.1, 4.4, 4.11] [GS-G-3.1; 4.2, 4.3, 4.7] [NS-G-2.4; 6.11, 6.14]*

*To what extent is an effective fitness-for-duty policy established and maintained, with appropriate administrative procedures in place?* *[SSR-2/2 Requirement 4; 3.13, Requirement 8; 4.29] [NS-G-2.8; 2.10, 2.13, 3.12, 3.40, 7.10]*

*What are the arrangements in the management system regarding the supply of items, products and services? How are they implemented?* *How does the licensee ensure his responsibility when receiving items, products and services?* *How are the requirements and principles for safety-grading communicated to suppliers?* *[SSR-2/2 Requirement 2; 3.6, Requirement 13; 4.49] [GSR Part 4 Requirement 1; 3.1-3.7] [GS-G-3.1; 5.50, 5.51] [GS-G-3.5; 4.3-4.6, 5.35-5.37]*

*How is a strong safety culture demonstrated in the procurement process? [NS-G-2.4; 3.13, 3.17, 4.5-4.10] [GS-G-3.1; 2.10]*

*How are safety related activities analyzed, planned, carried out and controlled to ensure that risks are minimized? How are the results of risk assessments incorporated into work instructions or control documentation associated with planned activities?* *[SSR-2/2 Requirement 2; 3.5, Requirement 8; 4.25-4.28] [NS-G-2.4; 5.12, 5.16] [GS-G-3.1; 2.21, 2.26, 5.9, 5.58, 5.63, 5.66, 5.71] [GSR Part 2] [GS-G-3.5; 3.21, 5.56, 5.57, 5.62-5.72]*

**1.3. Non-radiation-related safety programme**

*How are non-radiation risks and radiation risks integrated in the risk assessment process?* *[SSR-2/2 Requirement 23; 5.26] [NS-G-2.4; 5.12, 5.13, 6.56]*

*How are the non-radiation-related safety policy, programme and procedures defined and documented?* *[SSR-2/2 Requirement 23; 5.26] [NS-G-2.4; 6.2, 6.56] [GS-G-3.5; 5.73-5.77, 5.81]*

*How are responsibilities assigned for non-radiation-related safety supervision?* *[GS-G-3.5; 5.73-5.77]*

*How are the non-radiation-related safety programme and procedures reviewed and evaluated?* *[NS-G-2.8; 5.40] [NS-G-2.4; 6.56]*

*How are the organizational structure, duties, responsibilities and lines of authority of the non-radiation-related safety officers described?* *[GS-G-3.5; 2.3]*

*How are plant staff and contractors trained on non-radiation-related safety?* *[SSR-2/2 Requirement 23; 5.26] [NS-G-2.4; 6.56] [NS-G-2.8; 4.27]*

*How is the non-radiation-related safety programme assessed?* *[NS-G-2.11; 6.2, 6.4] [GS-G-3.5; 5.75, 6.8(e)]*

*How do non-radiation-related safety performance indicators align with the organization’s objectives, and how are they monitored?* *[GS-G-3.1; 3.16, 5.17, 5.32, 5.33] [GS-G-3.5; 6.3, 6.6]*

*How are minor non-radiation-related safety incidents and near-misses captured and analysed? How does the system encourage reporting of industrial safety hazards and violations of non-radiation-related safety requirements?* *[SSR-2/2 Requirement 24; 5.27-5.31] [NS-G-2.4; 5.5, 6.64, 6.68] [GS-G-3.5; 5.75-5.77]*

*How are non-radiation-related safety aspects addressed in pre-job briefings?* *[NS-G-2.6; 5.15] [NS-G-2.14; 4.27, 4.28]*

*How is the non-radiation-related safety programme integrated with the nuclear and radiation safety programmes? [SSR-2/2 Requirement 23; 5.26]*

*How are safety rules, procedures and instructions adhered to in the field and other workplaces? [SSR-2/2 Requirement 23; 5.26] [NS-G-2.4; 2.2, 3.6] [NS-G-2.14; 2.19]*

*How is the material condition of (industrial) safety equipment monitored? How is the surveillance programme for testing all non-radiation-related safety hardware defined and implemented?* *[SSR-2/2 Requirement 28; 7.10] [NS-G-2.14; 6.21-6.23] [NS-G-2.6; 4.26] [GS-G-3.5; 5.26-5.30]*

*How is the industrial safety programme documented in the management system? What procedures are in place to support the programme? [SSR-2/2 Requirement 23; 5.26] [NS-G-2.4; 6.56] [GS-R-3; 5.6-5.10]*

*What system is in place to encourage reporting of industrial safety hazards and violations of industrial safety requirements?* *[NS-G-2.4; 5.5, 6.61-6.71] [NS-G-2.8; 5.41]*

**1.4. Document and records management**

*How is the control of documentation, records and reports established and implemented?* *[SSR-2/2 Requirement 15; 4.52] [GS-G-3.1; 5.24-5.28, 5.35-5.49] [NS-G-2.4; 6.75, 6.76]*

*What is the process for issuance, validation, approval, dissemination, review and periodic updating of documentation, records and reports?* *[NS-G-2.4; 6.75, 6.76, 7.13]*

*How are documentation, records and reports managed, e.g. by categorization according to their importance to safety, indexation, filing, correcting records or inserting supplements? How are the different storage facilities for safety records appropriate for permanent retention of all the different types of storage media (radiographs, photographs, microfilm and magnetic tapes)? How is this storage organised, e.g. concerning accessibility and periodic checks, to ensure that documentation is not deteriorating or missing? How are retention times identified and controlled?* *[SSR-2/2 Requirement 15; 4.52] [NS-G-2.4; 6.75, 6.76]*

*What are the conditions for the storage of safety related records for permanent retention so as to prevent deterioration (fire protection, security, environmental conditions, duplication of records and separate storage, etc.)?* *[GS-G-3.1; 5.39-5.41, 5.44, 5.47, 5.48]*

**1.5. Interfaces and relationships**

**1.5.1. Interfaces within the operating organization**

*How are the interfaces within the operating organization defined in the management system?* *[GS-R-3; 3.6] [GS-G-3.1; 2.10, 2.30, 2.31] [GS-G-3.5; 5.6(3)(d), 5.49(c), 5.82(c), 5.8(b)(f), 5.91(f), 5.95(b), 6.6(f)]*

*What are the arrangements in the management system for considering the safety impacts of the whole range of human-technology-organization interactions that play out within the operating organization?* *[GSR Part 2 Requirement 2, Requirement 14; 5.4] [GS-G-3.5; 2.32, 2.35-2.37]*

*How do managers across departments, hierarchies and functional areas meet to exchange information that is relevant to safety?* *[SSR-2/2 Requirement 5; 4.2, 4.3, Requirement 8; 4.28, Requirement 18; 5.7, Requirement 32; 8.23] [GS-G-3.1; 2.10, 2.29, 2.56, 5.52-5.55] [NS-G-2.4; 2.7, 2.9(14), 2.12, 6.31, 6.53, 8.1-8.4]*

*How are new processes, changes to existing processes/projects/organizations, or the cumulative effects of a series of organizational changes, analysed with regard to their real or potential impact on safety, and how are they managed? How are the final changes communicated and monitored?* *[SSR-2/2 Requirement 3; 3.9, Requirement 11; 4.39] [GS-G-3.1; 2.22, 2.46, 3.16, 5.56-5.71, 6.5, 6.25, 6.77] [GS-G-3.5; 3.23, 5.40-5.72, 6.68] [NS-G-2.3; 3.13, 5.3, 5.5, 7.1, 8.1-8.3] [NS-G-2.4; 5.15] [NS-G-2.8; 2.2]*

*What is the plant policy with respect to contractors, taking into account the primary responsibility of the operating organization for the safety of the plant? How are on-site contractor activities effectively specified, monitored, controlled and coordinated by the plant?* *[SSR-2/2 Requirement 1; 3.1, Requirement 2; 3.6] [NS-G-2.4; 4.8, 4.9] [NS-G-2.6; 3.6-3.9, 4.32, 5.24] [GS-G-3.1; 2.18, 2.31, 2.49, 5.18-5.23, 6.10]*

*How are multifunctional tasks identified to avoid conflicting demands?* *[SSR-2/2 Requirement 1; 3.2] [NS-G-2.4; 6.35, 6.56] [GS-R-3; 5.5] [GS-G-3.1; 5.2, 5.58]*

*How is coordination maintained between different plant groups, between the site organizations and contractors, and between different nuclear facilities?* *[NS-G-2.4; 3.2(5)(9), 4.5-4.10] [GS-R-3; 5.5, 5.7] [GS-G-3.1; 2.31, 6.3]*

*How are departmental interfaces analyzed to evaluate and improve the efficiency of the entire organization? [NS-G-2.8; 5.3, 5.17] [NS-G-2.6; 4.23] [NS-G-2.4; 2.9(11), 6.64, 7.5]*

**1.5.2. Interfaces with the corporate organization**

*How are the interfaces with the corporate organization defined and understood at the plant? [SSR-2/2 Requirement 3; 3.8] [NS-G-2.4; 7.1-7.10] [GS-G-3.1; 2.28-2.31]*

*How is the clear division between the responsibilities and authority of the corporate entity and those of the plant managed and documented? [SSR-2/2 Requirement 3; 3.8] [NS-G-2.4; 3.2, 3.3, 3.18] [GS-G-3.1; 2.28-2.31]*

*How does the plant get support from the corporate organization? How does the corporate operating organization monitor the plant operating and support functions, review the safety performance of the plant and provide assistance to the plant? [NS-G-2.4; 3.2, 3.21, 3.22, 5.5, 5.17-5.20] [GS-G-3.1; 6.6]*

**1.5.3. Interface with external organizations/interested parties**

*How are process sequences and interfaces with external organizations (stakeholders/interested parties) defined in the management system?* *[GS-R-3; 3.6] [GS-G-3.1; 2.10, 2.30, 2.31] [GS-G-3.5; 5.6(3)(d), 5.49(c), 5.82(c), 5.85(b)(f), 5.91(f), 5.95(b), 6.6(f)]*

*What is the scope of staff services provided from outside the operating organization and where are they defined in the management system? To what extent is there a clear division of responsibilities and authority between all parts of the operating organization and relevant outside organizations? How are the materials and services supplied by external organizations assessed to ensure they are fit for purpose? [SSR-2/2 Requirement 1; 3.2, 3.6, 3.8, Requirement 5; 4.3, Requirement 7; 4.20, Requirement 24; 5.32] [GS-G-3.1; 2.28, 4.2]*

*How does the organization ensure that suppliers demonstrate commitment to safety, and that the work practices and standards of the supplier are in line with those at the plant? [GS-G-3.5; 4.7]*

*How does the plant interact with the regulatory body? [SSR-2/2 Requirement 2; 3.7] [NS-G-2.4; 4.1-4.4] [GS-G-3.1; II.13]*

*What arrangements are in place to ensure that regular discussions are held between the regulator and plant management on plant safety related issues?* *[SSR-2/2 Requirement 2; 3.3, 3.7] [NS-G-2.4; 4.3, 8.4] [GS-G-3.1; 3.9] [NS-G-2.4; 4.3]*

*How is senior management ensuring effective and timely communication with the public and other interested parties about the operation of its facility or the conduct of an activity?* *[GSR Part 2 Requirement 2; 3.3] [GS-G-3.1; 5.52-5.55, 5.64] [GS-G-3.5; 3.7]*

*How and by whom is the public informed on plant status and hazards, if any such communication is needed? To what degree is commitment to safety publicly declared?* *[NS-G-2.4; 3.2(4), 8.4]*

*What are the arrangements for getting interested parties to provide feedback that is relevant to safety, in order to take appropriate actions and monitor the effects of their implementation?* *[GS-G-3.1; 6.47] [GS-G-3.5; 3.8, 3.9]*

**1.5.4. Communication**

*Is an effective communication system established at all levels of the operating organization? [GS-R-3; 5.26, 5.27] [SSR-2/2 Requirement 1; 3.2, Requirement 3; 3.8] [GS-G-3.1; 2.10, 2.29, 2.36, 2.56, 4.10, 4.15, 5.52-5.55] [NS-G-2.4; 2.7, 2.9(14), 2.12, 6.31, 6.53, 8.1-8.4]*

*How are the safety policy and associated policies, goals and objectives communicated to staff and interested parties? [SSR-2/2 Requirement 5; 4.2, 4.3] [GSR Part 2 Requirement 2, Requirement 3] [GS-G-3.1; 5.26, 5.27]*

*Has the organization identified ‘interested parties’? How are senior managers ensuring effective and timely communication and dissemination of relevant information to these interested parties?* *[SSR-2/2 Requirement 5; 4.3] [GSR Part 2 Requirement 2; 3.3, Requirement 6; 4.6-4.8] [GS-G-3.1; 3.16, 4.7, 5.26, 5.52, 5.54, 5.55, 5.64] [GS-G-3.5; 3.5, 3.7, 3.8, 3.21, 5.44]*

*Which types of communication are used at different levels of the operating organization, and what is communicated?* *[SSR-2/2 Requirement 5; 4.2, 4.3, 4.28, 5.7, 8.23] [GS-G-3.1; 2.10, 2.29, 2.56, 5.52-5.55] [NS-G-2.4; 2.7, 2.9(14), 2.12, 6.31, 6.53, 8.1-8.4]*

*In what way is the effectiveness of communications monitored, assessed and continuously improved based on information collected?* *[GS-G-3.1; 5.55] [NS-G-2.4; 8.5]*

*How does management ensure that its expectations are clearly understood?* *[SSR-2/2 Requirement 5; 4.2] [NS-G-2.4; 5.9, 8.1]*

*What are the mechanisms for plant staff to report safety concerns to plant management?* *[GS-G-3.1; 2.18, 2.36, 4.3, 6.1, 6.15, 6.53, 6.55, 6.59, 6.61, 6.62, 6.69] [GS-G-3.5; 2.4, 2.26, 2.29(k), 3.14(e), 3.21(e)] [NS-G-2.4; 8.3]*

*How are approved changes communicated to those affected?* *[GS-G-3.1; 5.55] [NS-G-2.4; 8.5]*

**1.6. Graded approach**

*How is grading used in the management system?* *[GSR Part 2 Requirement 8] [GSR Part 4 Requirement 1; 3.1]*

*Which criteria are used for grading, and how are these criteria documented in the management system? [GSR Part 2 Requirement 8; 4.16] [GSR Part 4 Requirement 1; 3.2-3.7]*

**1.7. Human factors management**

*How is human performance analyzed, and how are results applied to improve the efficiency of the organization?* *[NS-G-2.8; 5.3, 5.17] [NS-G-2.6; 4.23] [NS-G-2.4; 2.9(11), 6.64, 7.5]*

*How are human performance tools used to enhance safe performance?* *[SSR-2/2 Requirement 8; 4.29]*

*How does management monitor and reinforce expected personnel behaviours?* *[GS-R-3; 1.3, 3.2, 3.3] [GS-G-3.1; 2.17, 2.34-2.36, 3.6-3.8, 4.14, 6.7]*

*How does the individual performance appraisal system contribute to the achievement of established safety goals and objectives? In what way does the performance appraisal system include assessments of behaviours? [NS-G-2.4; 2.9(12), 3.24] [GS-G-3.1; 4.3]*

**(Questions to be added)**

**1.8. Continuous improvement/learning organization (monitoring and assessment)**

*How are senior managers involved in the monitoring of safety performance? [SSR-2/2 Requirement 9; 4.35] [NS-G-2.4; 3.8, 3.10, 3.20-3.22, 5.17] [GS-G-3.1; 6.16]*

*Does management have a clear and consistent understanding of the most important strengths and weaknesses of the plant? [GS-G-3.1; 6.2, 6.6, 6.17-6.19, 6.25, 6.72]*

*How do managers monitor activities in their areas, and what responsibilities do they have for corrective actions and achievement of high quality performance? [NS-G-2.4; 6.16, 6.61] [GS-R-3; 6.2, 6.14] [GS-G-3.1; 3.18, 6.14, 6.19, 6.32, 6.50-6.58, 6.66-6.75] [GS-G-3.5; 6.3, 6.19, 6.23, 6.42]*

*Which indicators are in place to provide a clear picture of safety performance? How are they documented, reviewed, trended, communicated and evaluated in order to continuously improve plant safety performance? [SSR-2/2 Requirement 9; 4.34, 4.37] [GS-G-3.1; 2.36, 5.31-5.33, 6.4, 6.8, 6.9, 6.69] [NS-G-2.4; 5.20, 5.21] [GS-G-3.5; 6.21-6.23]*

*How does the audit and review system monitor and evaluate safety performance? [SSR-2/2 Requirement 9; 4.33-4.34] [NS-G-2.4; 5.17-5.20] [GSR Part 2] [GS-G-3.1; 6.3, 6.18, 6.23-6.25, 6.32]*

*How is the self-assessment programme established and implemented to continuously improve safety performance?* *[SSR-2/2 Requirement 9; 4.34] [GS-R-3; 6.2] [GS-G-3.1; 6.1-6.30, 6.32] [GS-G-3.5; 6.1, 6.2, 6.4-6.23, 6.26-6.39] [NS-G-2.4; 5.17-5.22, 6.48]*

*How are external/independent assessments applied to improve safety performance? [SSR-2/2 Requirement 9; 4.34] [GS-G-3.1; 6.1-6.30] [GS-G-3.5; 6.4, 6.6-6.23, 6.26-6.39] [NS-G-2.4; 5.17-5.22]*

*To what extent is the safety performance of the operating organization regularly compared with that of similar organizations?* *[GS-G-3.1; 6.19, 6.47] [GS-G-3.5; 3.30, 6.27-6.30]*

*What opportunities are given to managers and plant personnel to look outside their organization in order to learn from best practices?* *[GS-R-3; 6.8, 6.16] [GS-G-3.1; 6.8, 6.16] [GS-G-3.5; 3.30, 4.12, 6.23] [NS-G-2.11; 2.5, 3.9, 7.6]*

*How are non-routine activities assessed, approved and carried out?* *[SSR-2/2 Requirement 8; 4.27]*

*How are ad-hoc review groups established to manage specific safety related issues or problems? [NS-G-2.4; 6.46, 6.47]*

*How does the organization ensure that managers are aware of the results of audits and oversight monitoring activities, and use the results of those activities to improve safety? [SSR-2/2 Requirement 9; 4.33] [GS-G-3.1; 6.8, 6.39]*

*How are the causes of non-conformances and other safety issues identified and analyzed for their potential consequences? How are corrective and preventive actions taken? How is the effectiveness of these preventive and corrective actions monitored and reported?* *[SSR-2/2 Requirement 9; 4.37] [GSR Part 2 Requirement 9; 4.33] [GS-G-3.1; 6.11-6.16] [GS-G-3.5; 6.44-6.60] [NS-G-2.4; 5.22]*

*How does the operating organization retain “corporate memory” of why and how improvements have been made, e.g. in case of major plant modifications? [NS-G-2.3; 11.6]*

*How are new or emergent management and performance concerns taken into account? [GS-G-3.1; 6.22]*

*How does the organization learn from internal and external operating experience?* *[GSR Part 2 Requirement 13; 4.50] [GS-G-3.1; 2.46, 4.13, 6.2] [GS-G-3.5; 6.61, 6.62]*

*What mechanisms are in place to involve staff in contributing ideas for improvement? [GS-R-3; 3.4, 6.17, 6.18] [GS-G-3.1; 6.1, 6.14, 6.51, 6.52, 6.82, 6.83] [GS-G3.5; 2.26, 3.1]*

*How are managers and supervising personnel trained to recognize and diagnose problems, to formulate and implement solutions, and to make adjustments as required by experience?* *[GS-G-3.1; 4.10-4.25, 6.50-6.77] [NS-G-2.8; 5.11-5.15]*

*How are plant personnel encouraged to share ideas with their peers and to carry out evaluations of their own working practices and performance?* *[GS-G-3.1; 4.3, 6.1, 6.3, 6.12-6.19] [GS-G-3.5; 6.8-6.20]*

*What mechanisms are provided to enable experience and ideas to be transferred within the operating organization? [GS-G-3.1; 6.45, 6.82, 6.83] [GS-G-3.5; 2.18, 2.26, 4.14]*

*Is a knowledge management system established and does it include identified information and data that need to be collected, processed and made available for the management of safety? [NS-G-2.4; 5.17, 5.18] [GS-R-3; 6.3] [GS-G-3.1; 6.3, 6.18, 6.23-6.25, 6.32]*

**1.9. Safety culture**

*How does the organization ensure that safety is the overriding priority?* *[SSR-2/2 Requirement 5; 4.1-4.5] [GS-G-3.1; 3.10-3.24] [NS-G-2.4; 5.6-5.11]*

*How do all individuals in the organization contribute to promoting and fostering a strong safety culture?* *[GSR Part 2 Requirement 14; 5.2] [GS-G-3.1; 3.2-3.5, 3.7] [GS-G-3.5]*

*How are desired and expected attitudes and behaviours supported by the management system? [GSR Part 2 Requirement 14; 5.1, 5.2] [GS-G-3.1; 2.32-2.36] [GS-G-3.5; 2.15, 2.29, 2.33, 2.34, 2.36]*

*How are the following developed: shared values for safety, behavioural expectations, and an acceptance of responsibilities for safety? [SSR-2/2 Requirement 5; 4.1-4.5] [GSR Part 2 Requirement 2; 3.1] [GS-G-3.1; 3.2]*

*How does the organization ensure that its managers and workforce understand and discharge their responsibility for safety?* *[SF-1 Principle 1] [GSR Part 2 Requirement 2; 3.1] [GS-R-3; 3.1]*

*How is safety culture assessed? How are assessments analyzed, communicated to staff and acted upon?* *[GSR Part 2 Requirement 15; 5.5-5.7] [GS-G-3.1; 6.3, 6.7-6.11] [GS-G-3.5; 6.35-6.39]*

*What authority and responsibility is given to each individual or team to stop and review safety before starting a piece of work or beginning to carry out a procedure?* *[INSAG-15; 3.3] [GS-R-3; 3.12-3.14] [GS-G-3.1; 2.15, 2.31]*

*How are plant staff encouraged to challenge potentially unsafe practices and identify deficiencies, wherever and whenever they encounter them? [GS-R-3; 2.5] [GS-G-3.1; 2.15-2.19]*

*How are personnel encouraged to acknowledge errors and seek help when needed? [SSR-2/2 Requirement 24; 5.31] [GS-G-3.1; 2.18, 6.51-6.54, 6.59]*

*How is conservative decision-making used as a common approach to safety related matters?* *[INSAG-15; 3.3] [GS-G-3.1; 2.5, 2.36, 4.10, 5.2]*

FACTs Requirements:

September 2016

Format

* Date format: 8 June 2016 (DD MM YYYY)
* Use The Plant instead of The Station
* Do not include procedure number , but the name of the procedure, such as the Working instruction to calibrate the pressure transmitter 1XXX
* Numbering (no numbering, use – as in this format
* Spell out all the abbreviations, such as: Main Control Room (MCR), and consistent throughout the report
* Use English words in the report, no local language words in the report

Exchange with the Counterpart

* Every night, write the facts in the format as specified (refer to the examples below)
* Save it on the last page of your Working Notes Outline
* You will have a printed out copy of the facts in your tray before lunch and you can give the facts to your counterpart for verification
* Revise the facts with the inputs from discussions with your counterpart, and finalize the facts.
* Make sure your counterparts understand the potential safety consequence of your facts (ask yourself so what)
* When you have enough facts for a theme, develop the issue per the example of issue and give it to team leader and deputy team leader early

Facts (for reference only, please delete it and add you own)

**Maintenance Work Practices**

* Work on Essential Service Water (ESW) pump C outlet venting Valve (1EF-V0054)
  + Floor grates at the worksite were not covered with canvas to prevent small items from falling through to the floor below.
  + Wrenches, spanner, bolts and nuts in plastic bags and lubricants for bolts were placed on the Pump inlet pipe with the potential to slip off.
  + The plastic bag containing bolts and nuts was broken during the work, and the bolts and nuts fell through the floor grates down to the floor below.
  + A soft Foreign Material Exclusion (FME) cover was used as bag for used bolts and nuts.
  + The worksite was not fenced off.
  + The above situations were not challenged by the three workers within the group.
* The pre-job brief for the test of the Load Shedding Sequencer logic check for 3.3kV essential electrical board 3 was not conducted in a structured manner as outlined in the Green Card Brief. Although most of the elements were covered, key points were not emphasized in a concise manner.
* Three way communication was not used as intended during the test of Load Shedding Sequencer logic check for the 3.3kV essential electrical board 3. The worker and the team lead did not challenge each other for not using three way communication.
* On 16 September 2015 during the leak testing on the condensate system, the test equipment used for this activity had been connected to the incorrect Condenser Extraction Pump (CEP). Not using human error prevention tools (such as pre-job briefing, point touch verbalize, peer check, and three way communication) has been identified as the main cause.
* On 4 August 2014, when working on the controller (1AB-PC0277) for the loop 2 steam generator Power Operated Relief Valve (PORV) (1AB-PV0277), an unauthorized parameter setting was used. This caused the manual close button to open the PORV and the open button to close the PORV. This condition was not identified from 4 August to 26 September 2014 as the automatic control worked correctly.