SEIEG Meeting – Sheffield, Friday 12 September 2025

Academia/Industry	
Name	**Organisation/Role**
Prof Richard Horne	British Antarctic Survey, SEIEG Chair
Prof John Preston	University of Essex
Prof Sean Elvidge	University of Birmingham
Ellen Clarke	British Geological Survey
Prof David Jackson	Met Office
Dr Si Machin	Met Office Space Weather Operations Centre (MOSWOC)
Prof Gemma Attrill	DSTL
Dr Clive Dyer	University of Surrey
Krista Hammond	MOSWOC
Dr Mike Hapgood	Rutherford Appleton Laboratory
Mark Gibbs	MOSWOC
Dr Mario Bisi	Rutherford Appleton Laboratory
Dr Ciaran Beggan	British Geological Survey
Prof Jim Wild	Lancaster University
Dr Graham Routledge	Defence, Science and Tech. Lab.
Dr Rick Tanner	UK Health Security Agency
Prof Jonathan Chambers	Chief Scientist, Multi-Hazards & Resilience
Dr Matthew Angling	University of Birmingham
Dr Matt Owens	University of Reading
Dr Lucie Green	University College London
Prof Huw Morgan	Aberystwyth University

UK Government attendees
DSIT
DESNZ
GO-Science
DfT
NAO

Topic	Discussion	Action
1. Review and Acceptance of Previous Meeting Minutes	• Richard facilitated the review; Mike highlighted a correction regarding the Frazer-Nash report link, which currently points to their press release. • The minutes would be accepted following amendment to reference the official report.	DSIT to amend Frazer-Nash report link to reference their official report instead of the press release. Chair would publish the minutes following that correction.
2. Departmental Transfer and Group Support	• DSIT provided an update on the transfer of severe space weather responsibility from DESNZ to DSIT, pending Prime Ministerial sign-off. • DSIT noted the ask from the Group for T&S to be considered for Group's core academic members.	
3. Coordination, Expert Database, and Emergency Response	• DSIT also initiated a discussion on the Group's advisory role in emergencies. GO-Science colleagues confirmed that they would look to SEIEG for advice in such situations. • Richard and Mark G stressed maintaining a current expert database with GDPR compliance for effective incident response. • DSIT agreed to lead further discussion to define emergency response role and update expert lists.	DSIT to lead follow-up with Richard, Mark, and GO-Science to refine emergency response role and update expert database.
4. Group Membership and Expertise Gaps	• Richard and DSIT discussed expertise gaps, especially in engineering and industry. • Cathryn proposed a top-down mapping exercise. • The Group would need to consider the potential formation of subgroups for aviation, rail, and satellites, highlighting engagement challenges.	SEIEG to lead mapping exercise to identify expertise gaps, focus on manageable subgroups, and formally connect with key industry contacts, ensuring GDPR compliance.
5. Space Weather Effects on Aviation and Avionics	• Clive presented a paper on aviation electronics risks from space weather, noting lack of compulsory standards and challenges in forecasting. • There was healthy discussion on the vulnerability of microelectronics and past incidents. • Clive's recommendations included real-time monitoring and improved reporting.	SEIEG&DSIT to engage with DfT, CAA, and Chief Scientific Advisors to raise awareness. Consider visit to ChipIR facility. (Mike) Promote industry transparency and

		real-time monitoring. (SEIEG)
6. May Storm Report	• Richard updated the Group on the May Storm report, including corrections and new recommendations for radiation monitoring. • The report will be circulated and possibly published with a Digital Object Identifier (DOI).	Chair to circulate the final May storm report and host it on the Group's website. Chair to discuss further with the core members the options for DOI and publication with the Royal Society.
7. Reasonable Worst-Case Scenario	• Mike led a review of updates, noted sections needing input, and encouraged editing from all members. • The document covers impacts on grids, satellites, and cables, informing national risk assessment.	Mike agreed to recirculate an editing link and instructions to complete the document. Members are asked to review and contribute using the 'suggesting' mode.
8. Recent Space Weather Events and Forecasting	• Mark G updated the Group on a recent double CME event; a G4 watch issued but impact limited. • The Group discussed forecasting challenges, progress in neutron monitors, and need for human forecasters and international data sharing.	Continue developing alerting and monitoring systems. Foster international cooperation for reliable data.
9. WMO Space Weather Activities	• Mark G and David J expressed concern over the WMO's proposal to discontinue their space weather team, risking removal from WMO's mission. • Members were urged to provide evidence of WMO's benefits, especially for global initiatives.	MOSWOC would share WMO expert team benefit document and collect further input for advocacy. SEIEG members were encouraged to support UK's position in WMO.
10. Date of Next Meetings	• Next meeting agreed for 22 January; subsequent meeting to follow UK Space Weather Conference (SWC) in September 2026. • Discussed venue options and need for early booking to maximise engagement.	Book venues, plan next meetings: London week commencing 19/01/2026. (DSIT) SWC Newcastle 14–17/09/2026,

		SEIEG meeting on 18/09/2026. (DSIT)
11. Any Other Business	• Points were raised briefly on the Vigil mission status, Artificial Intelligence's potential and limitations in space weather, and recent studies on historical solar particle events. • Regarding AI risks, Mike raised that there is new research which does not alter threat assessments. • Use of AI in research is causing potential errors so be cautious of any information provided by AI	Engage further with Vigil mission scientist. (SEIEG)
	END	

Action summary:

Action	Description	Progress
Change of lead Government department DESNZ to DSIT:	• After the MOG change DSIT and SEIEG are to strengthen links • Core academic group to meet with Senior staff inside DSIT to discuss capabilities of SEIEG • Also to discuss potential scope for potential further work • Potential of T&S for SEIEG members	In Progress
SEIEG role in Emergency response:	• SEIEG's role in emergency response e.g., scoping of potential new members of SEIEG and emergency contacts	New
Expertise Gaps and Membership Mapping:	• SEIEG members identified gaps in engineering and industry expertise, especially in avionics, computer systems, and satellite operations. • A top-down mapping exercise will be conducted to align members' skills and establish manageable subgroups with key industry contacts.	New
Space Weather Impact on Aviation:	• Risks to aviation electronics from space weather were highlighted, including lack of compulsory standards and forecasting challenges. • Recommendations include real-time radiation monitoring on aircraft, improved pilot reporting, and greater industry transparency. Engagement with DfT, CAA, and scientific advisors will be pursued.	New

May Storm Report Finalization:	• The May Storm report was updated with corrections and new recommendations for radiation monitoring. • Plans include circulating the final report to members and government, hosting it online, and exploring publication with a DOI	New
Space weather advocacy:	• Concerns were raised about the potential discontinuation of the WMO space weather expert team • Members will provide evidence of the team's benefits to support UK advocacy and maintain global space weather initiatives	New
Further SEIEG Meetings	• Book venues, for next meeting: In London week commencing 19/01/2026. Provisional date 22/01/26 • Space Weather Conference in Newcastle 14–17/09/2026, SEIEG meeting will follow on 18/09/2026.	New