

SDDC OPERATIONS CENTER

CARRIER ADVISORY

October 21, 2004

CAR-04-10/21-0107

Subject: Department of Defense (DOD) Electromagnetic Radiation Emission Standard for Motor Carrier Trailer Assets

Reference: CARRIER ADVISORY, dated October 12, 2004, CAR-04-10/12-0097
Subject: Use of Leased or Rented Trailers with Trailer-Tracking Technology

Purpose: To advise motor carriers of new DOD electromagnetic radiation emission standards and procedures to obtain full use of emerging technologies while transporting DOD cargo.

Scope: This standard is applicable to all DOD approved motor carriers with owned, rented, and leased assets involved in the transport of DOD arms, ammunition, explosives (AA&E); hazardous (Class 1/2.1/3/4 only) or classified material; and/or spare parts and components of same.

Background: The emergence of various technologies will enable the DOD and motor carriers alike to enhance safety, security, and accountability of assets and cargo through the use of technologies, some of which emit electromagnetic radiation in the course of data transmission. The transmission of electromagnetic radiation could present hazards to personnel and cargo if not properly controlled before its' use with shipments which are sensitive to these emissions (hereafter referred to in this advisory as "sensitive materials/shipments"). These hazards could include premature detonation or rendering cargo inert/ineffective for future use; e.g., fleet (trailer) management devices (trailer-tracking), surveillance cameras, tamper-proof devices, electronic seals and locks, and cargo sensors.

Through this advisory, the Military Surface Deployment and Distribution Command (SDDC) will delineate the DOD certification, validation, documentation, and emission standards to nullify safety concerns related to the use of these electromagnetic radiation-emitting technologies.

Three critical steps must be accomplished prior to utilizing an electromagnetic radiation-emitting device on any trailer asset. These three steps are:

1. **Certification:** All electromagnetic radiating devices must first be Hazards of Electromagnetic Radiation to Ordnance (HERO) certified by an approved DOD agency. HERO certification establishes safe distances a particular device must remain away from ordnance or sensitive materials/shipments, to be considered non-hazardous to the material. Although devices may in fact have been tested for HERO certification, this does not mean a device is automatically safe for

shipment; establishing the standoff distance is the first step in determining if a device may be used when transporting sensitive materials/shipments.

2. **Validation:** All HERO-certified devices must be approved for use by the Naval Ordnance Safety and Security Activity (NOSSA), Code N72, Indianhead, MD, and tested by the Naval Surface Warfare Center Dahlgren Division (NSWCDD), Code J52, Dahlgren, VA, in the installed configuration on the trailer asset and proven to be within DOD safe operating parameters.

Although a device was tested for HERO certification, it does not mean the device is automatically safe for shipment; keeping below the approved level of emissions for radiating inside the cargo carrying area is the key to whether a device may be used when transporting sensitive materials/shipments.

For the purpose of validating HERO-certified devices, carriers will only utilize the NOSSA and its technical agent, NSWCDD. Please contact Mr. Charles Wakefield, NOSSA, Code N72, 1-301-744-6082 or Mr. Charles Denham, NSWCDD, Code J52, at 1-540-653-3444, to schedule a validation of the installed device on your asset. When scheduling an asset for validation, ask about bringing a representative sample asset for the class/family of trailer to be validated. The DOD approved emission standard is delineated in attachments 1 and 2 of this advisory.

3. **Documentation:** Copies of all approved NOSSA validations must be sent by carriers and received by SDDC as part of the SDDC carrier performance record; in turn, your company will receive a reply from SDDC that these steps were successfully completed. Carriers are encouraged to retain a copy of the validation report in their company records.

Once these steps are completed and documented, the carrier may use the assets to transport sensitive materials/shipments.

Guidance: Pending completion of the HERO certification and validation process indicated above, the carrier must ensure all electromagnetic radiation-emitting devices are removed from service inside all DOD approved motor carrier fleets that transport sensitive materials/shipments for the DOD.

To accomplish this task, request each motor carrier corporate headquarters that transport sensitive materials/shipments send a letter or message to mtfecarrierperformance@sddc.army.mil confirming receipt of this message and verifying that no non-validated electromagnetic radiation-emitting devices are attached to trailer assets that transport DOD emission sensitive materials/shipments as of 22 October 2004. This message will then be placed in the carrier's SDDC carrier performance records. The suspense date for completing this action is 26 October 2004; requests for a requirement extension must be directed to nvhazmat@sddc.army.mil. All non-munitions HAZMAT (Class 2.1/3/4 only) carriers will contact nvhazmat@sddc.army.mil to obtain an interim

waiver for this requirement. SDDC will work with these individual carriers and provide guidance for further certification and validation. This delayed scheduling will allow phasing of critical assets through the three step process as previously identified.

Standards and procedures delineated in this advisory will be documented in the Defense Transportation Regulation, Part II, and SDDC Freight Traffic Rules Publications. Until the regulations/rules are updated, this advisory serves as documented policy and will remain in effect unless superseded, amended, or rescinded.

In summary, in the absence of a document attesting to an electromagnetic radiating device's HERO certification/validation, carriers are prohibited from using any trailer asset that is equipped with that device for transporting emission sensitive DOD materials/shipments. If a HERO non-validated/non-documented carrier trailer asset is provided for use, shippers will reject the equipment as unsatisfactory and immediately notify SDDC to proceed with carrier performance action. Your assistance in assuring the safety of personnel, sensitive materials/shipments, and the general public is appreciated.

Point of Contact: SDDC point of contact for this advisory is MAJ Blondin, USA, at 1-757-878-7430, or e-mail: blonding@sddc.army.mil.

Attachment 1 to SDDC Domestic Carrier Advisory CAR-04-10/21-0104, DOD Electromagnetic Radiation Emission Standard for Motor Carrier Trailer Assets

Electromagnetic Radiation Hazards: Hazards caused by a transmitter/antenna installation that generates electromagnetic radiation in the vicinity of ordnance, personnel, fueling operations, and volatile material in excess of established safe levels or increases the existing levels to a hazardous level; of personnel, fueling, or ordnance installation located in an area that is illuminated by electromagnetic radiation at a level that is hazardous to the planned operations or occupancy. These hazards will exist when an electromagnetic field of sufficient intensity is generated to:

- (a) Induce or otherwise couple currents and/or voltages of magnitudes large enough to initiate electro-explosive devices or other sensitive explosive components of weapon systems, ordnance, or explosive devices;
- (b) Cause harmful or injurious effects to humans and wildlife;
- (c) Create sparks having sufficient magnitude to ignite flammable mixtures of materials that must be handled in the affected area;
- (d) Cause a part or component to be rendered inoperable.

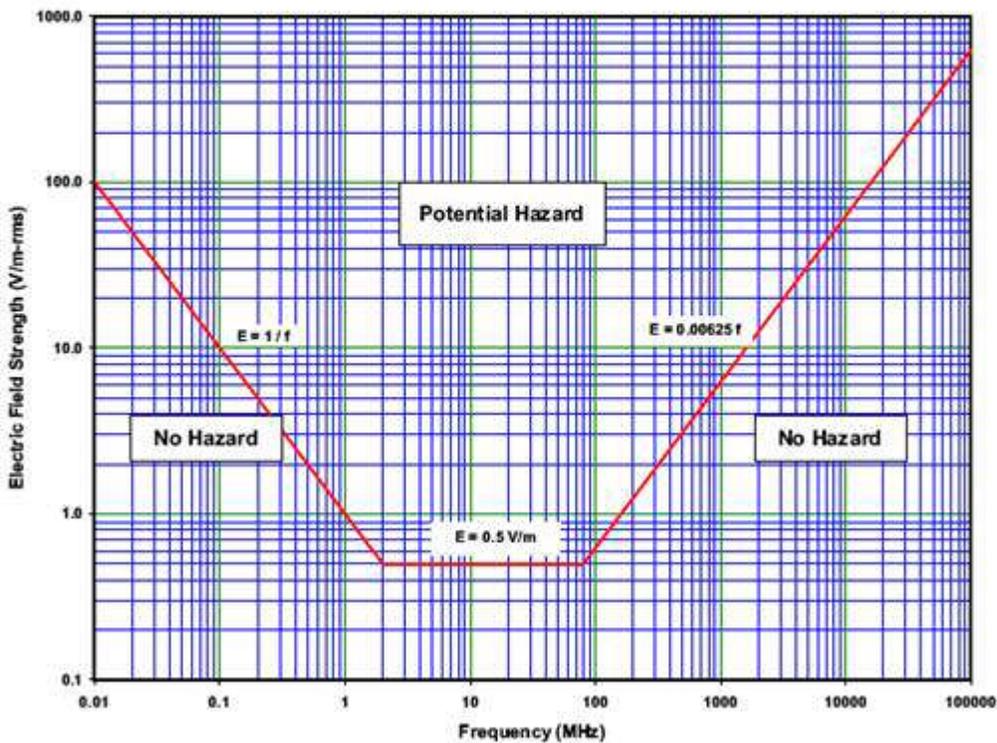
HERO Unsafe/Unreliable Curve: The HERO unsafe/unreliable curve (enclosure 2) is cited in NAVSEA OP 3565. This standard provides field strength values as a function of frequency and should be used as the not to exceed limit for the electromagnetic

environment measurements within the cargo area of a trailer asset. This measurement can be made with field strength measuring equipment such as NARDA or Holiday probes.

Not to Exceed Limit: The 97 dBuV number is the not to exceed limit for electromagnetic environment measurements within the cargo area of a trailer asset. This number is not a direct field intensity reading but a resultant antenna terminal voltage which should be obtained only under laboratory test conditions since it is a function of the test fixture set up. This measuring technique is used to certify AIT equipment that directly illuminates ordnance or other sensitive materials and must operate within 12 inches (near-field).

Attachment 2 to SDDC Domestic Carrier Advisory CAR-04-10/21-0104, DOD Electromagnetic Radiation Emission Standard for Motor Carrier Trailer Assets

**NAVSEA OP 3565/NAVAIR 16-1-529
VOLUME 2 THIRTEENTH REVISION**



HERO Unsafe/Unreliable Curve