

**NUCLEAR REGULATORY COMMISSION**

**10 CFR Part 71**

**[Docket No. PRM-71-13; NRC-2007-0022]**

**Christine O. Gregoire, Governor of the State of Washington;  
Consideration of Petition in Rulemaking Process**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Petition for rulemaking: Resolution and closure of petition docket.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) will consider the issues raised in a petition for rulemaking submitted by Christine O. Gregoire, Governor of the State of Washington, in the NRC's rulemaking process. Further information on this rulemaking may be tracked through <http://www.regulations.gov> under Docket ID NRC-2008-0120. The petition was docketed by the NRC on March 15, 2007, and was assigned Docket No. PRM-71-13 [NRC-2007-0022]. The petitioner requested that the NRC amend its regulations to require the use of global positioning satellite (GPS) for tracking vehicles transporting highly radioactive mobile or portable radioactive devices. The petitioner also stated that another alternative was for the Commission to grant states the flexibility to impose more stringent requirements than those required under current NRC's increased controls. The NRC has determined that this petition will be considered through NRC's rulemaking process.

**DATES:** The docket for the petition for rulemaking, PRM-71-13 [NRC-2007-0022], is closed on  
**[INSERT DATE OF PUBLICATION]**

**ADDRESSES:** Further NRC action on the issues raised by this petition will be accessible at the Federal rulemaking portal, <http://www.regulations.gov> , by searching on rulemaking docket ID: NRC-2008-0120. The NRC also tracks all rulemaking actions in the “NRC Regulatory Agenda: Semiannual Report (NUREG-0936).” The Regulatory Agenda is a semiannual compilation of all rules on which the NRC has recently completed action, or has proposed action, or is considering action, and of all petitions for rulemaking that the NRC is working to resolve.

You can access publicly available documents related to this petition for rulemaking using the following methods:

**Federal e-Rulemaking Portal:** Go to <http://www.regulations.gov> , and search for documents filed under Docket ID [NRC-2008-0120].

**NRC’s Public Document Room (PDR):** The public may examine and have copied for a fee publicly available documents at the NRC’s PDR, Public File Area, Room O1F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland.

**NRC’s Agency Wide Document Access and Management System (ADAMS):** Publicly available documents created or received at the NRC are available electronically at the NRC’s electronic Reading Room at <http://www.nrc.gov/reading-rm/adams.html> . From this page, the public can gain entry into ADAMS, which provides text and image files of NRC’s public documents. If you do not have access to ADAMS, or if there are problems in accessing the documents located in ADAMS, contact the NRC PDR reference staff at 1-899-397-4209, 301-415-4737, or by e-mail to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov) .

**FOR FURTHER INFORMATION CONTACT:** Thomas Young, Office of Federal and State Materials and Environmental Management Programs, Division of Intergovernmental Liaison and Rulemaking, Rulemaking Branch A, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone 301-415-5795, e-mail [thomas.young@nrc.gov](mailto:thomas.young@nrc.gov) .

## **SUPPLEMENTARY INFORMATION:**

### The Petition

On April 27, 2007 (72 FR 20963), the NRC published a notice of receipt requesting comment on a petition for rulemaking filed by Christine O. Gregoire, Governor of the State of Washington. The public comment period closed on July 11, 2007. The petitioner requests that the NRC adopt the use of GPS tracking as a national requirement for vehicles transporting highly radioactive mobile or portable radioactive devices. The petitioner states that an alternative is for the Commission to grant states the flexibility to impose more stringent requirements than those required under current NRC's increased controls. The petitioner believes that GPS technology is an effective and relatively inexpensive tool that will help when a vehicle with radioactive material is missing. The petitioner acknowledges that requiring a GPS on these vehicles does not ensure that the radiological source will be found. However, the petitioner believes that these suggestions would give law enforcement a significant advantage.

### Public Comments on the Petition

NRC staff received 15 comment letters on the petition. Comments were received from licensees, radiography source and device manufacturers, industry involved with radiography, a GPS manufacturer, a professional organization, a State agency, and a Federal agency. One comment letter did not have a comment included. The State of Washington submitted two additional comments to clarify that the intent of its petition was to track vehicles, not the device or source. In summary, seven commenters opposed the petition and five commenters supported it.

Commenters who opposed the petition submitted similar comments stating that GPS units would not prevent theft of the devices, would provide little, if any, deterrence to thieves or terrorists, and would provide little, if any, enhancement of authorities' ability to recover a stolen radiography camera. Some commenters stated that the requirement to add GPS units to cameras will be a matter of public record, so anyone serious about illegally obtaining a camera would take measures in advance to defeat them from acting as tracking mechanisms. These commenters also stated that the multiple increased controls security measures that currently apply to industrial radiography sources are appropriate and adequately provide reasonable assurances to deter theft. Because the licensees recognize the threat posed by high activity radiation sources, there has been little opposition from the industry regarding these measures, despite the time and monetary investments that these measures require.

In addition, some commenters stated that GPS units are a good example that additional security requirements provide a poor return on the investment because the costs to licensees and equipment manufacturers could be substantial. These commenters also stated that they are opposed to the petitioner's alternative to grant states the flexibility to impose more stringent requirements than those required under current NRC regulations, because it will not allow for a uniform set of regulations that apply to industrial radiographic operations in all jurisdictions.

These commenters further stated that the lack of uniform regulations imposes a severe burden on the industry, which increases the complexity of regulatory requirements, and imposes additional burdens that increase costs and make compliance more difficult. The commenters suggested that state and Federal regulators enforce the existing regulations, instead of requiring GPS units on (or in) radiography cameras, or any other modifications to equipment, or additional equipment, or any other enhancements to equipment or procedures.

One commenter stated that GPS units would not prevent theft of the devices and would provide little, if any, deterrence to thieves or terrorists, and stated that if someone has the

wherewithal to steal a camera, they will likely have the ability to defeat its GPS unit. In addition, the commenter stated that the increased controls that currently apply to industrial radiography sources are sufficient and appropriate requirements that provide reasonable assurances to deter theft. The commenter also stated that GPS unit costs to licensees, especially to small companies, could be substantial, and that modifications to radiography cameras needed to incorporate GPS units would impose costs on equipment manufacturers due to research and development, and the regulatory approval and altered production processes. These costs would be passed on to the manufacturers' clients – the licensees, who already face skyrocketing insurance costs due to the increased threat associated with possession and use of high activity sources. Another commenter stated that the replacement of, or alteration to, existing equipment would be costly for users and create work time schedule and shipping burdens, especially for small companies. The commenter also stated that because industrial radiography is a cross jurisdictional service industry, the current regulations attempt to provide a uniform set of regulations that apply to industrial radiographic operations in all jurisdictions.

Another commenter expressed opposition to the petition. The commenter, a manufacturer and distributor of industrial radiography equipment and oil well logging sources, commented that the petition represented a potential negative impact to the industry and noted that the petition is unclear if it is the vehicle or the device which will be equipped with GPS technology. The commenter also stated that the definition of "highly radioactive source" was not clear, and asked if it was intended to cover NRC Category 1 and 2 sources only, or if it also includes Category 3 sources. The commenter stated that any further serious review of this petition for rulemaking cannot accurately be made until these points were clarified. In addition, the commenter noted that there is no current technology that can successfully track a source or device reliably, and that this equipment is subject to harsh environments and usage, and any additional external feature would not hold up to being thrown around in a truck and/or jobsite.

Therefore, any additional feature put on a device would require research and development, design, testing and licensing to assure the device continues to meet American National Standards Institute, International Organization for Standardization, NRC and Department of Transportation (DOT) requirements for devices and transport packages. The commenter also stated that this is an expensive and time consuming process and would significantly add to the cost of the equipment, that end users would be unwilling to pay for this and a cost benefit analysis would need to be performed to determine if it is worth pursuing. This commenter also stated that there are already numerous other effective controls in place for device security and tracking, such as the increased controls, and NRC's national source tracking database, which would provide information if a source is not received at its destination when expected. The commenter stated its opposition to allowing individual states to impose more stringent requirements than the NRC because the industrial radiography and oil well logging industry are both very mobile and need to provide their services all across the United States. The commenter further stated that without a set of uniform standards the requirements could be quite different in each state and would significantly restrict interstate commerce.

Another commenter, a manufacturer of industrial radiography devices and radioactive sources, expressed opposition to the petition and provided several reasons. Among them, the commenter noted the recently adopted increased controls for mobile devices in vehicles and stated that the imposition of a GPS system would represent an unjustified additional significant financial burden to the radiography industry. The commenter also stated that there is a significant lack of formal study to identify the effectiveness of GPS systems when used with vehicles, the costs, and the effectiveness and practicality of GPS systems when used in or on portable devices. In addition, the commenter expressed satisfaction with the effectiveness of the current controls because the petitioner stated that the radioactive source was quickly recovered during the event that triggered the petition. The commenter also stated that any

proposal to increase the security of radioactive materials should be considered from the criminal activity versus terrorist activity perspectives, and stated that if a GPS system is required by rulemaking, it will be known to the public. The commenter stated that it is highly unlikely that a GPS system could be protected from being destroyed, removed or disabled by a sophisticated terrorist. Finally, the commenter expressed opposition to the proposal for the Commission to grant states the flexibility to impose more stringent requirements than those required under current NRC regulations because most radiography licensees work in several states and such a proposal would be counterproductive and unnecessarily financially burdensome for licensees to be subjected to different regulations from state to state.

Another commenter stated that the burdensome administrative requirements of the current regulations and increased controls imposed on radiography licensees focuses only on prevention of the theft of these sources, and would greatly increase each licensee's liability in the event of a theft (even if a theft occurs beyond the control of a licensee, such as during shipment via a common carrier or a "carjacking"). The commenter stated that regulations and increased controls do not address recovery of a source following a theft. The commenter stated that while there appears to be no limit to the additional liabilities and responsibilities placed upon individual radiographic testing licensees, there are some functions that can be more effectively addressed by other means (in lieu of merely issuing citations and monetary fines to licensees). The commenter stated that there are multiple regulatory requirements regarding a licensee's responsibilities to prevent the theft of radiographic sources, so more of the same only provides an opportunity for regulatory agencies to cite multiple violations with little or no improvement on public health and safety. The commenter also stated that the regulations and increased control requirements, with which the licensee has complied, are useless in cases such as in the event that the licensee's transport vehicle (with a source on board) is carjacked, and that the priority then needs to be the immediate recovery of the stolen device/source and apprehension of the

thieves. If an electronic tracking system could be "activated" immediately, a local law enforcement agency (LLEA) could recover the device/source, apprehend the perpetrators, and recover the licensee's stolen property (vehicle, equipment, etc.). The commenter also stated that if an effective electronic tracking system (e.g., GPS) can be affixed/installed to radioactive material devices/sources of concern such that the location of the device can be determined by LLEA in order for them to respond, then the device manufacturers should be expected to install this type of technology, preferably integrated into the device design in lieu of an "add-on" which could be removed. The commenter also stated that additional costs would clearly be offset by the greater effectiveness of LLEA to recover a stolen device/source, and supported the concept of electronic tracking of sources in quantities of concern, including radiographic exposure devices, only under a number of specific conditions. The commenter expressed opposition to the issuance of any additional rules or regulations that are not consistently administered to all licensees across all regulatory jurisdictions, or that places the onus of interpretation, implementation and maintenance back on individual licensees.

Among the commenters in favor of the petition, a GPS manufacturer submitted two comment letters. The first letter presented the commenter's views on the petition. The second letter presented the commenter's customers' views. In general, the commenter noted the benefits and practicability of GPS tracking units currently available and how they can benefit the industry. The commenter stated that GPS tracking devices are not over the counter devices with a magnet, at least not the appropriate devices for this application, and stated that the ideal solution is a device which is extremely small with little marking so the device identity is limited to most of the public. The commenter stated that GPS devices transmit their location when summoned and/or periodically, can be fitted with a siren that can be activated remotely to provide a more precise location when the device has been tracked to a home, storage facility, etc., and that this technology allows the owner/victim the ability to do the legwork before law



enforcement arrives and, thus, saving valuable time in the recovery process. The commenter also stated that these devices, if installed on a vehicle, would not only provide the tracking, if stolen, but when accompanied by a simple sticker, work as a deterrent, and that the public notice of these systems being required would also act as a deterrent. However, the commenter stated that the willingness of a criminal to commit a crime does make the system worthless as others have stated, but the ability to make security measures redundant and exceptional would help in the recovery of the equipment and the apprehension of the thieves. The commenter also offered a description of costs for using this technology and stated that the availability and affordability of this technology is extremely feasible. Because industry has the most to gain from it, the security of the devices, equipment, vehicles, companies and public is too valuable to overlook.

In the second letter, the commenter stated that if GPS is required for vehicles it would be inexpensive for the end users and would provide additional benefits. However, if it's required on devices and other equipment, the cost could be high to outfit these devices with little or no real benefit other than loss recovery. The commenter supported having the tracking devices in vehicles because of the additional benefit in recovery of lost material it represents.

Another commenter, a licensee who is currently using a GPS for their shipments, questioned whether or not the licensees would have to incur the additional expense of tracking the device as well as the vehicle. Additionally, the commenter believed that GPS tracking by alternate means such as on the vehicle rather than the device should be allowed.

The Illinois Emergency Management Agency (IEMA), Division of Nuclear Safety, submitted a comment letter in favor of the petition. IEMA stated that GPS systems are very reliable and that this technology is currently used by some of their distributors. IEMA also stated that these systems are very invaluable for locating shipments and that they would add

further credibility to the increased control measures. In addition, IEMA suggested that packages containing highly radioactive sources (e.g., Category 1) be tagged for GPS tracking.

A comment submitted by the Nuclear Energy Institute (NEI) stated that adding a GPS unit would not work for the majority of sources and that the additional costs for a GPS unit do not offset the benefit for the few mobile devices which are lost each year. NEI stated that the petition had potential for a few highly radioactive sources in mobile devices, but it would not work for the majority of sources. NEI also stated that, to send a signal, GPS tracking devices require power supplies, as well as a means of monitoring the power supplies. NEI also stated that a large number of mobile radioactive devices containing highly radioactive sources are manually operated with no internal or external power supply. NEI believes this process would make it necessary for a manual unit to require a power supply in addition to the GPS unit, to require maintenance and recharging of the power unit to keep it available, and to require a network to pick up the signal. NEI also stated that this would result in additional weight and bulkiness to the unit, and would increase the capital cost, as well as the additional operation and maintenance expense. In addition, NEI stated that because the devices are designed to be low maintenance, light weight, and simple to operate, the addition of the GPS unit would detract from all three of its principal features. Therefore, this could result in a greater risk to worker safety in the handling and operation of the units.

DOT submitted a comment letter stating that a risk-informed evaluation is necessary to ensure an appropriate decision on this petition is achieved. DOT stated that although it is generally agreed that GPS technology is effective, relatively inexpensive and may assist law enforcement in locating missing devices containing radioactive material and the associated transport vehicle, there were many factors to consider before requiring the use of these instruments. Among those, DOT stated that specific elements of concern should include a clarification of the definition of "mobile or portable uses of highly radioactive sources," as well as

an evaluation of the current security requirements and risk of diversion of carrier mode (i.e., rail, air, vessel, and road). In addition, DOT stated that in evaluating the proposal, it must be recognized that many existing devices containing radioactive material devices are too small to accommodate a GPS device, that not all losses are transport-related, and that any installed GPS device could likely be removed or disabled.

DOT also stated that, although the U.S. has the right to enact unique security provisions, the impact on international transport must be considered, and the requirements for importers and exporters of radioactive material devices and the consequences for overseas buyers and suppliers of these devices must be analyzed. DOT stated that any actions undertaken by the NRC must consider security related measures being implemented or under evaluation for implementation by Federal agencies, including DOT and the U.S. Department of Homeland Security. DOT also commented that the proposal's ability to reduce both the probability of theft/diversion and the associated impacts of theft/diversion, as well as the advantages and disadvantages of state-specific regulations, in addition to national regulations, need to be evaluated. Specifically, DOT stated that requirements that vary widely from state to state could have significant impacts on interstate commerce.

In addition, DOT stated that, although the petitioner cited that significant law enforcement efforts were undertaken to recover past devices, there is no quantified data provided for these efforts, nor quantification of potential benefits of the proposal, nor quantification of the impacts for a national or state GPS requirement, and stated that a requirement for a specific technology to be implemented, rather than a performance based measure that achieves the same objective, may have adverse impacts. DOT further stated that a risk-informed evaluation should be implemented taking these factors into account to ensure a measured and appropriate final decision on this petition is achieved.

## Reasons for Closure of the Petition

The NRC concluded that the underlying issue of tracking shipments of highly radioactive sources is an important one and merits further consideration, and therefore, will be included into NRC's ongoing rulemaking efforts on the security requirements for the transportation of Radioactive Material in Quantities of Concern. This rulemaking will consider various tracking technologies including, but not limited to, GPS technology. Further information on this rulemaking may be tracked through <http://www.regulations.gov> under Docket ID NRC-2008-0120.

While the NRC will consider the issues raised by the petition in the rulemaking process, the petitioner's concerns may not be addressed exactly as the petitioner has requested. During the rulemaking process, the NRC will solicit comments from the public and will consider all comments before finalizing the rule.

Existing NRC regulations provide the basis for reasonable assurance that the common defense and security and public health and safety are adequately protected.

For the reasons cited in this document, the NRC closes this petition.

Dated at Rockville, Maryland, this 1<sup>st</sup> day of July, 2008.

For the Nuclear Regulatory Commission.

***/RA/***

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R. W. Borchardt  
Executive Director for Operations.

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For the Nuclear Regulatory Commission.

**/RA/**

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R. W. Borchardt  
Executive Director for Operations.

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