



Science and
Technology
Facilities Council

RAL Space

SAFETY

SUBJECT	<i>SHE Improvement Plan 2024-25 v 1.0</i>	
PREPARED BY	<i>R. Stamper</i>	
APPROVED BY	<i>S. Beardsley</i>	



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CHANGE RECORD

Issue No.	Date	Description of Changes
Draft 0.1	29 Jul 2024	Draft to Department Safety Committee
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1 Executive Summary

Reported injury and non-injury incidents were down in 2023/24 compared with the previous year, continuing the general pattern seen in the previous year.

All the safety tours planned for the year were conducted and excellent progress was made in closing out actions arising from tours, with only five overdue at the end of April 2024, compared with 58 a year earlier.

Rates of completion of the eight training courses that are mandatory for all staff were improved on those in the previous year, with the target level of having 90% of staff with current training being met for seven of them and 88% completion for the remaining course – DSE Self-Assessment.

Of the department's eight 2023/24 SHE objectives:

- Three were completed and have been retired: validation of the fixed O₂ monitoring systems in the test facilities showed no further anomalies so these systems are now believed to working to specification; ensuring we have sufficient trained Contract Supervisors; providing support to line management in managing mental health and wellbeing of staff.
- One was completed but has been retained: we achieved the target of having 95% of all Risk Assessments reviewed within the last 2 years, but since this is the first time this has been achieved in many years this is being retained to demonstrate consistent compliance.
- Two were met as stated but have been retained because the work continues: preparation for the safe handover of NSTF buildings and facilities will continue into 2024/25; remediation of the 25m Chilbolton antenna also continues.
- Two were not fully met and are still live issues, so have been carried over: completing mandatory training; establishing standard safety induction for users/customers working in our facilities.

For 2024/25 there are seven departmental SHE improvement objectives:

1. All RAL Space staff to carry out mandatory training.
2. All Risk Assessments to have been reviewed within 2 years and recorded on EVOTIX Assure.
3. Prepare for the safe handover of NSTF buildings and facilities.
4. Maintain and deliver to plan against the remediation programme for the Chilbolton 25m antenna
5. Review data on department staff mental health and wellbeing, then develop suitable interventions to address any areas of concern.
6. Establish standard safety induction process for users/customers working in RAL Space facilities.
7. Establish procedures for the safe transport for disposal of large volumes of chemicals from MMT laboratories.

2 Review of 2023/2024 Year SHE Performance

2.1 SHE Incidents

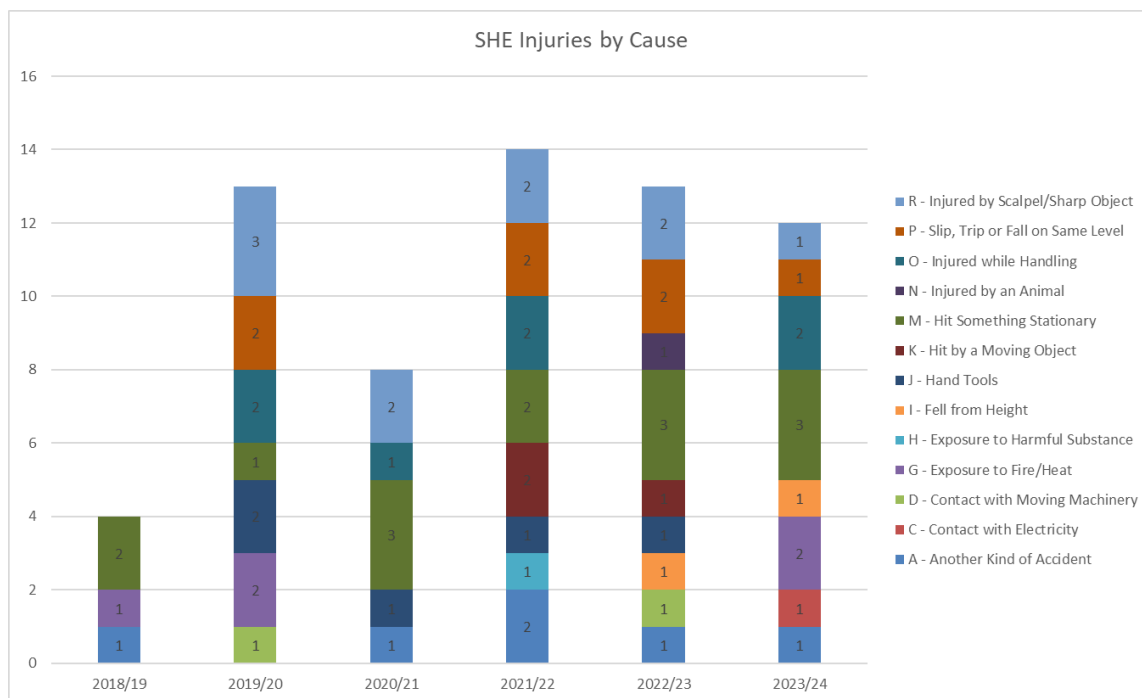


Figure 1: Injury Incidents by cause and year

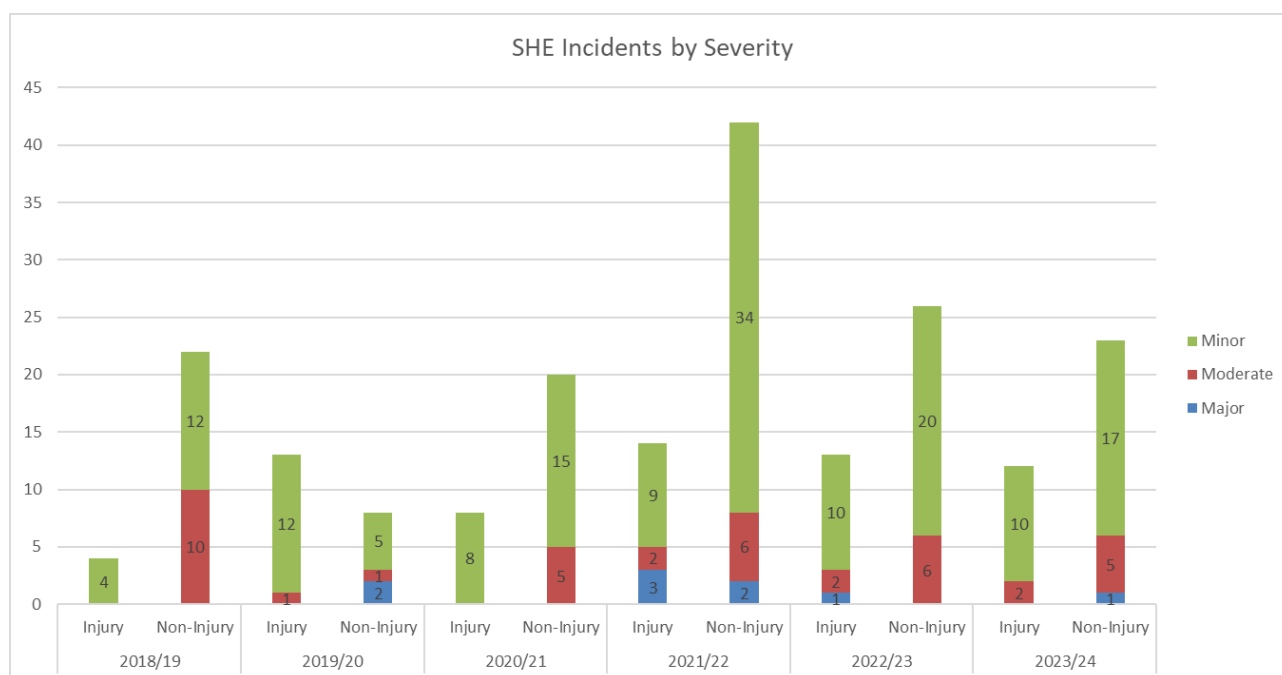


Figure 2 : Injury vs Non-injury (Learning Opportunities) by year

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The number of injury incidents was again lower than the previous year but similar to those in the last few years, noting that the 2020/21 figures were depressed by the COVID lockdowns. The causes were various with none predominating. The total number of non-injury incidents (learning opportunities) was also decreased, and by a larger proportion, with the ratio with injury incidents now just below two.

2.2 Safety Tours

All safety tours planned for 2023/24 were carried out. Good progress was made with the backlog of actions through the year as shown in the table below which covers tours up to the end of April 2024, with only 5 actions overdue at that point, which is a great improvement on the previous year when there were 58 overdue.

Area	Last Completed	SHE Assure Ref	Actions				Next Booked (Due)
			Total	Complete (%)	Outstanding,	Late	
R100 Cleanrooms Suite A and Suite B	21/03/2023	255	15	14 (93%)	1	1	2025
R100 Production Group Mezz and Cage Areas	08/12/2022	246	6	6(100%)	0	0	2024
R100 Facility Hall, Vibration, Dev Lab and STC Mezz Areas	07/12/2022	245	30	30(100%)	0	0	2024
R25 TVAC Controlled areas. AIV office, control room, stc/tvac services, HDL and customer rooms	03/11/2022	231	14	14(100%)	0	0	2024
R100 ETD Cleanrooms and SET Cleaning Plant and MLI Cleanroom	21/09/2022	214	19	19(100%)	0	0	2024
R100 Imaging Systems Laser Labs	07/07/2022	205	16	16 (100%)	0	0	2024
R100 Imaging Systems Cleanrooms/Workshops/Store	21/06/2022	203	12	12(100%)	0	0	2024
R100 Imaging Systems Cleanrooms/Workshops/Store	04/04/2024	325	9	9 (100%)	0	0	2026
R25 PDF Workshop, Locus, and THz Labs	15/02/2024	320	10	9 (90%)	1	1	2026
R27 ETD/NSTF Offices	20/04/2022	198	0	0 (100%)	0	0	2024
R100 Offices, Ground, First and Second	25/04/2024	328	33	33 (100%)	0	0	2026
Chilbolton	12/09/2023	275	30	31 (93%)	2	2	2024
Chilbolton	21/03/2024	323	5	5 (100%)	0	0	2024
R27 CDF and Robotics Area	11/05/2023	260	7	7 (100%)	0	0	2025
R25/R68 Ground Floor Labs and Workshops	04/05/2023	259	44	43 (98%)	1	0	2025
R25/R68 Ground Floor Offices	15/08/2023	273	11	7 (64%)	4	0	2025
R25/R68 Second Floor offices and R68 Roof inc 2.72	13/06/2023	263	22	21 (95%)	1	0	2025
R25/R68 First Floor Offices	21/06/2023	264	34	33 (%)	1	1	2025
R3 Basement, World Data Stores and Computer Rooms	05/07/2023	267	10	8 (80%)	2	0	2025
Aberystwyth	13/11/2023	306	11	11 (100%)	0	0	2026

2.3 Mandatory Training

The target for all mandatory training in UKRI is now that 90% of staff have completed it within the required

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repeat interval (5 years) at the end of the reporting year; the figures at 1st April 2024 are reported in the table below. The 90% target was achieved for seven of eight courses, one better than last year, with rates for most courses improved. Only the DSE Self-Assessment was below target.

Course/ Assessment	Completion rate at 1st Apr 2023	Change and rate at 1 st Apr 2024
Induction/Refresher	86%	↑ 90%
Manual Handling	93%	↓ 92%
Fire Safety	90%	→ 90%
Display Screen Equipment (DSE)	92%	↑ 94%
DSE Self-Assessment	86%	↑ 88%
H&S Policy Bitesize	97%	↑ 98%
Asbestos Bitesize	96%	↑ 97%
Electrical Safety	96%	↑ 97%

2.4 Review of Objectives from 2023-24

No.	Action	Target and Due Date	Comment
1.	All RAL Space staff to carry out mandatory training (Induction/Refresher, Fire, Manual Handling, DSE training, DSE self-assessment, and Electrical Safety Essentials).	>90% compliance March 2024	Partial. Achieved for 7/8 courses, with only DSE Self-Assessment below target at 88%.
2.	All RAL Space Risk Assessments to have been reviewed by suitably trained staff within 2 years, and recorded on SHE Assure	>95% compliance March 2024	Achieved. Figures from 11 Apr 2024 show 173/177 = 98%
3.	Prepare for the safe handover of NSTF buildings and facilities	Commissioning plans drafted with appropriate consideration of safety. Dry-run safety tours held. Dates: as facilities are commissioned	Progressing to plan. Risk assessments being prepared as commissioning activities progress. Safety tours being conducted. Additional measures were taken to define how to safely introduce LN2 into the building during LSTC installation, and these proved sufficient to cope with an incident due to unsafe behaviour by the LSTC contractor.
4.	Maintain and deliver to plan against the remediation programme for the Chilbolton 25m antenna	A Remediation Programme is defined with a schedule sufficient to keep the antenna safe. Deliverables in the programme are delivered to plan up to March 2024	Progressing. A plan of required remediation work has been defined, although without a fixed schedule. Required work is being done as availability of resources permits.



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No.	Action	Target and Due Date	Comment
5.	Provide training and support for line management to improve their capacity to manage the mental health and wellbeing of their staff and themselves.	All line managers provided with signposting to support available from UKRI. At least one event held in the year	Achieved. Resources signposted in department staff talks through the year.
6.	Continue programme of validation of fixed O ₂ monitoring systems	No further out-of- specification incidents with the fixed O ₂ monitoring systems in R25 and R100 by March 2024	Achieved. Nominal performance has been seen for a further 12 months in both R25 and R100.
7.	Review implementation of SC 15 'Control of Contractors' to ensure sufficient trained Contract Supervisors	Register created of areas needing Contract Supervisors. Sufficient Contract Supervisors identified and trained. March 2024	Achieved. Additional Contract Supervising Officers have been trained. No register of areas created but this was not considered useful after review
8.	Establish standard safety induction process for users/customers working in RAL space facilities	Process defined and publicised to the department. March 2024	Partial. RAL Space Customer Safety course drafted and close to being ready to roll out.

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3 Safety Tour schedule

The schedule of Safety Tours for all areas in the department is shown in the table below. Tours not due in 2024-25 are shown in grey type.

Area	Safety Tour Date	EVOTIX Ref	Next Due	Comments
R100 Cleanrooms Suite A and Suite B	21/03/2023	255	03/2025	
R100 Production Group Mezz and Cage Areas	08/12/2022	246	05/12/2024	
R100 Facility Hall, Vibration, Dev Lab and STC Mezz Areas	07/12/2022	245	10/12/2024	
R25 TVAC Controlled areas. AIV office, control room, stc/tvac services, HDL and customer rooms	03/11/2022	231	07/11/2024	
R100 ETD Cleanrooms and SET Cleaning Plant and MLI Cleanroom	21/09/2022	214	05/09/2024	
R100 Imaging Systems Laser Labs	07/07/2022	205	06/06/2024	
R100 Imaging Systems Cleanrooms/Workshops/Store	21/06/2022	203	07/2024	
R100 Imaging Systems Cleanrooms/Workshops/Store	04/04/2024	325	2026	
R25 PDF Workshop, Locus, and THz Labs	15/02/2024	320	2026	
R27 ETD/NSTF Offices	20/04/2022	198	05/2024	
R100 Offices, Ground, First and Second	25/04/2024	328	2026	
Chilbolton	21/03/2024	323	2024	Full tour planned for September 2024
R27 CDF and Robotics Area	11/05/2023	260	2025	
R25/R68 Ground Floor Labs and Workshops	04/05/2023	259	2025	
R25/R68 Ground Floor Offices	15/08/2023	273	2025	
R25/R68 Second Floor offices and R68 Roof inc 2.72	13/06/2023	263	2025	
R25/R68 First Floor Offices	21/06/2023	264	2025	
R3 Basement, World Data Stores and Computer Rooms	05/07/2023	267	2025	
Aberystwyth	13/11/2023	306	To be Decided	Facility may be decommissioned before next visit
R114 EM Facility	19/06/2024	331	2026	
NSTF Facilities (other)			TBD	As they enter service

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4 SHE Risk Register

The department's SHE Risk Register was reviewed throughout 2023/24 and will continue to be reviewed quarterly through 24/25. For reference, the summary sheet from the version issued on 31st May 2024 is reproduced below.

Risk Areas	Assessment of gross risk		of	Assessment of control effectiveness	Assessment of net risk		
	impact	likelihood			impact	likelihood	
i) Management of the safety of users/visitors to department facilities	3	3	High	Partially satisfactory	3	2	Med
ii) Lone Working – labs and cleanrooms	3	3	High	Satisfactory	2	1	Low
iii) Oxygen Depletion Monitoring	4	2	High	Satisfactory	3	1	Med
iv) Handover of NSTF buildings and facilities, and R100 5m TVAC chambers	3	3	High	Satisfactory	2	2	Med
v) Transport of chemicals on site, including for disposal	3	2	Med	Partially Satisfactory	3	1	Med
vi) Condition of Chilbolton 25m antenna	4	2	High	Partially Satisfactory	3	2	Med

All the risks with a residual risk score of Medium or above have an associated objective for 2024/25 in Section 5 of this plan, except for Risk 3 relating to oxygen depletion monitoring. The nature of the hazard is such that the potential harm cannot be reduced any further, but the controls to reduce the likelihood of occurrence are considered sufficient for this risk to be regarded as satisfactorily controlled at present.

5 SHE Management and Improvement Actions for 2024-2025

The following table lists the actions planned for 2024/25. For each amber- or red-rated risk on the department's SHE Risk register an associated action has been identified.

No.	Action	Actionee	Target and Due Date	Comment
1.	All RAL Space staff to carry out mandatory training (Induction/Refresher, Fire, Manual Handling, DSE training, DSE self-assessment, and Electrical Safety Essentials).	DSC to report DMB members to chase All RAL Space staff to complete	>90% compliance March 2025	Carried over from 23/24 when it was achieved for 7/8 courses. Only DSE Self-Assessment was marginally below target at 88%, and the addition of records for this to Totara should support better monitoring this year.
2.	All RAL Space Risk Assessments to have been reviewed by suitably trained staff within 2 years, and recorded on SHE Assure	All staff responsible for RAs	>95% compliance March 2025	Achieved in 23/24 but retained to demonstrate consistent compliance.
3.	Prepare for the safe handover of NSTF buildings and facilities	NSTF delivery team NSTF operational team Safety team	Commissioning plans drafted with appropriate consideration of safety. Dry-run safety tours held. Dates: as facilities are commissioned	Carried over from 23/24, as commissioning continues. Linked to Risk #4 on the departmental SHE Risk Register
4.	Maintain and deliver to plan against the remediation programme for the Chilbolton 25m antenna	Chilbolton Station Manager Relevant member of DMB	A Remediation Programme is defined with a schedule sufficient to keep the antenna safe. Deliverables in the programme are delivered to plan up to March 2025	Carried over from 23/24 because remediation is not yet complete. Linked to Risk #6 on the department SHE Risk Register
5.	Review data on department staff mental health and wellbeing, then develop suitable interventions to address any areas of concern	DSC - collate data to report to a DMB. DMB - to identify areas of concern and implement interventions	Data reported to DMB by Sep 2024 Interventions defined by Oct 2024, implemented by March 2025	Flowing down STFC SHE Objective 1

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No.	Action	Actionee	Target and Due Date	Comment
6.	Establish standard safety induction process for users/customers working in RAL space facilities	DSC Project/facility managers	Complete and release induction training course on Totara Sep 2024 Project/Facility managers ensuring users/customers using it once available	Carried over from 23/24 when course was drafted but not yet released. Relates to Risk #1 on risk register
7.	Establish procedures for the safe transport for disposal of large volumes of chemicals from MMT labs	MMT staff responsible for use and handling of chemicals	Use only closed compartment transport for bulk movements. May 2024	New action for 24/25 Relates to Risk #5 on risk register

5.1 Mandatory training

The DSC will monitor the training spreadsheet produced from SHE Group regularly and enlist the help of senior management as necessary to ensure that training is carried out to schedule. The department has been close to achieving the goal of getting >90% completion across all mandatory courses for a couple of years; until this is achieved routinely it is recommended this objective is retained.

5.2 Risk Assessments Review

The DSC continues to advise Risk Assessment owners in advance of the two-year review deadline and for the first time in many years achieved the STFC target of 95% compliance in 2023/24. The importance of maintaining Risk Assessments will continue to be emphasised by department senior management in meetings with staff and, where necessary, on an individual basis, and lists of overdue assessments provided to department management boards at least quarterly.

5.3 NSTF safety preparation

The NSTF is the largest project that RAL Space has managed, and the safe commissioning and operation of the facilities once handed over to will require considerable planning. Handover of facilities has been significantly later than originally anticipated but the EM Passive Antenna facility is now operational with all others currently expected to follow during 2024-25.

5.4 Chilbolton 25m antenna remediation

Condition surveys of the Chilbolton 25m antenna in June 2021 revealed some significant issues with corrosion of metal parts, and there was a serious incident previously when a corroded counterweight that was a known problem in 2017 fell from the antenna. Actions are being carried out, but it is important that the programme of works continues and is executed to schedule to ensure that people working on or near the antenna are not put at risk.

5.5 Promotion of Wellbeing and Mental Health

This is flowing down an STFC H&S Objective. The department SHE Committee will organise a review of the data we have on mental health and wellbeing, then determine suitable interventions to target any areas of concern.

5.6 Safety Induction for facility users/customers

The STFC Health and Safety Management arrangements are clear that responsibility for the Health and Safety of facility users rests with their STFC hosts. Good practice for the department is being codified as a standard induction training course on Totara, planned for release in September 2024. This will then be used routinely with visitors or contractors working in our facilities.

5.7 Safe Transport of Chemicals

The Millimetre Technology Group has had difficulties with transporting relatively large volumes of chemicals safely to Technology Department for disposal. Closed compartment transport containers will be bought, and operating procedures changed to require their use.