SUPPORTING STATEMENT
U.S. Department of Commerce
National Institute of Standards and Technology (NIST)
Evaluation of Whole-Body Detector Response of Virtual Gamma-Ray System – Administered Radioactive Material
OMB CONTROL NO. 0693-XXXX

A. JUSTIFICATION

1. Explain the circumstances that make the collection of information necessary.

This project will determine the whole-body detector response of the NIST Radioactivity Group's Virtual Gamma-ray Range System to provide support in the event of an emergency radiological incident. The project will evaluate the system's response to a variety of body geometries, and relate the system's response to handheld in vivo gamma-ray detectors readings that would be used during radiological emergency response. Because there are inadequate numbers of phantom types to approximate all body shapes and sizes, we plan to use NIST employees already subjected to nuclear medicine procedures as radioactive "sources" to determine the response of our High Purity Germanium (HPGe) measurements system to the volunteers. The physical parameters of the volunteers such as height, weight will be needed to assess the correlation with counting response that is expected to have uncertainties as large as 50 %.

The physician or technician who will administer injection of nuclear radiation will be required to provide written documentation containing the identity and time of the injected radionuclide into their patients, its radioactivity content, the calibration date and time of the radionuclide received.

2. Explain how, by whom, how frequently, and for what purpose the information will be used. If the information collected will be disseminated to the public or used to support information that will be disseminated to the public, then explain how the collection complies with all applicable Information Quality Guidelines.

The nuclear medical physician and/or technician will provide each NIST volunteer with the identity and time of the injected radionuclide into the volunteers, its radioactivity content, the calibration date and time of the radionuclide received. The physicians/technicians will provide the information once per year per patient. This information will be used by the Investigators to make the appropriate corrections to relate the radioactivity measured and the content in the patient at the time of the measurement to compute the detector response for each volunteer. The distribution of the detector response will be correlated with height and weight information on the volunteers to derive the variability. This variability will be assessed and related to the detector response uncertainty that will be quantitatively related to the confidence in the measurement.

The quantitative estimate of the confidence in the measurement will be disclosed to radiological/nuclear consequence management experts (federal agency experts within Heath and Human Services, Nuclear Regulatory Commission, Homeland Security) to factor into their decision making process and as input for their incident planning process.

This information collection and dissemination will comply with the NIST CIO Information Quality Guidelines and Standards.

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological techniques or other forms of information technology.

A paper form will be distributed to the volunteers and upon completion by the physician/technician the volunteer will return the form to the Investigator.

4. Describe efforts to identify duplication.

The volunteers are NIST employees and are not currently participating in the collection of this information with entities other than NIST. This research project is unique to NIST.

5. If the collection of information involves small businesses or other small entities, describe the methods used to minimize burden.

Not Applicable.

6. Describe the consequences to the Federal program or policy activities if the collection is not conducted or is conducted less frequently.

Nuclear and radiological emergency response requires adequately calibrated measurement instrumentation for quick life saving decision making and triage. Without the requested information collection, the NIST project of development of instrument calibrations will not be able to be conducted, and have a negative impact on the development of Federal and State capabilities to quickly respond to nuclear/radiological incidences in this post-9-11 era.

7. Explain any special circumstances that require the collection to be conducted in a manner inconsistent with OMB guidelines.

All data will be collected in a manner consistent with OMB guidelines.

8. Provide a copy of the PRA Federal Register notice that solicited public comments on the information collection prior to this submission. Summarize the public comments received in response to that notice and describe the actions taken by the agency in response to those comments. Describe the efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported.

A Federal Register notice soliciting public comment was published on December 22, 2006. No comments were received.

9. Explain any decisions to provide payments or gifts to respondents, other than remuneration of contractors or grantees.

No payments or gifts will be provided to the respondents.

10. Describe any assurance of confidentiality provided to respondents and the basis for assurance in statute, regulation, or agency policy.

The dose information will be electronically recorded and coded without any link to the volunteer's names to preserve their anonymity. Project files will be maintained in a locked room, in a secured pass key building, at the secured NIST campus.

11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private.

There are no questions of a sensitive or private nature.

12. Provide an estimate in hours of the burden of the collection of information.

50 respondents (physicians/technicians) per year x 6 minutes per response = 5 hours annually.

13. Provide an estimate of the total annual cost burden to the respondents or record-keepers resulting from the collection (excluding the value of the burden hours in #12 above).

Not Applicable.

14. Provide estimates of annualized cost to the Federal government.

The annual cost to the Federal government is estimated to be 50 volunteers per year x 10 minutes (distribution) = 8 hrs @ $40/hr = $320, plus 50 volunteers per year x 15 minutes (recordkeeping/data entry) = 12.5 hrs @ $40/hr = $500 – a total of $820/yr.

15. Explain the reasons for any program changes or adjustments reported in Items 13 or 14 of the OMB 83-I.

This is a new collection thus no program changes or adjustments.

16. For collections whose results will be published, outline the plans for tabulation and publication.

The results of this information collection will not be published.

17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons why display would be inappropriate.

The collection will display the expiration date.

18. Explain each exception to the certification statement identified in Item 19 of the OMB 83-I.

There are no exceptions to the certification statement.

Collections of Information Employing Statistical Methods

The collection of information does not employ statistical methods.