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Network Rail Safety Bulletin

Potential for excessive noise exposure when using DECT DUPLEX Communications Equipment in and around a high background noise environment, if not setup correctly.

For the attention of all those responsible for the deployment of and users of voice activated DECT DUPLEX communication equipment (principally used with Road Rail Vehicles)

Background: DECT Duplex Communication Equipment is required to be deployed for use with the operation of Road Rail Vehicles (RRVs). There have been reports from users of high levels of noise being emitted from the ear pieces of non-attenuating headsets (those without hearing protection built in) when used for high noise tasks such as brushing or loading ballast onto trains or where another high noise activity (for example piling) is happening in the vicinity of the RRV. Initial investigations have determined that if the DECT Equipment is not set up correctly then the loud background noise can activate the Machine Controller or Operator's Microphone and be transmitted through the communication system causing discomfort to both this user and others on the communication link. If additional noise enters the communication link it is possible that prolonged exposure could potentially lead to hearing damage. Further investigation and noise testing is planned.

Typical Non-attenuating (Without hearing protection) Headsets affected



MT701 H03 Lightweight,



Sidewinder

DECT Duplex Communications equipment is designed to prevent external noise causing a problem. It does however require the sensitivity of the voice activated microphones to be adjusted using the VOX setting, to compensate for the noise in the surrounding environment. The VOX level (1 to 5) must be adjusted on a worksite specific basis to the actual background noise level. (Note: Conditions may vary during the work shift requiring the VOX settings to be adjusted). The higher the background noise, the higher VOX setting that will be required. The operator may need to speak louder at higher VOX settings to activate the microphone.

Immediate Action Required by all persons affected:

ON SITE: If you feel discomfort in the ear due to external noise being transmitted on the communication system then report this to the Machine Controller. It is likely that the VOX settings are incorrectly set on one or more of the DECT units joined to the communications conference. This is likely to be the Machine Controller or any others moving too close to the source of the noise.

The Machine Controller should arrange for the VOX settings to be adjusted on each of the DECT units joined to the conference. Those nearer to the external noise source may need a higher setting than others.

By ensuring your Headset is adjusted correctly and the microphone is as near to the mouth as possible will help with microphone activation and reduce the likelihood of external noise activating and entering the system.

As well as using the correct VOX setting prevention/reduction of the noise entering the system can be achieved by simply moving further away from the external noise source. You may not realise that the noise you are standing next to is affecting the other people connected to the communication link. Moving a small distance away will make a significant difference in how the system activates and the overall level of noise exposure. The DECT communication system is designed to enable Machine Controllers to be well away from the operating machine.

Responsible Manager: When planning work it is important to evaluate the levels of noise staff are likely to be exposed, either from the task they are undertaking or external noise from the environment within which they are working.

In the event that high noise levels are anticipated then attenuating headsets with in-built noise protection should be deployed. Use of these type of headsets could reduce the effect of any noise peaks and accumulated exposure over the duration of the shift to an acceptable level. Also ensure that your employees have received the briefing on how to fit their headset correctly and adjust the Volume and VOX settings on the DECT equipment.

TYPICAL Attenuating Headset with built in hearing protection.



Briefing /Training Material for the correct fitting and set-up of DECT Duplex Communications Equipment is available on the Network Rail Safety Central Website:

<http://www.safety.networkrail.co.uk/Projects/OTP-Safety/RRV-headsets>

Network Rail has established a new National Steering Group for DUPLEX Communications systems to promote and embed the use of this equipment. Industry Trade bodies representing suppliers and contractors are represented together with Trade Unions. Looking at the design and future technologies for headsets is one of the challenges the group will address.