

## **OT SHE 004**

### **RF Safety**

#### **Introduction**

Cellnex On Tower UK owns and manages a large number of sites, rooftops and structures with a variety of antennas. It is essential that the Radio Frequency (RF) hazards these represent are properly considered at the planning stage for each visit. On Tower UK provides the means by which relevant safety information can be accessed at the planning stage for each site visit. Hence the responsibility for RF safety rests with the contractor. This guide outlines more details on all these aspects to ensure that all contractors understand their responsibilities and how to access all the correct information.

The majority of reported “near misses” and “unexpected alarms” are due to poor job planning on the part of the contractor or lack of experience or training of staff. These notes are issued to try to improve both those aspects, when accessing On Tower UK sites.

#### **Basics**

The responsibility for risk assessment lies with the contractor. A site and task specific risk assessment and method statement must be carried out.

All climbers must be equipped with a personal RF monitor of a type accepted by On Tower UK. The frequency range must be suitable for the frequencies found on On Tower UK sites. On Tower UK publishes a list of monitors that have been assessed as suitable.

For work on most On Tower UK managed rooftops a minimum of one personal monitor per team is required (depending on the risk assessment for the task and site). The exception to this is some BT rooftop sites for which access is tightly controlled, reducing the probability of pirate antennas. Appendix A details the RF monitors that are accepted for use on On Tower UK sites

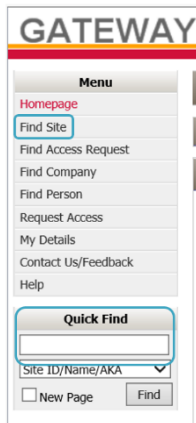
#### **Training**

All contractors who access On Tower UK structures or rooftops must be trained in RF Safety awareness via a course that has been assessed as suitable. A list of On Tower UK approved training providers is available separately.

#### **Information provided by On Tower UK for risk assessment**

Prior to planning any task on site, the Risk Register for the site should be consulted. This can be emailed to any valid email address so access to Gateway is not necessary. The person within the company who has a Gateway account can request the risk information to be sent to a colleague for example.

**Instructions and screen shots on how to request Risk Register by email**

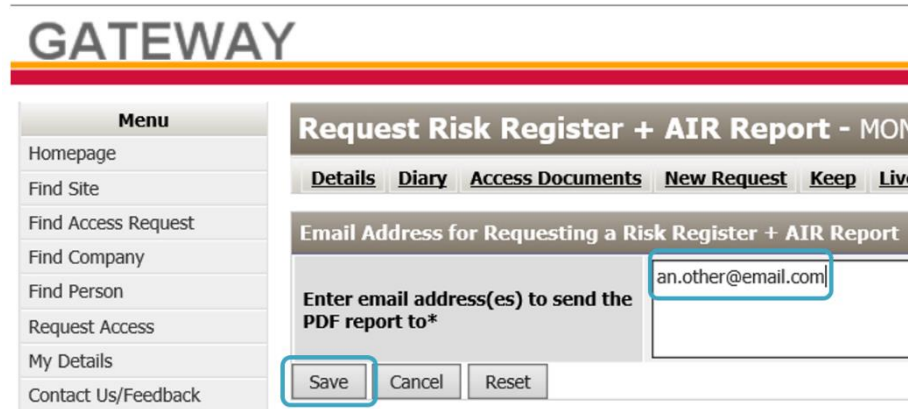


From the Gateway home page, find the site required by using the 'Quick Find' or the 'Find Site' buttons

The Gateway page for your site will open. Next select the 'Request RR + AIR Report' button



The screen below will open. Enter your email address in the box and select the 'Save' button:



The PDF of the Risk Register + AIR will be emailed to your chosen address.

## Risk Register: What is included; how to use it

### Site specific general risks

This includes any risks that are specific to this site. Sometimes risks are of a temporary nature and if you notice on your visit that one of these risks is no longer valid then please report it via your post work report.

**Risk Register + AIR Report - BLACK HILL SC (BKH) - 9305**

**Risk Register Note**

The hazards listed below are site specific. For a full list of generic hazards associated with Arqiva sites, please go to the Help page on the Gateway main menu.

Prior to any work commencing a dynamic risk assessment of the site and the work area should be undertaken. Any hazards identified should be reported back through the post work report and if it is deemed too hazardous to continue, work should not commence until the risks can be adequately controlled.

**Risk Register - Site Specific**

ID	Type	Comments	Date Identified
2237504	Access	Regular escape of cattle on to the access road to site caution required	24/06/2011
2237503	ASBESTOS	Due to a fault with the Heatrae Sadia 'Nimbus' immersion water heater that supplies hot water to the mens toilets in the Former BBC building (at the top of the hill) the manufacturer Heatrae Sadia were contacted re the use of Asbestos in the product. Heatrae Sadia have advised that this product manufactured prior to 1986 may contain some Asbestos insulation. This hazard also applies to the Heatrae Sadia Nimbus Immersion water heater in the kitchen. Heatrae Sadia were unable to advise on the date of manufacture of this product from the serial number due as it pre dates the system they are now using.	24/06/2011
2219942	Access Track	There is a section of the site access road from Shotts Church to site which is in very poor condition - extreme care required	08/02/2010
2189638	Asbestos	A Type 2 Asbestos identification survey has identified the presence of Asbestos Containing Materials (ACM's) on this site. For full details refer to Asbestos Survey Report saved in the Site A to Z. If no access to Site A to Z is available, contact Site Access.	06/08/2009

### RF Safety Noticeboard

The RF Safety Noticeboard details any known risks in the climbing zone. The climbing zone is defined as the ladder and rest platforms. Information in the RF Safety Noticeboard will detail where the restriction is and what planned work is needed to work in that area. If the restriction is applicable to your task, then make sure you speak to the Site Access team to request that the planned work is booked. Any broadcast customers need a minimum of 2 weeks' notice for outages and power reductions.

Your task may mean that you need to work off the ladder and climb around the structure to access your work area. The Information in the RF Safety Noticeboard cannot take that into account and as a trained contractor you are expected to understand industry standard exclusion zones. To understand which antennas, you need to pass or work close to then you must consult the Antenna Information Report (AIR).

### Antenna Information Report (AIR)

This gives a full listing in height order of all the antennas on the structure. The customer information will be listed as either "Arqiva" or "Other". Where it is listed as Arqiva this may indicate that the antenna is used for Broadcasting. There is also a field to indicate that the antenna is used for paging. Experience suggests that broadcasting and paging antennas can be overlooked by some contractors in their risk assessment. The AIR can also be used on site as a written "map" of the structure.

Please ensure that any errors you notice are fed back via your post work report.

AIR Report For Structure 10946										
Customer	Antenna ID	Type	Paging Antenna	Base	Mean	Top	Status	Bearing	Leg	Feeder Type
Arqiva	288957	UHF GPS RX Cylindrical antenna	No		0		Installed	360	WAL	RG214
Other	288957	UHF GPS RX Cylindrical antenna	No		0		Installed	360	WAL	RG214
Arqiva	288834	UHF Panel Antenna	No		12		Installed	60	P	LDF4-50
Other	288834	UHF Panel Antenna	No		12		Installed	60	P	LDF4-50
Arqiva	288835	UHF Panel Antenna	No		12		Installed	180	P	LDF4-50
Other	288835	UHF Panel Antenna	No		12		Installed	180	P	LDF4-50
Arqiva	288836	UHF Panel Antenna	No		12		Installed	300	P	LDF4-50
Other	288836	UHF Panel Antenna	No		12		Installed	300	P	LDF4-50
Arqiva	367906	UHF GPS Antenna	No		12		Installed	0	ALL	CNT-400
Other	367906	UHF GPS Antenna	No		12		Installed	0	ALL	CNT-400

Proper use of all the information provided in the Risk Register should prevent the large number of reported “unexpected alarms” and near misses.

Frequently it is found that “unexpected alarms” are reported when the work area is only 1 m away from a paging or Broadcast Radio antenna for example. These could and should have been expected if the risk assessment had been carried out properly.

### Use of RF Safe System of Work

Clearly when you are working on your customer’s antenna you will have in place a process to ensure that you or your customer removes the power to the antenna prior to your work. When your task requires that other services need to be reduced in power or shutdown to give you safe access then you are required to follow the Safe System of work procedure.

This requires that all the parties involved (the climbing team, the On Tower UK representative and any engineers attending site to switch transmitters) have a discussion about what is to be done and how and by whom, and document it on the RF Safe System of Work form before any work commences on site.

### False alarms and Minimum measurement distance

In situations where there is a significant level of RF, personal monitors will alarm constantly. The occasional bleep, especially in areas where the personal monitor touches the ladder as it is climbed, are not usually considered to be real alarms.

When a monitor alarms on site staff should first ascertain how close they are to metal work, latch way bonds, feeders, etc. If it is closer than 100 mm then re-position to a distance where the monitor is more than 100 mm away from metal (in free space) and see if the alarm continues. If the alarm continues, document “SHE CN 005 Reporting and Investigation of Unexpected RF Personal Monitor Alarms” should be followed.

**Emergencies**

All accident, incidents and near misses must be reported to the On Tower UK [SHE Reporting Form](#) ; QR code shown below.



Unexpected personal monitor alarms must be reported to the Site Access Team on 03330 150144 whilst still on site and in addition the contractor should carry out their own investigation following the procedure set out in SHE CN 005. Only when the reporting company has ruled out any immediate obvious causes should the form be submitted to the Cellnex SHE Team for investigation. Alarms will not be investigated unless this form has been completed and submitted.

If there has been an incidence of a suspected RF overexposure, ring Site Access on 03330 150144. The Site Access team will arrange to send RF information for doctors to the medical facility that the individual is attending. Most doctors do not fully understand the effects of RF and it is important that they receive this information, so they can accurately diagnose any health implications and provide the correct treatment.

**Appendix A**

**RF Monitors accepted for use on On Tower UK sites**

<p>The following rules apply:</p> <ul style="list-style-type: none"> <li>• A On Tower UK accepted RF meter or monitor is to be used at all times when accessing a structure.</li> <li>• Visitors ascending a structure must ensure that they do not stray outside the area specified on the access authorisation for that site.</li> <li>• On Tower UK specifies that all climbers on our structures, and one per team on rooftops, must use a personal monitor with a shaped response that is designed to alarm at 50% of ICNIRP occupational. This is because of the broad range of broadcasting and telecommunications systems found on our sites.</li> </ul>		
Name of Monitor	Manufacturer	Limitations <sup>1</sup>

S3	Narda		None
XT (D-8860 & D-8862)	Narda		None
8845E-0.5	Narda		Not suitable for use on sites with frequencies below 50 MHz
ESM-20/Radman XT	Narda		Not suitable for use on sites with frequencies below 1 MHz
Radman 2LT (50 MHz to 8 GHz)  Radman 2XT (900 kHz to 60 GHz)	Narda		Not suitable for use on sites with frequencies below 900 kHz (Radman 2XT) or below 50 MHz (Radman 2LT)

FieldSENSE 2.0	FieldSENSE		Not suitable for use on sites with frequencies below 50 MHz
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**Notes**

1. All frequencies for cellular bands are covered by all of the above monitors; also for broadcast VHF/FM, DAB and TV, Airwave and Smart metering. Where other services are included on a site, and a limitation is given above, an assessment must be carried out to ensure that the monitor is appropriate. Evidence that this assessment has been carried out must be documented in the risk assessment and method statement for the work, including details of the frequencies for the site and the person who has carried out the assessment.