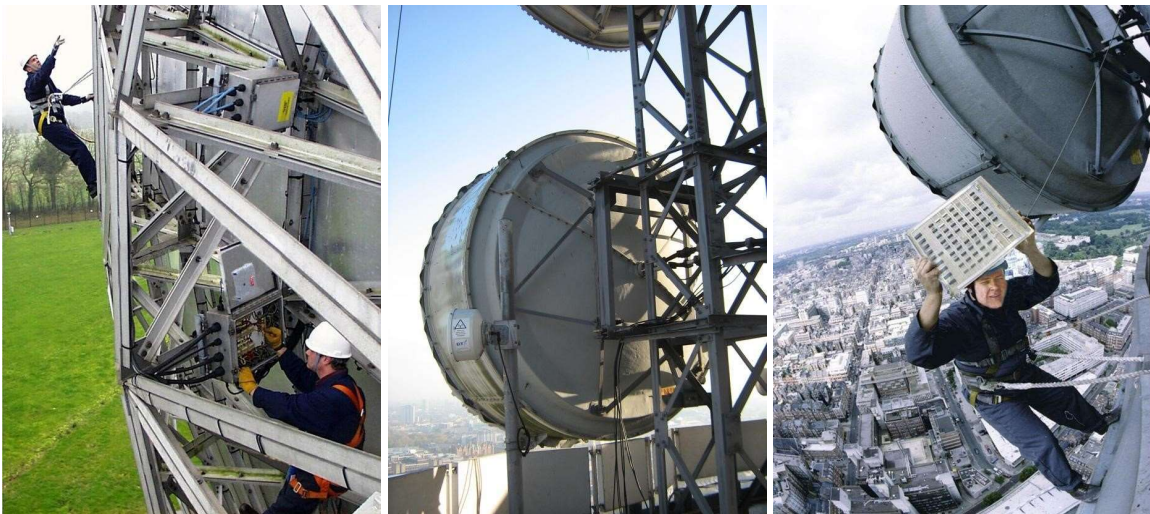




Guidance Note GN-016

Guidance on Exposure to working near Electromagnetic Fields in the Broadcast Industry



Version	Date	Comments
1	July 2017	Initial Version
2	March 2023	Minor grammar and presentation tweaks. Added in link to CEMFAW regs.

MATS Group Guidance Note

Guidance on Exposure to Working Near Electromagnetic Fields in the Broadcast Industry

1 Introduction

The Control of Electromagnetic Fields at Work Regulations 2016 (CEMFAW) introduced occupational working limits into UK legislation for the first time. The risks around EMF are well understood within the industry and have traditionally been managed through other health and safety requirements such as risk assessment. This legislation introduced some specific requirements that must be considered and integrated into your policies, procedures, and safe systems of work.

2 Purpose

The purpose of this guidance note is to provide guidance on the interpretation and implementation of requirement of the Control of Electromagnetic Fields at Work Regulations 2016.

3 Scope

This guidance note relates to the broadcast industry and EMF fields created by antennas and associated equipment related to TV and Radio transmission.

4 Guidance

The following table provides guidance on the main requirements of the legislation in relation to the broadcast industry.



Work Activities that can result in exposure to Electromagnetic Fields – Broadcast Industry^{1,2}

Industries with EMF Risks	Activities that can expose workers to EMFs	How might workers be harmed by EMF	Control Measures
Broadcast Site Operators & their contractors	Working on sites with the lowest operating frequency at 10 MHz or greater	Thermal increase to body tissue caused by their own or other operators' sources	<ol style="list-style-type: none"> 1. Provide an RF Safety Policy & Work Procedures for employees & contractors 2. It is expected that, under normal conditions, no workers will need to be exposed to RF levels more than the Health Effects Exposure Limit Values 3. Provide radio frequency safety information & training.

¹ Throughout this table, reference to "UK Regs" should be interpreted as a reference to the UK Control of Electromagnetic Fields at Work Regulations 2016

² It is not intended that this sector-specific guidance is a substitute for reading the UK Regs and UK general guidance; rather it is intended that this be complementary, including additional guidance for the broadcast industry.

Issue 2.0

			<ol style="list-style-type: none"> 4. Where measurement surveys are carried out, the shared risk³ approach to uncertainty is recommended provided that good quality professional equipment is being used and that such equipment is within calibration, has a defined uncertainty and is used in accordance with the manufacturer's instructions by trained personnel. 5. The risks associated with each task must be assessed. 6. Where required: Isolate/reduce power on radiating equipment before work. 7. Employers should investigate any reports of over-exposures. Where an over-exposure has occurred, the employer should inform the Site Operator and affected Network Operators and provide medical examinations and health surveillance in accordance with the UK Regs. 8. Occasions where workers are required to enter areas with field strengths above the (High) Action Levels should be subject to additional control measures, e.g., requiring specific permission or additional training and PPE. The training should include, but is not limited to, the information provided in the generic EMF guidance. Where appropriate, employers can refer to published dosimetry to demonstrate compliance with the Health Effects Exposure Limit Values. 9. If it is possible that workers might need to wear RF protective suits on occasion, then the following additional steps must be taken: <ol style="list-style-type: none"> a. Information / training provided on how to use and care for such suits b. Information / training provided on the limitation of such suits c. Information / training provided on when wearing such suits is appropriate <p>In accordance with the usual hierarchy of control, the wearing of such RF protective suits should not be used instead of taking other reasonably practicable engineering or administrative measures to control the worker's exposure.</p> <p>The decision to wear an RF protective suit should be made as a consequence of the data recorded in the risk assessment and must be a management decision during the planning phase.</p>
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			<p>10. The following actions are considered to be useful practices to reduce the possibility of over-exposures occurring. However, they are not requirements of the UK Regs.</p> <ul style="list-style-type: none"> a) Design equipment to be 'safe by position' so that all routine maintenance task areas are in areas where the RF levels are below the action levels. b) Provide personal RF exposure monitors & training in their use. <p>11. Regarding pregnant workers, the UK Regs do not specify any additional restrictions in terms of exposure levels, only stating they are workers at particular risk and therefore require additional risk assessment. However, one approach to take account of the status of these employees is to limit their exposure to the reference levels given in the Council Recommendation (1999/519/EC)</p> <p>12. For workers with active medical devices, whether implanted or body worn, it is advisable to liaise directly with the manufacturer in order to obtain information on the EMC immunity of the device. This may be facilitated if the worker introduces the employer to the relevant health professional (e.g., occupational therapist, medical consultant). They can then open the channel of correspondence to the manufacturer's technical experts, having confirmed the device type etc.</p> <p>13. When making decisions about appropriate signage, third party workers should be considered.</p> <p>14. Where measurement surveys are carried out, spatial averaging is permissible provided that the source is at least 20 cm from the body. A minimum of 10 measurements is recommended.</p>
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<p>Broadcast Site Operators & their contractors</p>	<p>Working on sites that include at least one transmitter operating at a frequency in the range 100 kHz - 10 MHz</p>	<ul style="list-style-type: none"> ■ Thermal increase to body tissue caused by their own or other operators' sources ■ Direct stimulation of nerve/muscle tissue ■ Burns from excessive spark discharges 	<ol style="list-style-type: none"> 15. Points 1 - 13 above 16. Where measurement surveys are carried out, spatial averaging is permissible provided that the meter is held at least 1.5 m away from the body either by using some form of plastic handle or by placing the meter on a wooden tripod and standing sufficiently far away. A minimum of 10 measurements is recommended. 17. Where workers may be exposed to levels between the Low and High Action Levels for frequencies below 10 MHz then good quality work boots and, where appropriate, gloves and other protective clothing must be provided by the employer and worn by the worker.
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<p>Third Party workers under the control of the Site Provider e.g.</p> <ul style="list-style-type: none"> ■ Site Landlords' plant maintenance employees ■ Street Light maintenance ■ Fire Service training and roof access ■ Construction workers ■ Roofers 	<p>Work near broadcast and telecoms antennas</p>	<ul style="list-style-type: none"> ■ Thermal increase to body tissue ■ Direct stimulation of nerve/muscle tissue ■ Burns from excessive spark discharges 	<ol style="list-style-type: none"> 18. Landlords/Employers should consider EMF risks in their risk assessments 19. Landlords/Employers should seek safety advice from their tenant operators and pass it on to those who access the roof for maintenance. 20. Tenants should assess potential exposures from their installations and provide a reasonable level of information to the landlord if their installations give rise to non-negligible EMF levels. 21. Exposure assessments should consider contributions from all relevant sources. 22. Where a tenant installs new equipment or changes an existing installation and the assessment shows an increase in the exclusion zones of other tenants' installations then the tenant should make the landlord aware of this. 23. All workers must obey the radio operators' safety signs 24. Access to areas close to antennas for extraordinary work tasks must only be carried out with the operators' consent and with antennas isolated if required. A formal system of work must be implemented to ensure any required control measures are executed correctly. 25. The use of RF monitors by workers accessing such areas should be considered. 26. Employers are required to investigate any reports of over exposures, inform the Landlord, and affected network operators and provide medical examinations and health surveillance in accordance with the UK Regs.
<p>Third Party workers NOT under the control of Network Operators or Site Providers e.g.</p> <ul style="list-style-type: none"> ■ Roofers ■ Window Cleaners ■ Tree Surgeons 	<p>Work near broadcast and telecoms antennas</p>	<ul style="list-style-type: none"> ■ Thermal increase to body tissue ■ Direct stimulation of nerve/muscle tissue ■ Burns from excessive spark discharges 	<ol style="list-style-type: none"> 27. Consider EMFs in their risk assessments 28. All workers must obey the radio operators' safety signs 29. Employers are required to investigate any reports of over exposures, inform the affected network operators, and provide medical examinations and health surveillance in accordance with the UK Regs.

Issue 2.0 The 'Shared Risk' approach allows direct comparison between meter reading and Action Levels (or other threshold values).



6 Related MATS documents

GN-002 Guidance for documenting an RF Policy

7 Legislation

The Control of Electromagnetic Fields at Work Regulations 2016
https://www.legislation.gov.uk/uksi/2016/588/pdfs/uksi_20160588_en.pdf

The information in this document does not absolve contractors or suppliers from their responsibility to identify and comply with all relevant legislation, regulations and legal standards nor does it take precedence over laws, regulations and external standards