In order to have confidence in the conclusions that are presented within any report it is necessary for clients, regulators and stakeholders to know that the data has been audited in a way that ensures that it is fit for purpose. To this end the SQP is directed to apply the following list of critical questions and challenges in using their experience to assess the suitability of any product and before signing off the declaration which accompanies any report.

The lists below have been compiled by regulators and practitioners experienced in the peer review of land contamination management data. They are not meant to be exhaustive in their coverage, but they do focus attention on those aspects of submissions that tend to have the most influence on decisions made and regulatory acceptability. The lists are not meant to duplicate or replace other standard checklists or quality management and control measures that are also used to ensure the factual (as opposed to interpretative) content, accuracy or style of reports. However, the SQP should indicate which sections of this appendix are applicable and sign and date each page. **The signed appendix should then be kept with the project files and made available in the event that the related Declaration is selected for auditing under the NQMS Scheme Audit.**

|  |  |
| --- | --- |
| **Project Name:** |  |
| **Project Report Reference:** |  |
| **SQP Name:** |  |
| **SQP Number:** |  |

|  |  |
| --- | --- |
| **For all Land Contamination Management Reports** | **This section is to be completed for ALL reports** |
| * Are the aims and objectives of the project and the purpose of the report clearly set out? | Yes  No  If No, Add comment |
| * Has all information been presented and summarised in a clear and understandable way? | Yes  No  If No, Add comment |
| * Have relevant uncertainties been highlighted together with their implications for any conclusions drawn? | Yes  No  If No, Add comment |
| * Are the overall conclusions and recommendations robust and justified by the supporting data being presented? | Yes  No  If No, Add comment |
| * Are the next steps appropriate and clearly justified? | Yes  No  If No, Add comment |
| * Has the approach adopted for the site followed best practice and up-to-date guidance? | Yes  No  If No, Add comment |

|  |  |
| --- | --- |
| **For Reports dealing with RISK ASSESSMENT (Stage 1)**  **Preliminary Risk Assessment (PRA)** | **Is this section relevant?**  **Yes  No  If no, go to the next section** |
| * Given the nature and size of the development, has a reasonable desk and site based study been presented to establish the land use history and environmental setting of the site and identified relevant contaminants, pathways and receptors? | Yes  No  If No, add comment |
| * Has a representative conceptual site model (CSM) been presented which identifies and assesses all relevant pollutant linkages having regard to the current and/or future site use (as appropriate)? | Yes  No  If No, Add comment |
| * Have the limitations/uncertainties in the PRA and their effects on conclusions/recommendations been considered? | Yes  No  If No, Add comment |
| * Has the basis of the decisions for the proposed next steps (e.g. no action, remediation or further risk assessment) been clearly presented and justified? | Yes  No  If No, Add comment |
| **For Reports dealing with RISK ASSESSMENT (Stages 2 & 3)**  **Generic Quantitative Risk Assessment (GQRA)** | **Is this section relevant?**  **Yes  No  If no, go to the next section** |
| * Is the site investigation design robust enough to gather the necessary site data, having regard to the aims and objectives of th**e** project, the site setting and the CSM? In particular,   + Have appropriate generic assessment criteria and tools been identified to enable risk estimation and evaluation and have their data requirements been incorporated into the design?   + Are the choices of investigatory techniques appropriate?   + Are the number, nature and locations of samples, testing and monitoring regimes sufficient? | Yes  No  If No, Add comment |
| * Has the collected site data been analysed and risks estimated appropriately using the right tools, techniques or methods. In particular,   + Have the right substances been quantified with appropriate limits of detection? | Yes  No  If No, Add comment |
| * Have the pollutant linkages and risks to human health/controlled waters/other receptors been evaluated using appropriate generic assessment criteria and assumptions in line with the latest technical or regulatory guidance on compliance? | Yes  No  If No, Add comment |
| * Have the limitations/uncertainties in the GQRA and their effects on conclusions been considered? | Yes  No  If No, Add comment |
| * Has the basis of the decisions for the proposed next steps (e.g. further action, no action, remediation or further risk assessment) been clearly presented and justified? | Yes  No  If No, Add comment |
| **Detailed Quantitative Risk Assessment (DQRA)** | **Is this section relevant?**  **Yes  No  If no, go to the next section** |
| * Is the site investigation design robust enough to be able to gather the necessary data, having regard to the aims and objectives of th**e** project, the site setting, the CSM and other parameters to develop site specific risk estimation models and site specific assessment criteria? (as per GQRA list above). | Yes  No  If No, Add comment |
| * Has the collected site data been analysed and risks estimated appropriately using the right tools, techniques models or methods. In particular,   + Have the right substances been quantified with appropriate limits of detection?   + Do the data/parameters used in any model adequately reflect actual site conditions?   + Has any modelling been subject to sensitivity analysis and are the consequences of adopting more/less conservative data adequately expressed? | Yes  No  If No, Add comment |
| * Have the pollutant linkages and risks to human health/controlled waters/other receptors been evaluated using appropriate site specific assessment criteria and assumptions in line with the latest technical or regulatory guidance on compliance? | Yes  No  If No, Add comment |
| * Have the limitations/uncertainties in the DQRA and their effects on conclusions considered? | Yes  No  If No, Add comment |
| * Has the basis of the decisions for the proposed next steps (e.g. further action, no action, remediation or further risk assessment) been clearly presented and justified? | Yes  No  If No, Add comment |

|  |  |
| --- | --- |
| **For Reports dealing with OPTIONS APPRAISAL** | **Is this section relevant?**  **Yes  No  If no, go to the next section** |
| **Identification of Feasible Remediation Options** | **Is this section relevant?**  **Yes  No  If no, go to the next section** |
| * Have site specific remediation objectives been clearly identified for each relevant pollutant linkage? | Yes  No  If No, Add comment |
| * Are the remedial objectives appropriate including (where relevant) remedial target concentrations and compliance points having regard to the latest technical or regulatory guidance on those matters? | Yes  No  If No, Add comment |
| * Have other relevant site management objectives or constraints been identified that could influence the choice of feasible remedial options? | Yes  No  If No, Add comment |
| * Has a short list of feasible remediation options been identified for all relevant pollutant linkage? | Yes  No  If No, Add comment |
| * Has the basis of the decisions for the proposed next steps (e.g. chosen remedial option or further detailed evaluation) been clearly presented and justified? | Yes  No  If No, Add comment |

|  |  |
| --- | --- |
| **Detailed Evaluation of Options** | **Is this section relevant?**  **Yes  No  If no, go to the next section** |
| * Are the remediation evaluation criteria clearly presented? Sufficient site data and remediation option information should be presented to assess the merits and limitations of each option against the evaluation criteria. | Yes  No  If No, Add comment |
| * If sustainable remediation is an important attribute in the selection process, is it evident how the options appraisal has been consistent with the SuRF-UK framework? | Yes  No  If No, Add comment |
| * Have appropriate remediation options been identified for all pollutant linkage that are capable of meeting the required remediation objectives? | Yes  No  If No, Add comment |
| * Has the rationale for the preferred remediation option(s) for each pollutant linkage been clearly presented? | Yes  No  If No, Add comment |
| **Developing the Remediation Strategy** | **Is this section relevant?**  **Yes  No  If no, go to the next section** |
| * Has a remediation strategy been clearly described and presented to include:  1. how it will meet the objectives for individual pollutant linkages and the site as a whole. 2. any relevant assumptions and caveats; and 3. how unexpected contamination will be dealt with including procedures and contingency measures. | Yes  No  If No, Add comment |

|  |  |
| --- | --- |
| **For Reports dealing with the IMPLEMENTATION OF REMEDIATION STRATEGY** | **Is this section relevant?**  **Yes  No  If no, go to the next section** |
| **Preparation of Implementation Plan** | **Is this section relevant?**  **Yes  No  If no, go to the next section** |
| * Has an implementation plan been presented that clearly details all aspects of the remediation project in a systematic and effective manner? This implementation plan should translate the remediation strategy into a clear set of activities (e.g. design, preparation, implementation, verification etc) that will deliver the objectives for the site in accordance with client and regulatory requirements. | Yes  No  If No, Add comment |
| **Design, Implementation and Verification of Remediation** | **Is this section relevant?**  **Yes  No  If no, go to the next section** |
| * Pre-Implementation: Does the final form of the remediation design include design drawings, specifications and other relevant contract documents sufficient to demonstrate how the project will be executed in order to fulfil the relevant remedial objectives? | Yes  No  If No, Add comment |
| * Pre-Implementation: Has the requirement for any necessary environmental permits or permissions been adequately assessed? | Yes  No  If No, Add comment |
| * Pre-Implementation: Are all necessary H&S plans and site risk assessments in place and detailed within the design for remediation? | Yes  No  If No, Add comment |
| * Pre-Implementation: Are the measures set out in the Verification Plan sufficient to demonstrate achievement of the remedial objectives? In particular:   + Have appropriate indicators and methodologies for measurement been chosen?   + Is the frequency of testing and/or the duration of monitoring adequate? | Yes  No  If No, Add comment |
| * Post-Implementation: Has the remediation been undertaken in line with the approved remediation methodology, if not, have the variations been clearly documented and justified? | Yes  No  If No, Add comment |
| * Post-Implementation: Is there sufficient evidence in the verification report to demonstrate that remediation has performed in accordance with the agreed remediation design and has met the agreed remedial objectives and criteria for the regime in question? | Yes  No  If No, Add comment |
| * If any risks have not been effectively managed are suitable contingency measures in place to manage these residual risks? | Yes  No  If No, Add comment |
| **Long term Monitoring and Maintenance** | **Is this section relevant?**  **Yes  No  If no, go to the next section** |
| * If there is there a need for further monitoring and maintenance work has a suitable monitoring and/or maintenance plan been provided? | Yes  No  If No, Add comment |
| * Will any long term monitoring and/or maintenance adequately meet and/or demonstrate compliance with the defined remedial objectives? | Yes  No  If No, Add comment |