



Regulatory Guidance

Last updated June 2013



Transport Refrigeration Units Alternative Technology Compliance Strategies

----- Electric Standby and Hybrid Electric Systems

This document explains requirements for the use of Electric Standby and Hybrid Electric systems (together referred to as E/S) as an option for compliance with California's TRU regulations. A TRU's compliance can be maintained beyond the seven year maximum if an E/S system is integrated into the equipment and used within the guidelines for an Alternative Technology. Also provided are specifications for businesses interested in providing electronic-tracking systems to affected TRU owners. These requirements were added in the 2011 Amendments, effective October 15, 2012.

What are Electric-Standby and Hybrid-Electric TRUs?

An "Electric Standby TRU" has a refrigeration system that may be selectively powered by either a diesel-fueled internal-combustion engine or an integrated electric motor. A "Hybrid Electric TRU" is powered by a diesel fueled internal-combustion engine coupled with an electric generator that provides electricity to an electric-motor driven refrigeration system within the same housing. Both are capable of being powered via an external source, such as the electric power grid.

What is required to qualify an E/S as an Alternative Technology?

For E/S to qualify as an Alternative Technology, there must be no diesel-engine operation at nonretail delivery points, other than during emergency, normal ingress, egress and yard maneuvering, unit/engine pre-trip inspections, diagnostics, or repair operations. Nonretail pick-up and delivery points must have compatible electric power plugs and TRUs must be plugged into electric power plugs when they are undergoing cool downs or are loaded with perishable goods, other than during the exceptions listed above. TRU-engine operation at retail delivery points is limited to 30 minutes; otherwise the unit must be plugged into electric power plugs to prevent diesel engine operations that exceed 30 minutes at each retail delivery point.

For TRU owners who elect to use E/S as a compliance option, the regulation's 2011 amendments include requirements to phase-in use of electronic-tracking systems to replace manual recordkeeping. This phase-in requires 50 percent of an owner's E/S TRUs to be equipped with an electronic tracking system by December 31, 2012, and 100 percent by December 31, 2013.

What is the difference between retail and non-retail delivery points?

"Nonretail Delivery or Pick-up Points" are wholesale perishable-goods distribution facilities or businesses in the supply chain prior to the retail facilities or businesses that include: food manufacturing facilities, shipper warehouses, transfer points, distribution centers, cold storage warehouses, and intermodal facilities where perishable goods are loaded or unloaded.

"Retail Delivery Points" are facilities or businesses where perishable goods are delivered to retail businesses that sell these goods to end users; that includes: grocery stores, convenience stores, drug stores, restaurants, and prison or school cafeterias.

What are the requirements for non-perishable goods that do not need climate control?

If a trailer is loaded with non-perishable goods that do not require TRU operation, there are no time limits for ingress or egress; however records must be kept to show there is no engine or motor operation.

What are the requirements for TRU owners that elect to use E/S as a compliance option?

TRU owners who elect to use E/S as a compliance option must:

1. Follow the phase-in requiring 50 percent of the E/S TRU fleet be equipped with an electronic tracking system by December 31, 2012, and 100 percent by December 31, 2013;
2. Install and maintain in operating order an electronic tracking system that tracks time, location, engine-hour meter readings, elapsed engine-run time, standby electric motor-hour meter readings, and elapsed standby electric motor-run time at each nonretail and retail pickup and delivery point for each TRU using E/S as a compliance method;
3. Coordinate with the electronic tracking system supplier to create a geo-fence around each retail and non-retail pickup and delivery point;
4. Provide ARB access to online records for each E/S using TRU – records must be maintained on a secure server controlled by the electronic-tracking system supplier;
5. Update the ARBER registration with information concerning the supplier of the electronic tracking system; and
6. Keep manual logs for engine run time due to repair diagnostics and check-out. Upon request, provide these logs to authorized enforcement personnel.

What are the consequences of failing to install or maintain an electronic tracking system?

E/S does not qualify as an in-use performance standard compliance option if the recordkeeping requirements are not met. Failure to install an electronic tracking system (with automated recordkeeping) or failure to maintain an electronic tracking system in operational order is a violation of the in-use performance standards.

State Law establishes penalties for violations of ATCM requirements of up to \$10,000 per violation. ARB's enforcement penalty policies are described in detail at:

<http://www.arb.ca.gov/enf/sb1402/policy.pdf>. The proposed penalty amount may be adjusted based on the relevant circumstances, such as the extent of harm to public health, safety, and welfare; nature and persistence of the violation; compliance history of the defendant; preventive efforts and actions taken to ensure compliance prior to the violation; magnitude of effort required to comply; cooperation of the defendant; and financial burden to the defendant. Penalties may start at \$1,000 per violation.

What information must an Electronic Tracking System collect?

An "Electronic Tracking System" must:

1. Acquire and log, at a minimum, the date, time, TRU engine-hour meter reading, and location data at a rate of at least one reading per minute - with no more than 10 minutes in any data gap;
2. Be capable of determining if the TRU or TRU gen set is in California and the engine's run-time in California for each day;
3. Be tamper-proof and capable of detecting tampering;

4. Allow tracking-data collection by an independent entity with no other business relationship to the owner or operator of the TRU or TRU gen set.
 - a. The data shall be stored on a server that is secure from tampering and inaccessible to the TRU or TRU gen set owner or operator, other than to download reports over the Internet.
 - b. An inspector shall have free access to download from this website reports showing the TRU or TRU gen set engine's daily operation in California.

What are the requirements for Electronic Tracking System suppliers?

Suppliers must provide tracking systems to TRU owners that record the following fields:

1. ARB Unit Identification Number;
2. Date;
3. Address of each stationary location lasting more than 5 minutes (300 seconds);
 - a. This record may be the GPS coordinates and a location code for each stationary location, provided the owner or operator also provides a cross-reference of location codes with the corresponding physical addresses. The location must also be identified as retail or non-retail to properly identify the time limit at the location;
4. Time of arrival and departure, and elapsed time - calculated to show the duration of the stationary position;
5. Engine-hour meter readings taken at arrival and departure to show the TRU engine-run time while the vehicle is at the stationary location; and,
6. Standby electric motor-hour meter readings taken at arrival and departure to show the standby electric motor-run time while the vehicle is at the stationary location.

The tracking system must also provide:

1. TRU-fleet owners the ability to create a geo-fence for any delivery or pickup points flagging retail or non-retail delivery or pickup points;
2. TRU-fleet owners secure-server read-only access to view the above parameters for each TRU using E/S standby as a compliance option;
3. ARB secure-server access to download the above parameters for each TRU using E/S standby as a compliance option, including logins and navigation instructions;
4. ARB with a detailed written description of the electronic tracking system's anti-tampering design features and its tamper detection-and-reporting features; and,
5. ARB with information on how to verify the system is installed. This information may include, but is not limited to
 - a) Typical mounting location;
 - b) Photos of tracking devices;
 - c) Description of visible indicators to confirm device installation.

The electronic tracking system supplier must notify ARB if the tracking system operation is suspended due to non-payment or cancellation. Upon receipt of this notification, ARB will inform the TRU owner that they must install a new compliance technology within 30 days to avoid citation and penalty.

What companies supply electronic tracking systems?

A list of companies offering electronic tracking for TRU compliance is available at the following link http://www.arb.ca.gov/diesel/tru/documents/ets_supplier_list.pdf. This list does not imply an ARB endorsement or recommendation, and is not screened or ranked in any way. Companies not listed should call the TRU Help Line and request to be added. Users of this list are advised to use due diligence in evaluating offerings from companies on this list. If you have any questions, please contact ARB's TRU Helpline at 888-878-2826 (888-TRU-ATCM).

What types of fleets should consider use of E/S as an Alternative Technology?

There are several issues that should be considered before pursuing E/S as an alternative compliance path.

The key for qualifying for E/S compliance is plugging E/S-equipped TRUs into electric power plugs at nonretail delivery or pick-up points whenever loaded with perishable goods and during the chill-down prior to loading. Also, the E/S must be plugged into an electric power plug if the diesel engine would operate more than 30 minutes at a retail delivery point. Getting access to electric power with compatible plug connector and voltage can be challenging to a for-hire truckload or less-than-load motor carrier. These typically go to many different non-retail pick-up and delivery points. For-hire motor carriers may have to pay for the electricity they use.

Private fleets have an easier time ensuring that there are compatible plugs and voltage because they typically return to the same distribution center every day. But these may also pick up goods from different distribution centers for back-haul to the home base. They must still plug in at those locations and may have to pay for power.

TRU owners should not choose the E/S compliance option unless all of these issues can be addressed in advance.

Will this guidance document be amended?

These guidelines may be revised at any time. When a revision is published, a notice will be emailed to ARB's TRU List Serve and posted on the TRU Website. Owners and operators of TRUs with E/S should sign up for the TRU List Serve and regularly check the TRU Website to make sure they have the most current version of these guidelines. To enroll in ARB's TRU List Serve, go here: http://www.arb.ca.gov/listserv/listserv_ind.php?listname=tru

For more information

To obtain a copy of the regulation or other related compliance assistance documents, visit the TRU website at <http://www.arb.ca.gov/diesel/tru/tru.htm>. Additional questions may be addressed by calling the toll-free TRU Help Line at 1-888-878-2826 (1-888-TRU-ATCM). If you require this document in an alternative format or another language, please call 1-888-878-2826 or email arber@arb.ca.gov. TTY/TDD/Speech users may dial 711 for a California Relay Service.

Si necesita este documento en un formato alternativo u otro idioma por favor llame al 1-888-878-2826 o contáctenos por correo electrónico a arber@arb.ca.gov. Para Servicios de Relevo de California (CRS) o para el uso de teléfonos TTY, marquen al 711.