

# **Graduated Rad/Nuc Detector Evaluation and Reporting (GRaDER<sup>SM</sup>) Program**

## **Guidance for Submitting Manufacturers' Applications**

**NOTE: The Graduated Rad/Nuc Detector Evaluation and Reporting (GRaDER<sup>SM</sup>) Program guidance is subject to change at any time. The following is the Domestic Nuclear Detection Office's (DNDO) current instruction on the submission of the manufacturer's application to the GRaDER Program. Any revisions to this guidance will be posted to the DNDO/GRaDER website (<http://www.dhs.gov/GRaDER>).**

Congress mandated the Department of Homeland Security (DHS), DNDO to set Technical Capability Standards and implement a Test and Evaluation program to provide performance, suitability, and survivability information and related testing for preventive radiological/nuclear (rad/nuc) detection equipment. DNDO established the GRaDER Program to meet these responsibilities. This summary contains the guidance for manufacturers on how to apply for radiation detection instrument consideration and evaluation by the GRaDER Program.

GRaDER, as directed by the Security and Accountability for Every (SAFE) Port Act of 2006, is a "fee-for testing" program to test and evaluate commercially available technology for detecting nuclear explosive devices and fissile or radiological material. This program will be used to verify the radiation detector performance claims of manufacturers and drive the market to improve the capabilities offered to DHS components, law enforcement, and first responders. The GRaDER Program establishes the current American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers (IEEE) N42 series consensus standards as the initial acceptable performance baseline for radiation detectors. For its next performance objective, the GRaDER Program will incorporate government-unique technical capability standards, which are currently under development.

A manufacturer or vendor may have its radiation detection product(s) tested at independent DNDO-accepted or National Voluntary Laboratory Accreditation Program (NVLAP)-accredited laboratories. Testing laboratories must conform to the requirements of NIST Handbooks 150:2006 NVLAP Procedures and General Requirements and 150-23:2007 (DRAFT) NVLAP Radiation Detection Instruments; International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) 17025:2005, General Requirements for the Competence of Testing and Calibration Laboratories; and the specific ANSI/IEEE N42 standards and other industry standards identified within. DNDO-accepted laboratories are identified on the GRaDER website (<http://www.dhs.gov/GRaDER>), and NVLAP-accredited laboratories are identified on the NIST NVLAP website (<http://ts.nist.gov/Standards/scopes/programs.htm>). An application checklist developed by DNDO is provided here to assist manufacturers in compiling the necessary information to obtain DNDO consideration of the detector instrument application.

Manufacturers may elect to have their test results included in a DNDO-published listing made available to interested parties outside the Federal government. This listing may be used by

Federal, State, local, and tribal authorities in making procurement and grant decisions. If a manufacturer does not agree to such publication, the test results will not be released outside the Federal government. The incentive to participate comes from government procurement and grant programs award criteria. Only equipment that meets the designated criteria may be eligible to be purchased with Government grant funding.

### GRaDER Application Process

Manufacturers initiate the GRaDER test and evaluation process by contracting with the appropriate laboratory to initiate testing against the applicable ANSI/IEEE N42 consensus standard.

Once acceptable test results have been attained, the manufacturer applies to DNDO for consideration of its radiation detector product by the GRaDER Program. Criteria for entry into the GRaDER Program include satisfactory demonstration of compliance with applicable subsets of the ANSI/IEEE N42 Standards' requirements as outlined in the "Compliance Levels" section of the initial GRaDER Guidance Notice on the GRaDER Program website. The conformity requirements outlined on the website in the "DHS Test and Evaluation Interest Areas" section must also be satisfied. GRaDER Program compliance verification for these Test and Evaluation Interest areas may include audit and/or testing at the Government's discretion as part of its Government Post Market Surveillance Program. Any additional costs for Government verification of conformity will be at the manufacturer's expense.

Manufacturers may submit application packets to the GRaDER Program using the contact information posted on the GRaDER website. Applications may be submitted electronically in a .pdf format as long as all documents have original signatures and dates that are clearly visible.

Manufacturers may submit questions or comments to the GRaDER Program using the contact information posted on the GRaDER website.

## **Manufacturer's Checklist**

### **Radiation Detector Instrument Evaluation by the GRaDER<sup>SM</sup> Program**

#### **All applications must include:**

1. Signed application on Manufacturer's letterhead declaring instrument conformity to applicable ANSI/IEEE N42 and other industry standards.
2. Instrument identification and a complete and independently verifiable detector configuration description. This will include software and firmware version identification and instructions as to how to verify the physical and electronic configuration.
3. Manufacturer contact information. Applications must include manufacturer points of contact names, addresses (U.S. mail and commercial delivery), telephone numbers, electronic mail addresses, and manufacturer websites.
4. Trade names and vendors that market the product under application.
5. Independent reports and certifications that must be verifiable with the originating organizations. The manufacturer provides authority for testing and certifying entities to converse with DNDO in regard to certificates and reports that have been issued on the equipment under application. The manufacturer provides DNDO with contact information for all such entities.
6. Copies of instrument operating instructions and procedures for troubleshooting, operator servicing, maintenance, and repair.
7. Instrument operating parameters and limitations that might impact test results and evaluation assessments.
8. Independent testing laboratory identification, contact information and dates and locations of the testing performed.
9. Signed copy of the manufacturer's directive to the independent testing laboratory(ies) to deliver an original test report to DNDO. No evaluation will occur without the complete original test reports being delivered to DNDO from the testing laboratory(ies).
10. Description of the scope of testing that the laboratory(ies) performed.
11. Identification of any and all exceptions to the NVLAP handbook and ANSI/IEEE N42 standards.
12. Complete copy of the laboratory's accreditation documents and scope of accreditation, or complete copy of the laboratory's acceptance letter from DNDO.
13. Copy of laboratory's letter to NIST authorizing application status and information exchange with DNDO (applies to laboratories with NVLAP accreditation pending).
14. Completed, signed original copy of the GRaDER Program Product Listing Agreement with DNDO to comply with the requirements of the GRaDER Program. (See GRaDER Program website)
15. Signed copy of this checklist, indicating completion of the application packet.

The manufacturer's application for GRaDER Program instrument evaluation by DNDO is submitted in its entirety, voluntarily, and at the expense of the manufacturer for consideration. It is understood that DNDO reserves the right to conduct site visits of applicant facilities that submit an application and review and observe manufacturing, testing and storage practices and procedures. DNDO also reserves the right to close the file on this instrument should the manufacturer fail to respond to inquiries necessary to complete the file or satisfy the needs of the

evaluation within 30 days of having requested such information from the manufacturer. In addition, the instrument is subject to any verification and/or surveillance testing deemed appropriate and necessary by DNDO.

It is understood that loss of NVLAP laboratory accreditation or DNDO acceptance will jeopardize DNDO acceptance of test results for manufacturer's products under consideration for the GRaDER Program and may impact the retention of existing products in the GRaDER Program. Details of these policies are available on the GRaDER Program website: <http://www.dhs.gov/GRaDER>.

Signed by: \_\_\_\_\_  
Officer of the Manufacturing Company

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Date