Standard Procedure

S-190 Issue: 2.1

Event reporting and investigation and operational experience feedback.

Notes Document templated. Highlighted changes – change to section 3 and 4.5 for information to the Personnel Security Manager. Changes highlighted. 24.10.2024 – minor amendment to include form reference F-673 into section 4.12 and clarification of scope section 2. Amendments highlighted in green.	
Impact of Revision	Low
Implementation Date	Immediate
Implementation Plan	N/A

This Standard Procedure provides compliance arrangements for Licence Conditions as defined in PD-016.

Before any changes are made the Process Owner shall be consulted to ensure compliance arrangements remain unaltered or to invoke the necessary Nuclear Safety Committee consultation as required by PD-010.

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1. PURPOSE

Operational Experience Feedback (OEF) is the process by which all Company Sites seek to effectively and efficiently use lessons learned to improve safety, Security and reliability and to prevent loss.

The purpose of this Standard is to specify the actions that are required to sustain an effective OEF programme in all activities on the sites.

This Standard also provides the means of:

- On-site compliance with the principles of Site Licence Condition 7: 'Incidents on the site' described in S-500 ‘Arrangements and Responsibilities for Compliance with the Nuclear Site Licence Conditions.
- Demonstrating the Company’s approach to achieving OE standards described in IAEA Safety Guide NS-G-2.11 ‘A System for the Feedback of Experience from Events in Nuclear Installations.
- Maintaining the security compliance requirements as stated within Nuclear Industry Security Regulation 2003 (NISR 2003).

The objectives of this Standard are to ensure that:

- Events are identified, reported and recorded, to enable the causes to be established, corrective actions and preventive actions implemented and learning opportunities shared to prevent recurrences.
- Relevant learning points are shared with other nuclear sites/programmes to benefit the industry in general.
- Relevant practical experiences at other sites/programmes are considered and acted upon to improve the safety, security, reliability and performance of the site.

2. SCOPE

This Standard applies to the NRS Sites Delivery Business Unit.

The OEF programme covers all activities on site that could affect safety, Security and reliability.

Off-site organisations also have procedures and responsibilities in relation to these activities, which are outside the scope of this Standard.

This Standard covers the following activities:

- Identification, notification, reporting and recording of on-site events, near misses and good practices in accordance with nuclear site licence, NISR 2003, company and industrial legislation requirements;
- Screening of on-site events and near misses for significance to the site/programmes and other nuclear sites;
- Investigation and analysis of on-site events and near misses, including root cause and human factors analysis where appropriate, and formulation of actions to prevent recurrence;

- Assessment of the applicability to the site of reported events, near misses and good practices at other Sites/Programmes, and formulation of preventive actions and improvements;
- Setting and tracking of agreed actions to completion;
- Communication of learning opportunities and improvements via Event Briefs;
- Incorporation of experience into training programmes where appropriate;
- Reviewing the effectiveness of the OEF programme.
- Tracking Timeliness and Overseeing Quality of Investigations

2.1. COMPLIANCE TABLE

Compliance Type	Specific Requirement	Compliance Delivered
Directly: Licence Condition	LC7(1) Incidents on Site	Documents how Magnox delivers compliance with this Licence Condition
Indirectly: Licence Condition	LC23(3) Operating Rules	Provides means by which relevant events are recorded and reported
Indirectly: Licence Condition	LC28(8) Examination,	Provides means by which relevant events are recorded and reported
Indirectly: Licence Condition	LC34(2) Leakage Detection	Provides means by which relevant events are recorded and reported
Indirectly: NISR2003	Maintaining the security compliance requirements	Provides process by which Security events are reported

This standard may be taken to be the means of complying with any other Licence Condition or Regulatory requirement where there is implicit need for an event to be reported to Management.

3. RESPONSIBILITIES

The Site Director/Programme Director is responsible for ensuring adequate resources are provided to meet the requirements for event reporting, recording, notification and investigation and experience feedback. The Site Director/Programme Director is responsible for ensuring regular, programmed reviews of the overall effectiveness of the OEF programme take place.

Members of the Site and Programme Management Teams are responsible for:

- Active promotion of event and near miss reporting and the implementation of the Company Standard S-133, 'Blame Free' Reporting and Investigation of Events;
- Ensuring that all events and near misses reported are assessed, categorised and, where appropriate, investigated;
- Ensuring that, where appropriate, corrective and preventive actions are undertaken, and arrangements are in place for identified learning points to be communicated to personnel;
- Active promotion of the OEF programme.
- Ensuring that Operating experience databases (Company Operational and Organisational Learning (COOL), Share Point Electronic Event Database (SPEED), Event Action Tracking System (Q Pulse) are utilised by individuals and teams to minimise/prevent events.

Team Leaders / Line Supervisors/ Site Engineers are responsible for:

Actively encouraging and supporting the reporting of events and near misses by their team members/teams they oversee, and ensuring that sufficient detail is provided and that reports are made promptly;

- Supporting the team members/teams they oversee in the raising of Q Pulse electronic learning capture forms where required, including transfer from paper LCF to electronic LCF where the electronic system is not available locally or personnel are not trained.
- Completion of the Team Leaders Section of QPulse electronic LCF form.
- Timely completion of corrective actions assigned directly or delegated.
- Actively participating in and promoting the OEF programme.

All staff and contractors are responsible for identifying and promptly reporting events, learning opportunities, good practices and near misses, where 'promptly' means within the working day or shift. All staff and contractors are responsible for participating actively in the OEF programme, in accordance with Condition 7 of the Nuclear Site Licence and S-481/8 Reporting of investigations injuries and incidents by contractors.

The OEF Engineer is responsible for operating and promoting the OEF programme on the site.

The Operational Experience Feedback Engineer (OEFE) is responsible for acting as a mentor to investigators and a moderator of investigations, to promote:

- Consistency;
- Effective investigations and reports, leading to;
- The implementation of effective learning points, and;
- The placing of effective remedial actions to minimise the risk of recurrence of similar and more serious accidents and events.

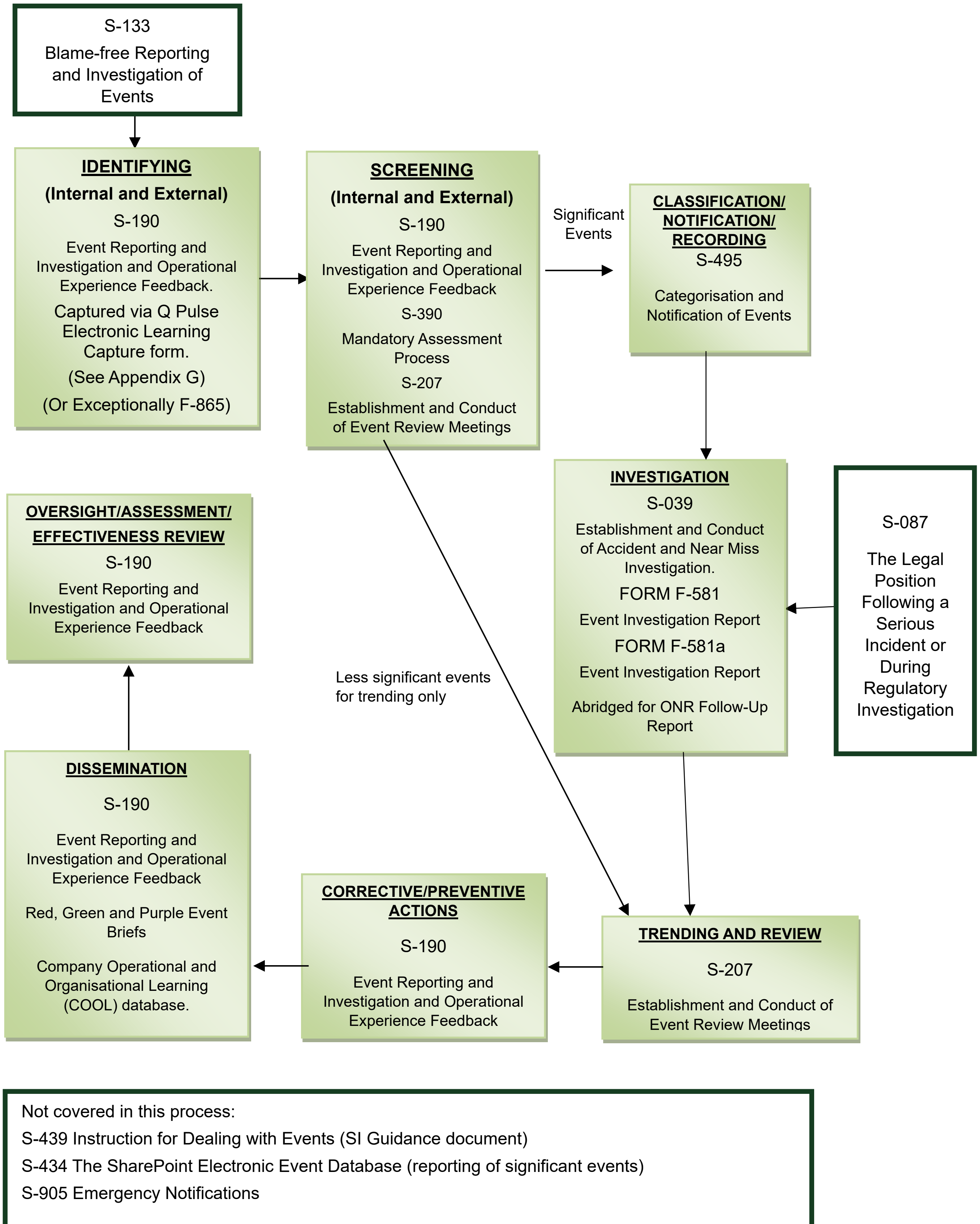
The OEFE is responsible for maintaining a register of trained investigators.

The following post holders have specific responsibilities identified in Section 4 of this standard: -

Site Director	SD
Programme Director	PD
EHSS&Q Manager	EHSS&QM
Site Management Team	MT
Nominated member of Management Team	NMMT
Head of Safety	HS
Site Security Manager	SSM
Personnel Security Manager	PSM
Duty Emergency Controller / Duty Manager	DEC
Event Review Team	ERT
Site Engineers	SE
Team Leaders/Line Supervisors/Site Engineer	TL/LS/SE
Nominated staff	Nom staff
OEF Engineer	OEFE
Industrial Safety Engineer	ISE
All staff, including contract and agency staff	All staff
Central OE Team	COET
Central EHSS&Q	CEHSS&Q
Heads of Profession	HoP’s
Executive Sponsor	Exec Sponsor
Investigation Sponsor	IS

4. PROCEDURE

4.1. Procedure Diagram



Not covered in this process:
S-439 Instruction for Dealing with Events (SI Guidance document)
S-434 The SharePoint Electronic Event Database (reporting of significant events)
S-905 Emergency Notifications

4.2. Operating Experience Management

Action	Responsibility
Promote and reinforce the use of operating experience.	**SD /PD MT, TL/LS, OEFE**
Define expectations for the use of operating experience information.	**SD /PD EHSS&QM**
Identify learning and communicate in pre-job briefs. Such information is available via the Company Operational and Organisational Learning Database (COOL) and the Q Pulse database.	**MT, TL/LS**
Hold relevant staff accountable for effective and timely: • Investigation of events; • Completion of corrective and preventive actions; • Dissemination of learning points from operating experience information.	**SD /PD**
Make operating experience information readily available to relevant staff. The aim should be 'Getting the Right Information to the Right People at the Right Time'.	**OEFE via MT, TL/LS, SE**
Periodically evaluate the effectiveness of the use of operating experience information and present to the Site /Program Director.	**OEFE**
Actively reinforce the effective use of operating experience information by all staff and contractors including projects.	**SD /PD MT, TL/LS, OEFE, SE**

Action	Responsibility
Use the results of reviews and analysis to identify corrective and preventive actions. This may be achieved by, for example, by trend and pattern analysis of events and near misses, reviews of events for ONR review and reviews of events for accountability meetings.	**MT, Nom Staff, ERT, OEFE**
Promote the communication of learning through the production and dissemination of Green Event Briefs for events where there is useful learning for the rest of the company and Purple Event Briefs where there is a good practice or innovation which could benefit other sites/programmes. Sites will place actions locally to embed learning where applicable, unlike Red Brief actions these are not managed centrally. Event briefs should be issued in a timely manner (within 7 days) to ensure that other sites fully benefit from the learning and to prevent recurrence of the event. **NOTE: There is no requirement to wait until a full investigation is complete to share initial event learning via an interim brief where prudent. A further brief can be issued on completion of the investigation if necessary.**	**OEFE, Nominated staff**
For events where it is likely that there is significant, urgent learning for other sites/programmes, consider, in consultation with the Central OE Team and other relevant specialists the potential need for a Red Event Brief. Red Event Briefs will place actions on sites and are produced and coordinated centrally. As actions will be placed on sites, a teleconference with Site OE Engineers should be co-ordinated prior to issuing the brief. Actions placed as a result of the issue of a Red Event Brief are tracked by the Central OE Team. The success of those actions will be verified by EHSS&Q Site Inspectors during selected effectiveness reviews scheduled and tracked in the Q Pulse Audits Module.	**OEFE, COE, CEHSS&Q**
IMPORTANT Note: The Red Event Brief Process should only be used where learning from an event indicates that other sites/programmes may need to take immediate action to ensure safety or confirm status as a matter of urgency. Where a more in depth or measured response is appropriate, the Mandatory Assessment Process should be used (S-390, The Mandatory Assessment Process).	
IMPORTANT Note: Green briefs <u>should not</u> be used to request responses/action from sites. Green briefs are for sharing learning information only. Such information is for consideration by sites/programmes who shall decide locally if actions are necessary.	

Action	Responsibility
The process for the production and management of Red, Green and Purple Event Briefs is described in Appendix A. Key success aspects include: • The quality of briefings produced • Ensuring relevant HoP or SME has been involved • Ensuring a teleconference between COE, Site OE Engineers and Site Stakeholders takes place before Red Briefs are issued. • Ensuring all briefing email alerts are sent from COOL ensuring an auditable trail. NOTE: Event Briefs should NOT be sent via Microsoft Outlook. • A timely response to Red Briefs and Mandatory Assessments Effectiveness review verified by site EHSS&Q Inspectors after an appropriate timescale (nominally 1 year.)	

4.3. Event and Near Miss Reporting

Action	Responsibility
IMPORTANT Note: The use of the Q-Pulse Event and Near Miss reporting system is a Magnox Standard & Expectation. To assist users, aid Memoir are available on COOL	
Operating experience shall be reported in a timely manner to reduce the potential for recurring events at the site and, as appropriate, in the industry. Actively encourage and reinforce the identification and reporting of events and near misses at all levels in the organisation and across all functions.	**SD /PD MT, TL/LS, OEFE, SE**
Identify and report events and near misses for, where appropriate, off-site reporting, on-site recording, investigation and corrective and preventive actions. All significant events should be reported via the process documented in S-495. The weakest link in the reporting chain for compliance with S-495 is probably the recognition that a reportable event has occurred. Whilst all staff must report all abnormalities, sites should consider making nominated members of the site Management Team (subject matter experts) responsible for recognising the significance of the reported abnormalities in relation to the requirements of S-495.	**All staff, NMMT, OEFE**
Submit quality event and near miss reports, using the Q Pulse Electronic Learning Capture Form in a complete and timely manner. NOTE: Learning Capture Form Template F-865 may be used where the Q Pulse electronic form is not readily available, or individuals are not trained.	**All staff and contractors**

Action	Responsibility
Where contract partners or other untrained individuals need to capture learning the form will be transferred to Q Pulse by their associated Magnox Site Engineer, Magnox Supervisor or Magnox Project Manager. Where Learning Capture PC Stations are available, contract partners should be coached to raise Q Pulse Learning Capture Forms themselves. NOTE: In addition, all accidents and injuries, however small shall be entered into the Accident Book in the Medical Centre during the same day or shift on which they occur. Where injuries occur either at another site or whilst travelling to or from another site, report the injury in your base Site's Accident Book. (see S-481)	
Allocate initial categorisation as per S-495, Categorisation and Notification of Events.	**DEC, Nom staff**
Carry out any immediate notification of significant events which are specified in S-495 in the required timescales. If any changes are made to the category or INES rating of any event that has been reported off-site, site shall contact the EHSS&Q Duty Officer who agreed the category initially to confirm agreement to the revised category (if unavailable then current Duty Officer	**NMMT, DEC OEFE, ISE** **Nom staff**
Communicate relevant site events and near misses to relevant Site personnel.	**OEFE, MT, TL/LS, SE**
Provide timely notification of significant events and near misses with possible learning points for other UK nuclear sites, using the Event Brief process and the COOL database.	**OEFE, COE**
Select suitable reports for International Reporting System IRS and report in required format.	**COET**
Co-operate with Central OEF, in the preparation of selected reports to the (IRS) database.	**HS, OEFE**
Analyse events and near misses for adverse trends and patterns to maximise the opportunity of discovering underlying causes and enabling management to direct effort in the most beneficial directions.	**OEFE, ERT, HoP's**

4.4. Screening and sharing of Operational Experience Information

Action	Responsibility
Operating experience information needs to be appropriately screened to select and prioritise those items requiring further investigation, according to their consequences or frequency.	
For Site events	
Screen site events and near misses as soon as possible after the problem is identified, to decide on further action, including consideration of the following: • Whether an investigation is required; • Level of investigation where required (see process flowchart in Appendix B); • Communication of events to appropriate staff. • If there is learning for the rest of the company which requires immediate briefing (Red Brief) • If there is non- urgent learning for the rest of the company which needs to be briefed (Green Brief or Purple Brief)	**MT, OEFE, ERT**
(Site to specify timescales according to their screening arrangements and the management meetings used).	
Record events and near misses in a readily retrievable manner, including the outcome of any investigations carried out and the details of any corrective and preventive actions taken (the preferred method of recording is Q Pulse).	
Ensure all investigation reports Root Cause Investigation (RCI), Apparent Cause Investigation (ACI), Enhanced Event Briefing Report (EEBR), Team Based Fact Find (TBFF), Event Briefing Report (EBR) are uploaded to the associated Q Pulse Event record. **In addition, where an event attracts an RCI, ACI (EEBR) or TBFF (EBR) these should also be shared on the COOL database**	
For Industry Operating Experience	
Arrange for screening to be performed by individuals with a broad knowledge of operations or by a multi-discipline group.	**OEFE, ERT**

Action	Responsibility
At Sites/Programmes screen events from other external sources as soon as possible after the reports are received, using screening criteria that take into account: • Any applicable experience that can be derived; • Communication of learning points to appropriate staff • Training opportunities; • Initiation and follow-through of preventive actions.	**EHSS&QM, ERT, OEFE**
Review industry operating experience information for applicability, focusing on the potential for a similar event to occur, and distribute applicable information to appropriate personnel in a timely manner. This information. Learning Briefs, Investigations and Recall Notices etc can be found on the COOL database. Operating Experience from contract partners should be welcomed and uploaded to COOL if applicable to the Magnox fleet.	**OEFE, ERT, Nom staff**
At a corporate level review operating experience information for applicability to Company sites/programmes. Sources of information include other SLCs, Operating Experience Learning Group (OELG) IAEA, ONR, Contract Partners and various other external sources. Make relevant information widely available via the COOL database.	**COET**
Consult relevant Subject Matter Experts/Specialists during the process to determine the appropriate course of action including the possible production of Mandatory Assessments or Event Briefs.	
Address identified Mandatory Assessments (MAs) in accordance with the Company Standard S-390, The Mandatory Assessment Process, and Red Event Briefs as per Appendix A of this document. Submit appropriately considered responses to COET within the specified timescales and update on COOL.	**ERT, Nom staff, OEFE**
Where it becomes apparent that a response will not be achievable in the specified timetable request an extension from the Executive Sponsor.	**OEFE**
Where indications have been given that any actions arising will be followed up via the accountability process, provide a copy of the response to the accountable person.	**OEFE**

Action	Responsibility
Review Mandatory Assessment and Red Brief responses and produce Completion Report (including recommendations) for presentation to Assurance and Improvement Board (AIB) for ratification, action and closure.	**Nom staff, COET**
Review Mandatory Assessment Completion Report Conclusions for any learning points and recommendations relevant to site and, if appropriate, arrange for corrective and/or preventive actions to be taken.	**ERT, Nom staff, OEFE**
Verify the effectiveness of Mandatory Assessments. The effectiveness reviews being scheduled (at the time of MA closure) and tracked in the Q Pulse Audits Module	**EHSS&Q Site Inspection Team**

4.5. Investigations of Events

Action	Responsibility
Analysis is performed on appropriate events, depending on their severity or frequency, to ensure that root cause(s) and corrective and preventive actions are identified.	
Ensure investigators are SQEP (as recorded in Agresso) and first-time investigators are mentored and are given sufficient resource and time. Where investigators are mentored the mentor shall sign the investigation report cover sheet.	**SD /PD, IS**
Arrange for events and near misses to be investigated promptly to preserve information and physical evidence and to interview participants while the events are fresh in their memories. Significant events relating to programme work will normally be investigated by the Programmes Team, as such it is imperative that the relevant Programme EHSSQ Manager or Programme Director is informed by Site when such an event occurs and invited to any review of the completed investigation (at the ERM/LRM).	**EHSS&QM**
Decide on the level of investigation, if any, to be carried out on events and near misses (see Appendix B). S-039, gives guidance on the establishment and conduct of event investigations.	**EHSS&QM,** **ERT, OEFE**

Action	Responsibility
For Root Cause Investigation and (if applicable) Apparent Cause investigations, specify the terms of reference for the investigation (using template F-698,), to include the following: Establish causes and broken/missing barriers; Recommend corrective and preventive actions to prevent recurrence; Identify, where appropriate, any generic implications; Produce an investigation report (using template Form F-581,), and present it to the appropriate management meeting.	**IS**
Arrange for thorough and rigorous investigations to be carried out in response to significant events utilising template form F-581, to produce the Investigation Report. Investigations should only be carried out by Suitably Qualified and Experienced investigators (as recorded in Agresso). Newly qualified investigators should be supported by an experienced mentor.	**SD /PD,** **EHSS&QM**
Ensure that the comprehensive investigation, uses the appropriate tools and techniques, and includes the following items: Event and Causal Factors Chart; Identification of the root causes, broken/missing barriers, contributory factors and generic implications; NOTE: Broken barriers should be shown on the event timeline chart and Swiss Cheese diagram. Identification and analysis of discrepancies between expected and actual plant responses and/or personnel actions; Review of relevant on-site and industry operating experience information; Risk significance of site events, as appropriate; Documentation to support results, recommendations, and corrective and preventive actions; Specific Measurable Achievable Realistic Timely (SMART) actions to prevent a re-occurrence	
For events that require notification to the Office for Nuclear Regulation (ONR) or Office for Nuclear Regulation – Civil Nuclear Security & Safeguards (ONR-CNSS) ensure an adequate investigation is completed. There is a requirement to send a Follow-up report to ONR/ONR-CNSS within 60 days of the event, for any event that requires reporting to ONR/ONR-CNSS under S-495. This should be done using the formal written protocol for communicating with ONR to ensure that	**SD /PD, SSM, PSM**

Action	Responsibility
there is a record of what has been sent. The Follow-up report requires the inclusion of; a detailed description of the event, safety significance, findings from the investigation (including direct and root causes), actions aimed at improvement, lessons learned for other plants, notifications to external agencies and bodies and a formal contact point to enable ONR to follow up. Follow-up reports should be produced using Form F-581 or F-581a (abridged version). Process as per S-495. There is also a requirement that an Aftercare Incident Report (AIR) be submitted by the Personnel Security Manager (PSM (or delegate)) if an incident occurs and there are concerns about a National Security Vetting (NSV) clearance holder's suitability to hold such a clearance. Any concerns around individuals must therefore be reported to the PSM by the SSM at the earliest opportunity.	
Carry out investigations on important or repetitive problems as well as adverse trends from near misses to identify the root causes, the generic implications, and the appropriate actions to prevent recurrence.	**OEFE, ERT**
Arrange for event investigations to be carried out by staff who have appropriate knowledge and skills.	**SD /PD**
Provide line supervisors with suitable formal basic training on event investigation techniques to allow them to properly carry out first line investigation of events. Ensure an adequate number of the Management Team and staff are SQEP in investigation techniques, to chair Local Panels of Investigation or to carry out Apparent Cause or Root Cause investigations.	
For events involving contractors or agency staff the contract manager is considered to be the appropriate person to conduct the initial investigation in consultation, where appropriate, with the contractor's supervisor.	
When assigning a RCI or ACI ensure that a Lead Team/Programme Manager sponsor is allocated.	
It is good practice to involve event participants in developing and implementing actions, including interim actions, to prevent recurrence.	

Action	Responsibility
Following significant industrial safety events where possible involve a Safety Representative to participate in the further investigation of the event.	**EHSS&QM, IS, PD**
Ensure that Safety Representatives are notified and provided with adequate facilities and assistance to allow them to participate in event investigations that are reportable under RIDDOR, involving employees whom they represent. Joint investigations are normally advised.	
Consider making arrangements to involve Safety Representatives in investigating other significant events, apart from those reportable under Reportable Industrial Diseases and Dangerous Occurrences Regulations (RIDDOR).	
Consider the need to obtain any legal representation or advice.	
NOTE: *See 'The Legal Position following a Serious Incident or during Regulatory Investigations'*	
Where significant events have occurred, which could be subject to further investigation by either company investigators or external agencies, such as the Health and Safety Executive, ensure that the work area is barriered off and left undisturbed as far as possible.	**SD /PD EHSS&QM**
Co-operate fully with any investigations from external agencies and provide any necessary facilities or assistance. Assign a Lead Team member to accompany the investigators if necessary. Obtain legal representation and the assistance of a union representative if necessary.	**SD /CD/PD EHSS&QM**
IMPORTANT NOTE: *See 'The Legal Position following a Serious Incident or during Regulatory Investigations' .* *For events which are covered by this document, an Investigation Response Co-ordinator (IRC) is nominated to act as the conduit with the regulator to establish a line of communication both with the regulator and with the Company Secretary and Company Solicitor.* *This document applies where the normal, and often informal, interaction between the company and its regulators is no longer appropriate for reasons such as the investigation of an accident or an incident or the notification of formal reviews.*	

Action	Responsibility
It covers any enforcement action by the HSE (including ONR and OCNS) EA, SEPA and DfT. In the event of a fatality, the Police might also carry out a separate investigation under the applicable criminal law. Questions may also be asked as part of an inquest by HM Coroner's office or the Scottish equivalent.	

4.6. Corrective and Preventive Actions

Action	Responsibility
Corrective and preventive actions, depending on the timeliness needed for resolution, are prioritised either Major or Minor (See Appendix E) and scheduled for implementation. This results in operating experience being effectively used by personnel to anticipate potential problems. This section applies to actions arising from site event investigations and from screening/assessment of industry event reports.	
Arrange for relevant staff to be promptly briefed on event(s) to prevent recurrence.	**EHSS&QM OEFE, ERT**
Ensure that actions address the fundamental causes of problems, rather than the symptoms	**EHSS&QM, OEFE, ERT**
Arrange for actions to be tracked to completion. Ensure that dates for actions are commensurate with the importance of the item, site priorities, and the consideration of preventing recurrence.	**EHSS&QM, ERT, OEFE**
Periodically assess the effectiveness of actions; for example, by periodically following up a sample of completed actions to assess whether they have achieved their intended objectives.	**EHSS&QM, ERT, OEFE**
Effectively communicate, utilise and reinforce operating experience by the use of, for example, pre-job briefs, training, changes to procedures and work packages, safety campaigns and engineering design reviews.	**ERT, TL/LS/SE, PD OEFE, all staff**
Effective communication includes arranging for the timing of such communications to be considered in the planning process. Effective utilisation can also mean using OE not only to resolve current problems but also to anticipate potential problems.	**MT, ERT, TL/LS, OEFE, (all staff carry this responsibility)**

4.7. Sharing of Learning from Events and Investigations

<table>
<tr><th>Action</th><th>Responsibility</th></tr>
<tr><td>Investigation learning should be shared by uploading the Investigation to the following sharing data base within 30 calendar days</td><td>OEFE</td></tr>
<tr><td><table><tr><th>Investigation Type</th><th>Data Base</th></tr><tr><td>RCI</td><td>COOL and Q Pulse</td></tr><tr><td>ACI</td><td>COOL and Q Pulse</td></tr><tr><td>EEBR</td><td>COOL and Q Pulse</td></tr><tr><td>TBFF and EBR</td><td>COOL and Q Pulse</td></tr></table></td><td></td></tr>
</table>

4.8. Tracking Timeliness and Overseeing Quality of Investigations

4.8.1. Timeliness

<table>
<tr><th>Action</th><th>Responsibility</th></tr>
<tr><td>It is essential that quality investigations are carried out in a timely manner to ensure that:
Recollections of the event are fresh
Evidence is preserved
Corrective actions began at the earliest opportunity
Learning shared quickly and whist the event is still topical/relevant</td><td></td></tr>
<tr><td>As such all investigations should be concluded in a period of 30 calendar days or less, measured from date of event until upload to the COOL sharing database. This expectation will be tracked for RCI on the Weekly Significant Event Tracker and for ACI, EEBR and RCI on the Unified Dashboard. To facilitate this the following actions are required:</td><td></td></tr>
<tr><td>When an RCI Investigation has been initiated at site the OEFE should supply the following information to Central OE:
Site
Title of Investigation
Date of Event being Investigated
Lead Investigator
Site Sponsoring Manager
Nominate and agree an Executive Sponsor and update the Significant Event Tracker:</td><td>OEFE

COET</td></tr>
</table>

4.8.2. Quality

Action	Responsibility
The three main quality checks below are in place to ensure the quality of investigations. In addition, random independent site inspector review may take place.	
1. Executive Sponsor A Sponsor from the Magnox Executive will provide oversight of each Root Cause Investigation. The Executive Sponsor will: • Assist in the resourcing of a leader and experts for the RCI if required • Ensure the investigation team receive the required time, resources and support to achieve a quality investigation within the expected thirty days duration. • Be briefed on the report by the author to confirm that the quality of the investigation is acceptable (without influencing the outcome). Provide any support required in ensuring the accepted recommendations and subsequent actions are implemented.	**Exec Sponsor**
2. Site Quality Checks There are six barriers ensuring quality investigations appear on COOL. These barriers are detailed in detailed in Appendix F including individual responsibilities.	**SITE**

4.9. OE Oversight

Action	Responsibility
OE Oversight Board: Fulfil the requirements of the OE Oversight Terms of Reference Appendix C including progress review of Red Briefs and Mandatory Assessments and identifying and resolving associated issues.	**COET and Oversight Board members**
Significant Event and Intervention Tracker: Maintain listing of significant events to ensure that there is a common awareness and understanding of significant events and their status. The tracker is loaded to the Unified Dashboard.	**COET and Oversight Board members**

Action	Responsibility
Routinely review the Significant Event and Intervention Tracker and the Company Safety Improvement Plan, identifying and resolving issues.	

4.10. Routine Monitoring

Action	Responsibility
Routinely monitor the implementation of the OEF programme (i.e. event reporting, screening, investigation and assessment, and completion of corrective and preventive actions) as per Appendix C.	**OEFE**
Report any delays and problems in meeting the requirements laid down in the company OEF standard (S-495,) to the Event Review Team (or equivalent) and the Site Director/Closure Director.	**OEFE**
Establish internal process for peer checking the quality of event investigation reports. For example, identify a group of site personnel with sufficient training, knowledge and experience who are able to provide a quality check, based on the guidance within F-581, prior to an investigation being agreed for issue.	**OEFE**

4.11. Effectiveness Review

Action	Responsibility
Initiate a programme of regular, scheduled reviews of the overall effectiveness of the OEF programme. The terms of reference of a typical OEF Review are given in Appendix D. In the last quarter of the financial year initiate a review of the overall effectiveness of the site OEF programme. The outcome of review and the learning should be sent to Central OE before the end of the financial year.	**SD, OEFE**

4.12. Significant Event Investigation Effectiveness Reviews

Action	Responsibility
Following significant events (see Definitions) carry out a review of the effectiveness of the site's response in addressing the root causes. This should usually be carried out after the completion of corrective and preventive actions and after suitable time has elapsed. For every significant investigation the final action placed should be to carry out an effectiveness review at an agreed future date using form F-673.	**EHSS&QM, OEFE**
Key issues to consider during the review are: Have the remedial measures taken addressed the root causes? Are the remedial measures embedded in the business? How secure are the remedial measures? Are there any other weaknesses apparent? Has the event has been shared effectively with other sites/utilities via the Company Operational and Organisational Learning (COOL) database and Q Pulse?	
Communicate the results of Event Reviews to appropriate management meeting and if required place additional actions.	**EHSS&QM, ERT**
Completed Effectiveness reviews shall be uploaded to the original investigation COOL and Q Pulse data bases entries	**OEFE**

5. MONITORING AND MEASUREMENT

Monitoring and measurement activities are as detailed within this procedure sections 4.10 and 4.11.

6. DEFINITIONS

Term used	Explanation
Accident Book	A book for formally recording accidents and which complies with the requirements of the Social Security (Claims and Payment) Regulation 25 (1979) - Accident Book Form B1510.
Apparent Cause Investigation (ACI)	A limited investigation to quickly and simply determine the most immediate, or apparent cause of a less significant event or sub-standard condition without recourse to full root cause analysis by considering the readily available facts with little or no detailed investigation. One person may conduct this type of investigation, however, needs to have an understanding of root cause techniques. This equates to a minor investigation.
Board of Inquiry	For events involving death, serious injury, or significant economic loss the Chief Executive Officer may choose to convene a Board of Inquiry. The chairman will normally be an external individual such as a Non-Executive Director. The investigation process and reporting format will be as per the Panel of Inquiry process.
Contributory Factor	Something that contributed to an event but was not as significant as a root or underlying cause or a broken/missing barrier.
Corrective Action	Action to eliminate the cause of a **detected** non-conformity or other undesirable situation. **NOTE** : There can be more than one cause for a non-conformity. **NOTE** : Corrective action is taken to prevent recurrence whereas preventive action is taken to prevent occurrence.
Defect	An undesired result of an error committed earlier in the engineering process, which becomes embedded in either the physical plant or design bases documentation
Event Review Team (ERT)	A team of appropriate staff, headed by a member of the Management Team, to consider events and near misses, and reports from other sites/programmes, and decide on appropriate actions to prevent recurrence of similar events and improve safety and reliability and to promote the objectives of OEF.
Error	Human decisions or actions that unintentionally depart from an expected behaviour or some standard.

Term used	Explanation
Error precursors	Task-related conditions for a specific activity or task that provoke human error and increase the chance of a technical error or an adverse consequence; otherwise referred to as “risk factors.” Examples are time pressure, first-time activity, lack of knowledge or experience, and interruptions.
Event	Any unplanned deviation from normal operating conditions, procedures or practices that results in loss such as injury, occupational illness, fire or explosion, property damage or plant trips, environmental discharges, or any near miss events that could potentially have resulted in such loss. Any security nonconformity or abnormal condition, for example but not limited to, sharing of passwords, unavailability/compromise of security asset, breaches of security barriers, protocol(s), procedure(s) or standards and expectations. The degree of severity of the event will vary. The use of the word 'event' is intended as a generic term to include all other commonly known terms such as: abnormal occurrence, dangerous occurrence, significant event, site incident, site emergency, reportable incident, recordable incident etc. All event reports are recorded on the site Event and Action-Tracking System for retrieval, action-tracking and analysis. If an event occurs and there are concerns about a National Security Vetting (NSV) clearance holder’s suitability to hold such a clearance, then this must be reported to the PSM, by the SSM, at the earliest opportunity for reporting via the agreed United Kingdom Security Vetting (UKSV) process.
Fact Find	A meeting held soon after an event to: establish facts in support of the investigation and help to develop the timeline (no conclusions, blame, hearsay, conjecture or implications) review Human Performance and Error Avoidance applications. identify the need for further investigation and/or immediate implementation of additional actions.
First Line Investigation (FLI)	Also known as Supervisor’s Investigation. An initial investigation conducted by a line supervisor to preserve evidence for any subsequent investigation and determine the most immediate or apparent cause of an event involving a member of their team.
Human Performance Enhancement	A methodology for root cause analysis of events, particularly those involving human factors. It was devised by the Institute of Nuclear Power

Term used	Explanation
System (HPES)	Operations, INPO. The Company has adopted HPES for the systematic evaluation of human factor contribution to events.
International Nuclear and Radiological Event Scale (INES)	The International Nuclear and Radiological Event Scale (INES) is a notification system for communicating information on the safety significance of events involving sources of radiation, promptly and consistently. Its purpose is to facilitate communication between the technical community, the media and the public. It covers a wide spectrum of practices, including industrial and medical use of sources, activities at nuclear installations, and the transport of radioactive material
International Reporting System (IRS)	An operating experience database administered by the International Atomic Energy Agency in Vienna. The Company's route to it is via the Nuclear Safety Directorate of the Health & Safety Executive.
Knowledge-based performance	Behaviour in response to a totally unfamiliar situation (no skill, rule, or pattern recognisable to the individual); a classic problem-solving situation that relies on personal understanding and knowledge of the system, the present state of a system, and the scientific principles and fundamental theory related to the system; an activity performed with no pre-programmed instructions or rules.
Latent Conditions	An undetected situation or circumstance created by past latent errors that are embedded in the organisation or production system lying dormant for periods of time doing no apparent harm. (See also Latent Organisational Condition).
Latent Error	An error, act, or decision that unknowingly creates an undesired condition(s) embedded in the engineering processes, culture, or plant configuration of plant systems, structures, or components or the design bases or that reduces equipment reliability that remains undetected until revealed by subsequent operational activities.
Latent Organisational Condition/ Weakness	Undetected deficiencies in organisational processes, equipment or values that create job-site conditions that either provoke error or degrade the integrity of controls.
Lesson learned	A good work practice, innovative approach, or negative experience shared to promote positive information or prevent recurrence of negative events.

<table>
<tr><th>Term used</th><th>Explanation</th></tr>
<tr><td>Local Panel of Investigation (LPOI)</td><td>Local Panel of Investigation. An investigation initiated by a Site Director/Programme Manager to investigate events which do not warrant a panel of inquiry but which nevertheless require an in-depth formal investigation. Internal team but chairman usually independent from main department involved in the event.

A Local Panel of Investigation uses the same methodology, tools and techniques as a Root Cause Investigation.

The investigation team will typically comprise a departmental manager (chairman), appropriate technical specialists, and a trained root cause analyst and where appropriate the location company inspector.</td></tr>
<tr><td>Mandatory Assessment</td><td>A Mandatory Assessment is a set of questions based on issues from an event or set of events, or other set of circumstances which are considered to have the potential for significant impact on the Company’s Sites/Programmes. Mandatory Assessments are set to ensure that Sites/Programmes either:
have adequate arrangements in place that cover the issues or;
are taking action to set up such arrangements.
The output may be used to:
identify actions to address the shortfalls in Sites’ arrangements or;
identify good practices that can be replicated or;
answer questions raised by outside agencies.</td></tr>
<tr><td>Near Miss</td><td>A situation which could have led to plant damage, problems in operation or maintenance etc., contravention of procedures, or injury to personnel, but was avoided either by chance or quick action. For convenience in this standard, it includes 'workarounds.'

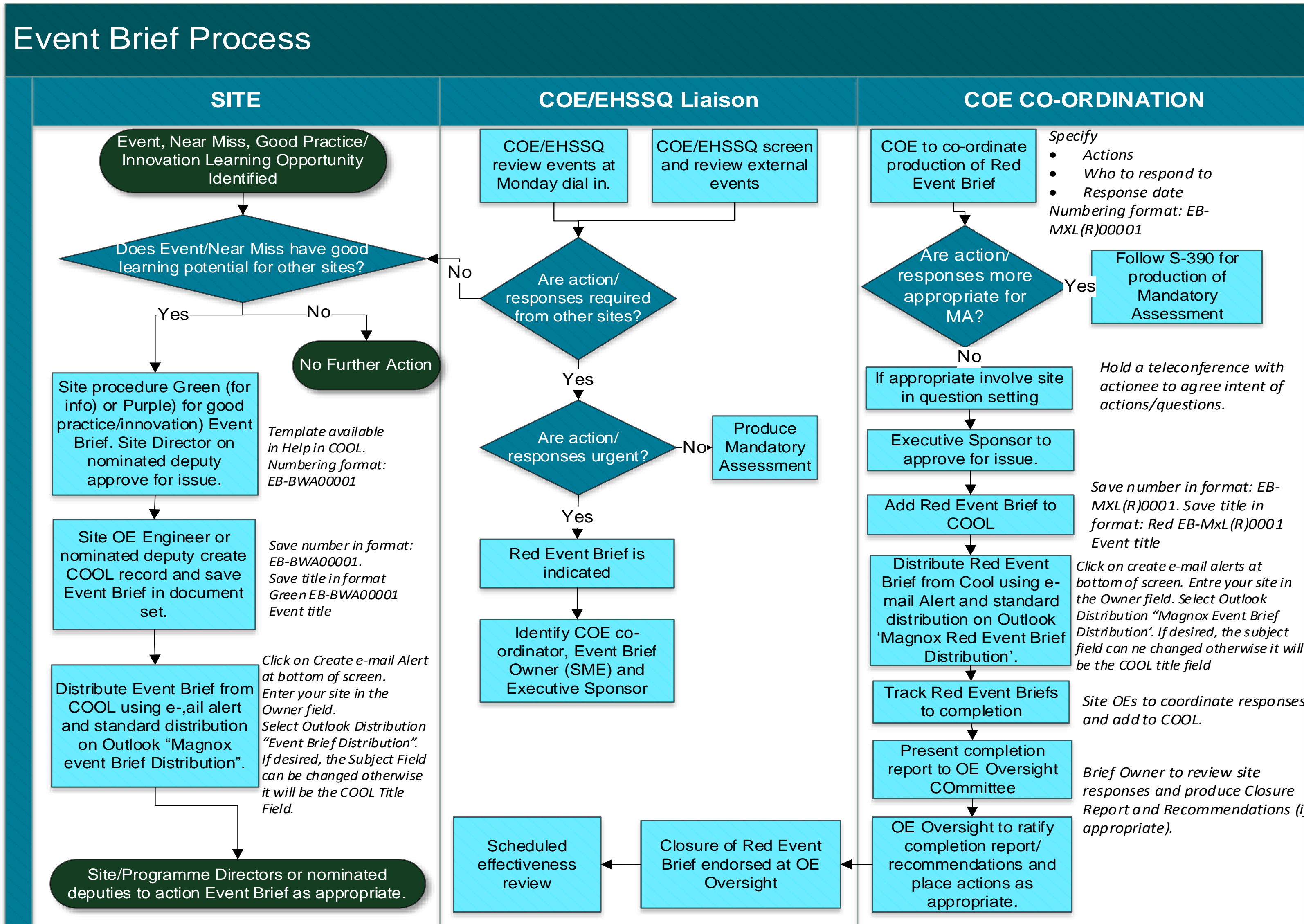
All near miss reports are recorded on the site Event and Action-Tracking System for retrieval, action-tracking and analysis.</td></tr>
<tr><td>Nominated members of site Management Team</td><td>Managers nominated to, for example:
be responsible for recognising the significance of reported abnormalities in relation to the requirements of S-495, i.e., to recognise when an 'event' has occurred;</td></tr>
</table>

Term used	Explanation
	• carry out any immediate notification of significant events which are specified in S-495 in the required timescales; • arrange for rigorous investigations to be carried out in response to significant events, e.g., by setting up and/or chairing Panels of Investigation.
Nominated staff	Staff nominated to assist in the OEF programme, including: • reporting and recording of events as per S-495; • carrying out investigation of events; • carrying out assessment of industry event reports for learning points.
Operating Experience (OE)	Operating experience provides the basis for knowledge and understanding that fosters development of lessons learned and improvement of operational performance. Operating Experience Feedback is the process by which the Company seeks to effectively and efficiently use lessons learned to improve safety and reliability and to prevent loss.
Panel of Inquiry (POI)	An inquiry initiated at Board level (Company Board or Corporate Nuclear Safety Committee) to investigate significant events that are deemed to warrant an in depth, formal investigation independent of the Business Units involved. A panel of inquiry will be chaired by an independent senior company officer (for example a Closure Director from another site) and will include appropriate specialists, trained root cause analyst, panel secretary and where appropriate a company inspector. The arrangements for the establishment, conduct, and follow-up of panel of inquiries are detailed in Company Standard S-039 Appendix G.
Preventive Action	Action to eliminate the cause of a **potential** non-conformity or other undesirable situation. **NOTE:** There can be more than one cause for a potential non-conformity. **NOTE:** Preventive action is taken to prevent occurrence whereas corrective action is taken to prevent recurrence.
Recurring event	An event that has happened before, or following evaluation, is determined to have root causes similar to those identified as contributing to previous events.

Term used	Explanation
Root Cause	A cause which, if removed, will prevent recurrence of this and similar events A fundamental process deficiency or management weakness without which: • the condition and others like it could not have occurred or; • the condition would have been acceptable. Often an event will have more than one root cause depending on the complexity of the sequence of occurrences.
Root Cause Investigation (RCI)	An investigation employing full root cause analysis techniques to determine the fundamental cause(s) and contributing factors that, if corrected, would prevent recurrence of an event or condition. A Root Cause Investigation should be conducted by an experienced individual trained in appropriate root cause analysis techniques or for more complex issues a multi-discipline team containing a trained root cause analyst.
Rule-based performance	Behaviour based on selection of *stored rules* derived from one's recognition of the situation; follows IF (symptom X), THEN (situation Y) logic; an activity performed following stored rules accumulated through experience and training.
Significant Event	An event which, due to its actual or potential severity of safety/reliability significance merits detailed investigation and/or reporting. It includes any event which results in significant loss such as lost time injuries, disabling occupational illness, property/plant damage or plant trips and/or is reportable to an external agency. Significant events may require urgent notification by the responsible site staff using the Site Event Reporting System (SERS) as detailed in S-495.
Situation awareness	The accuracy of a person's current knowledge and understanding of working conditions compared to actual conditions at a given time.
SQEP	Suitably Qualified and Experienced Person(nel)
Skill-based performance	Behaviour associated with highly practiced actions in a familiar situation, usually executed from memory without significant conscious thought; an activity performed using stored patterns or pre-programmed instructions

Term used	Explanation
Workaround	Something that is known to be wrong but staff 'get by'. It includes inadequate tools or equipment, plant in poor condition, errors in work instructions, poor working conditions, misleading labels or notices.

APPENDIX A – RED, GREEN AND PURPLE EVENT BRIEF



APPENDIX B – LEVELS OF INVESTIGATION

The table below is adapted from the HSE publication HSG245-Investigating Accidents and Incidents.

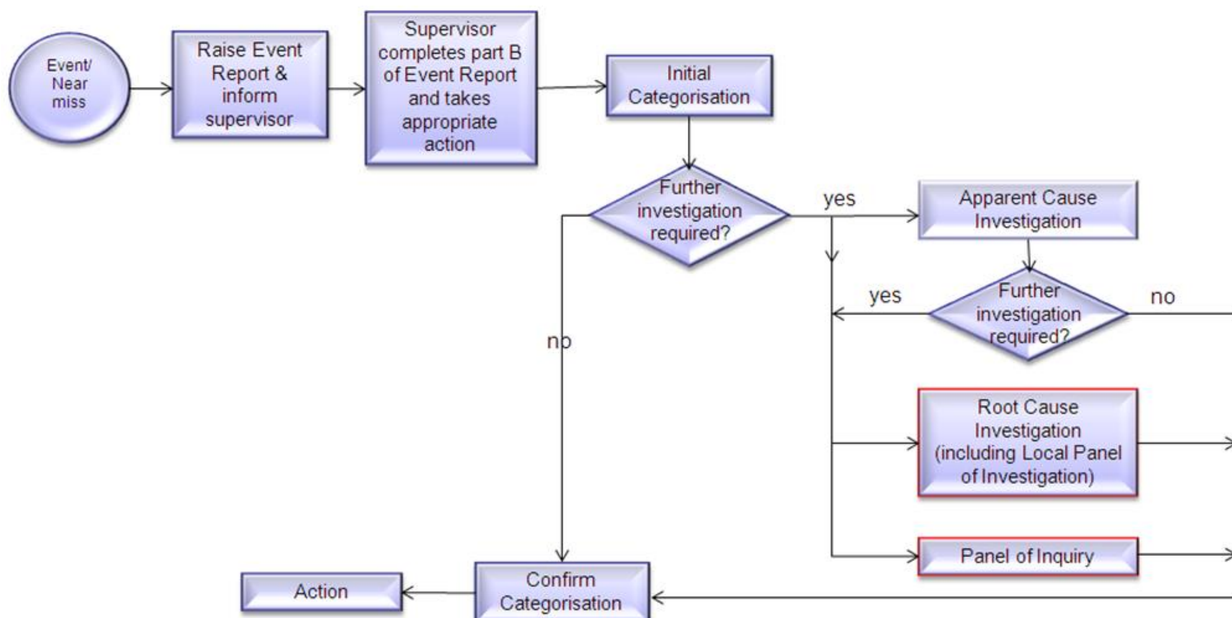
It is intended as guidance in determining the level of investigation which is appropriate for the adverse event. Remember you must consider the worst **potential** consequences of the adverse event (egg a scaffold collapse may not have caused any injuries but had the potential to cause major or fatal injuries).

Likelihood of recurrence	Potential worst consequence of adverse event			
	Minor	Serious	Significant/Major	Fatal
Certain				
Likely				
Possible				
Unlikely				
Rare				

Level of Investigation Relative to Risk

Risk Level	Minimal	Low	Medium	High
Investigation Level	Trend	ACI	RCI	Board Panel RCI

The 'level' of analysis that is applied to an investigation will affect the results in terms of the findings and the 'underlying' problems and the solutions which are required.



LEVELS of INVESTIGATION (based on IAEA TECDOC 1600)

Board of Inquiry

For events involving death, serious injury, or significant economic loss the Chief Executive Officer may choose to convene a Board of Inquiry. The chairman will normally be an external individual such as a Non-Executive Director.

The investigation process and reporting format will be as per the Panel of Inquiry process.

Panel of Inquiry (POI)

An inquiry initiated at Board level (Company Board or Corporate Nuclear Safety Committee) to investigate significant events that are deemed to warrant an in depth, formal investigation independent of the Business Units (NPPs) involved.

A panel of inquiry will be chaired by an independent senior company (for example, an independent member of the corporate nuclear safety committee) officer and will include appropriate specialists, trained root cause analyst, (from other NPPs), panel secretary and where appropriate a company inspector.

Root Cause Investigation (RCI) Investigation

An investigation employing full root cause analysis techniques to determine the fundamental cause(s) and contributing factors that, if corrected, would prevent recurrence of an event or condition.

A Root Cause Investigation can be conducted by an experienced individual trained in appropriate root cause analysis techniques or for more complex issues a multi-discipline team containing a trained root cause analyst. For multi discipline teams at least one individual should be independent of the department/programme involved in the event. For more significant events a more formal approach (Local Panel of Inquiry) may be taken where an internal team is established and chaired by a departmental manager independent from the main department involved in the event. The team will typically comprise a departmental manager (chairman), appropriate technical specialists, and a trained root cause analyst and where appropriate the location company inspector.

Apparent Cause Investigation

A limited investigation to quickly and simply determine the most immediate, or apparent cause of a less significant event or sub-standard condition without recourse to full root cause analysis by considering the readily available facts with little or no detailed investigation. One person may conduct this type of investigation, however, needs to have an understanding of root cause techniques.

Supervisors/First Line Investigation

An initial investigation conducted by a line supervisor to preserve evidence for any subsequent investigation and determine the most immediate or apparent cause of an event involving a member of their team.

Magnox to Harwell/Winfrith Investigation Equivalents Table

Type of Investigation		Q Pulse Corresponding Level
Harwell/Winfrith	**Rest of Magnox**	
Task/Building Supervisor First Line Investigation	**Team Leader First Line Investigation**	**1**
EBR	**TBFF**	**EBR/TBFF**
EEBR	**ACI**	**2**
RCI	**RCI**	**3**
Formal Board of Inquiry	**Panel of Inquiry**	**4**

APPENDIX C – OE OVERSIGHT BOARD TERMS OF REFERENCE

Purpose:

To provide a focus for issue resolution and action progress/close-out in relation to Red Briefs and Mandatory Assessments.

To review the Significant Event and Intervention Tracker and the Company Safety Improvement Plan.

Frequency:

1 monthly.

Duration:

1 - 2 hours.

Participants:

Nuclear Decommissioning Director /CNO (Chair)

Director – EHSSQ and support

Director – Technical

Director – Challenge and Organisational Learning

Director – Waste Programme

Director – Decommissioning Programme

Director – Asset Management Programme

EHSS&Q Managers for Waste, Decommissioning and Asset Management

Members of Central OE Team

Agenda:

Review of:

Red Event Briefs

Mandatory Assessments

Significant Event and Intervention Tracker entries

Company Safety Improvement Plan

Actions – those from previous meetings/new actions

Output:

Action Listing

APPENDIX D –TERMS OF REFERENCE FOR A TYPICAL SELF ASSESSMENT

PURPOSE

To establish HOW WELL the site's OEF programme is performing against management expectations, company OEF standards and regulatory requirements.

The self-assessment process should allow the site to determine the strengths and weaknesses of their OEF programme and identify actions to improve its overall effectiveness.

Guidance is available in G-191.

ACTIVITIES

In order to obtain a true picture of HOW WELL the site's OEF programme complies with management expectations, company OEF standards and regulatory requirements it is expected that the following will be undertaken:

- Interviews with a cross section of staff - What are the Lead Team's expectations for the use of OEF? How are these communicated? Are they deployed? Are the OEF processes understood? Are staff aware of appropriate recent significant OEF information? What improvements would they like to see to the OEF programme?
- Document Review - How well does the Site/Programme comply with the company OEF standards? Consider the quality and threshold of event reporting, the number and scope of investigations, the number and speed of events reported to COOL, the extent to which industry experience is used to improve performance, sites response to recent Mandatory Assessments, review of OEF related action effectiveness and completion.
- Observations - Consider observing activities where the use of OEF is expected, such as training, pre and post job briefings, team briefings, daily management meeting, Event Review Team, work activities. Determine how well OEF information is deployed in daily activities.
- Assessment of Results - Undertake a review of the site Performance Indicators to determine what impact the OEF programme is having on improving safety and reliability.

Guidance is available in G-191.

METHODOLOGY

The following may also assist the team in the conduct of the review:

- IAEA ASSET/PROSPER guidelines;
- WANO guidelines 'How to Review Operating Experience';

REPORT

Present a report of the review findings to the site Lead Team.

The major findings should be discussed and when the action plan to address identified weaknesses has been accepted, actions should be prioritised and tracked to completion.

Share the report with Central OE via email.

FREQUENCY/DURATION

Once a year. Support may be available from Magnox Central OE Team.

TEAM MEMBERSHIP

Effectiveness reviews should be conducted by personnel possessing the suitable technical knowledge to comprehend the purpose and desired results of the OEF programme, and who are also familiar with appropriate methodologies. A Safety Representative should be involved where possible

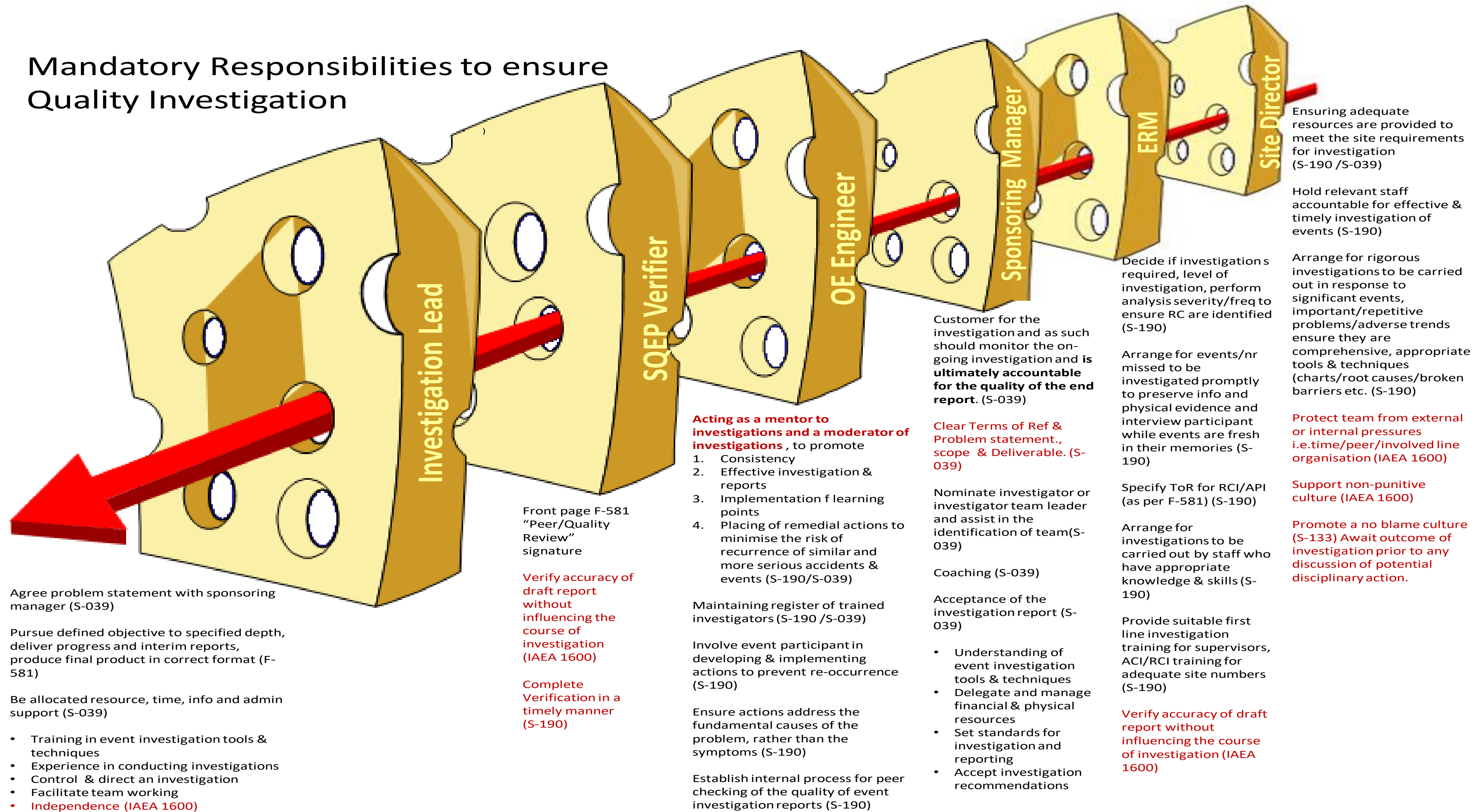
APPENDIX E –PRIORITISING INVESTIGATION FINDINGS MAJOR OR MINOR

Findings from investigations require to be defined as either major or minor for the purposes of prioritisation within Q Pulse. The table below gives guidance.

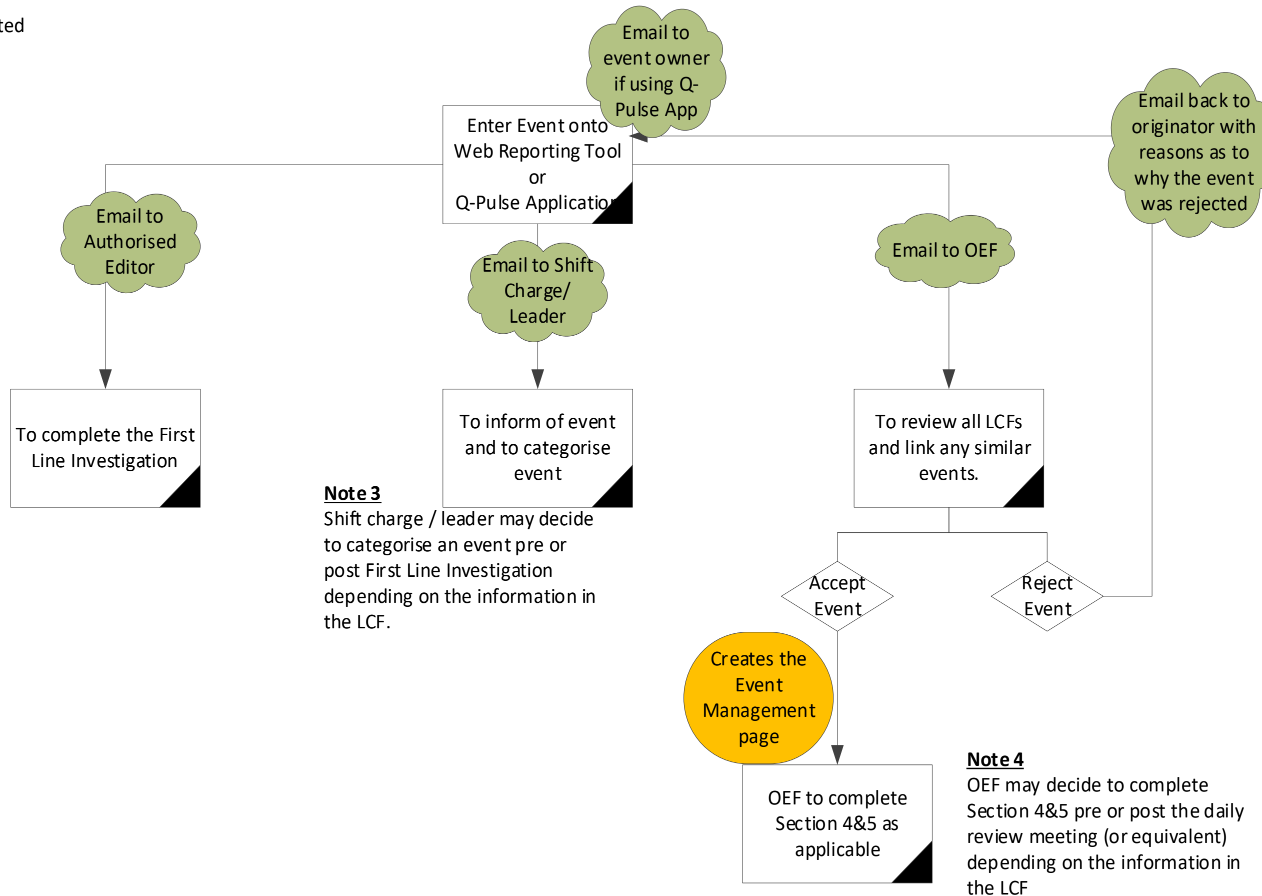
The table is intended as guidance in prioritising findings (major/minor) and subsequent recommended corrective actions based on risk. Remember you must consider the worst potential consequences of the finding/recommendation (e.g., finding non-inspection of lifting equipment may not have caused any injuries, but may have had the potential to have significant or fatal consequences)

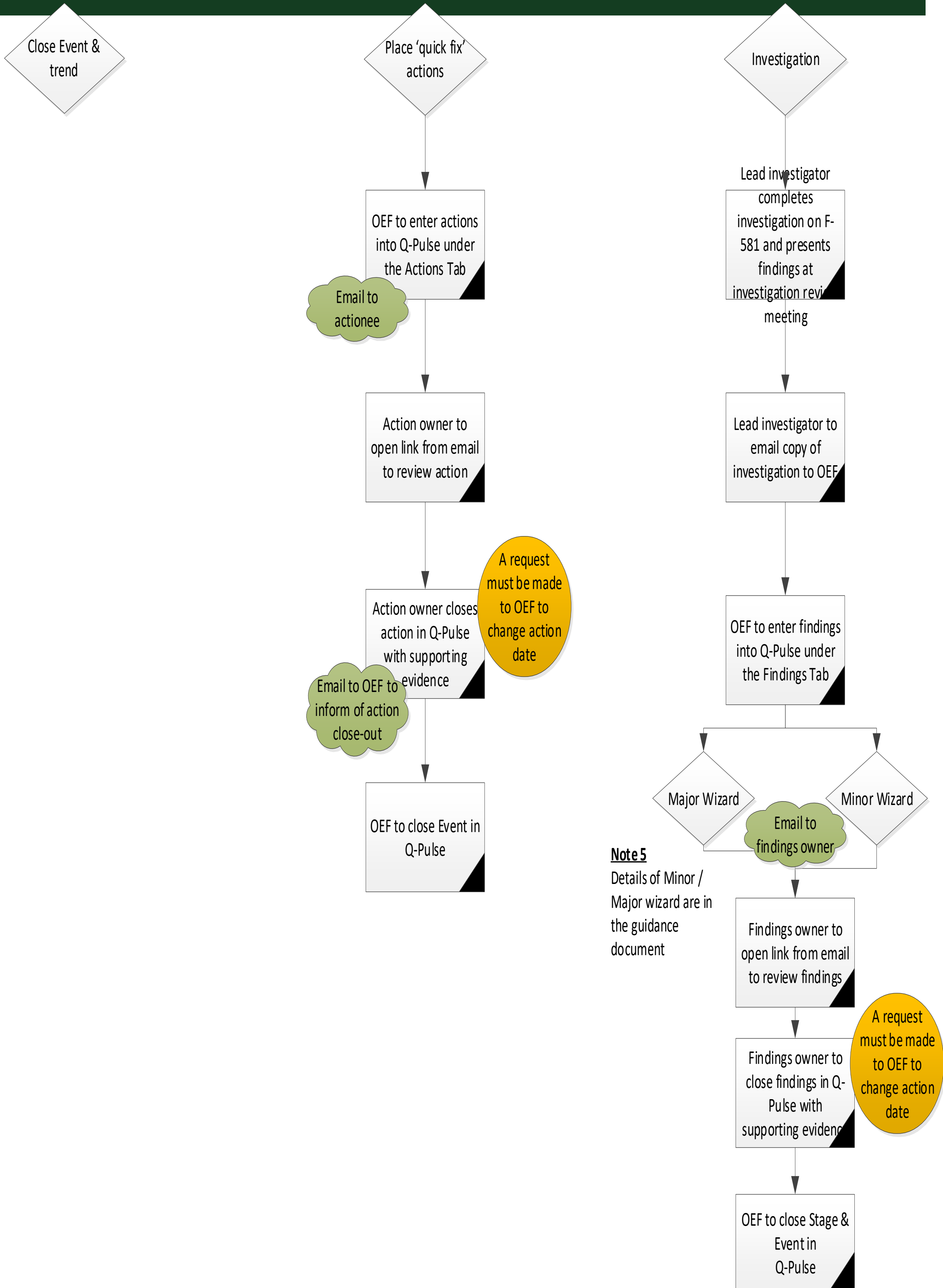
Likelihood of recurrence if not corrected	Potential worst consequence of a finding if not corrected			
	Minor	Serious	Significant	Fatal
Certain	Minor	Major	Major	Major
Likely	Minor	Major	Major	Major
Possible	Minor	Major	Major	Major
Unlikely	Minor	Minor	Major	Major
Rare	Minor	Minor	Major	Major

APPENDIX F –KEY RESPONSIBILITY BARRIERS TO PREVENT INEFFECTIVE INVESTIGATIONS



APPENDIX G –Q PULSE PROCESS FLOW CHART





Daily Review Meeting (or equivalent)
Close Event & trend
Place 'quick fix' actions
Investigation
OEF to enter actions into Q-Pulse under the Actions Tab
Email to actionee
Action owner to open link from email to review action
Action owner closes action in Q-Pulse with supporting evidence
A request must be made to OEF to change action date
Email to OEF to inform of action close-out
OEF to close Event in Q-Pulse
Lead investigator completes investigation on F-581 and presents findings at investigation review meeting
Lead investigator to email copy of investigation to OEF
OEF to enter findings into Q-Pulse under the Findings Tab
Major Wizard
Minor Wizard
Email to findings owner
Note 5
Details of Minor / Major wizard are in the guidance document
Findings owner to open link from email to review findings
Findings owner to close findings in Q-Pulse with supporting evidence
A request must be made to OEF to change action date
OEF to close Stage & Event in Q-Pulse

APPROVAL SHEET

Approval		
Title: Event reporting and investigation and operational experience feedback		
Document Number: S-190		**Issue No:** 2.1
Company Area: NRS Centre and NRS Sites Delivery Business		
Document Type: Standard Procedure		
Parent Process: PD-016 – Business Improvement		
Author: **Chris Hinton**	OEF Lead	**Date:** **07/10/2024**
Verifier: **Andy Renwick** **pp** M Murcutt	Improvement and Performance	**Date:** **07/10/2024**
Authoriser: Eleri Joyce pp **David Williams**	Process Owner Head of EHSS&Q NRS Sites	**Date:** **07/10/2024**