

**The Department of Homeland Security (DHS)
Notice of Funding Opportunity (NOFO)
Countering Weapons of Mass Destruction: Transformative Solutions Incubator (TSI)**

NOTE: If you are going to apply for this funding opportunity and have not obtained a Data Universal Numbering System (DUNS) number and/or are not currently registered in the System for Award Management (SAM), please take immediate action to obtain a DUNS Number, if applicable, and then to register immediately in SAM. It may take 4 weeks or more after you submit your SAM registration before your registration is active in SAM, then an additional 24 hours for Grants.gov to recognize your information. Information on obtaining a DUNS number and registering in SAM is available from Grants.gov at: <http://www.grants.gov/web/grants/register.html> Detailed information regarding DUNS and SAM is also provided in Section D of this NOFO, subsection, Content and Form of Application Submission.

Contents

A.	Program Description	3
	Issued By	3
	Catalog of Federal Domestic Assistance (CFDA) Number	3
	CFDA Title	3
	Notice of Funding Opportunity Title.....	3
	NOFO Number	3
	Authorizing Authority for Program.....	3
	Appropriation Authority for Program	3
	Program Type	3
	Program Overview, Objectives, and Priorities.....	3
	Overview and Objectives.....	3
	Priorities.....	4
	Anomaly Detection.....	4
	Expected Outcomes	4
	Program Structure.....	4
B.	Federal Award Information.....	5
	Award Amounts, Important Dates, and Extensions.....	5
C.	Eligibility Information	6
	Eligible Applicants	6
	Eligibility Criteria.....	6
	Other Eligibility Criteria-Applications DHS Considers Non-Responsive	6
	Cost Share or Match	7
D.	Application and Submission Information	7

Key Dates and Times	7
Other Key Dates.....	7
Content and Form of Application Submission	8
MANDATORY FORMS.....	8
Proposal Preparation Instructions:	10
Unique Entity Identifier and System for Award Management (SAM)	12
Intergovernmental Review	13
Funding Restrictions.....	13
E. Application Review Information	14
Application Evaluation Criteria	14
Criteria I: Intellectual Merit and Technical Approach.....	15
Criteria II: Transformational Impact.....	15
Criteria III: Broader Impact	15
Review and Selection Process	15
Selection Process	16
F. Federal Award Administration Information	17
Notice of Award	17
Notice of Not Selection for Award	17
Administrative and National Policy Requirements.....	17
Reporting	17
Federal Financial Reporting Requirements.....	17
Program Performance Reporting Requirements.	18
Close Out Reporting Requirements.....	18
G. DHS Awarding Agency Contact Information.....	19
H. Additional Information	19
Financial Risk Assessment Evaluation.....	20
Applicant Disclosure of Risk Status	21
Obligation by DHS/GFAD.....	21
Program Income	21

A. Program Description**Issued By**

U.S. Department of Homeland Security (DHS) Countering Weapons of Mass Destruction (CWMD) Research and Development Division

Catalog of Federal Domestic Assistance (CFDA) Number

97.077

CFDA Title

Evaluation, and Demonstration of Technologies Related to Nuclear Threat Detection

Notice of Funding Opportunity Title

Countering Weapons of Mass Destruction: Transformative Solutions Incubator (TSI)

NOFO Number

DN-ARI-18-001

Authorizing Authority for Program

Section 1906 of the Homeland Security Act of 2002, as amended (P.L. 107-296) (6 U.S.C. 596) and Section 1902(a)(6) “conduct, support, coordinate, and encourage an aggressive, expedited, evolutionary, and transformational program of research and development to generate and improve technologies to detect and prevent the illicit entry, transport, assembly, or potential use within the United States of a nuclear explosive device or fissile or radiological material ...”

Appropriation Authority for Program

Consolidated Appropriations Act, 2018 (P.L. 115-141), Division F – Department of Homeland Security Appropriations Act, 2018, Title IV, Domestic Nuclear Detection Office, Research and Development

Program Type

New

Program Overview, Objectives, and Priorities**Overview and Objectives**

The Transformative Solutions Incubator (TSI) seeks to move promising technologies from academic research to the marketplace to support the needs of DHS operational

components in the CWMD mission space. The TSI does this by 1) identifying suitable DHS operational requirements that can be addressed by academic research, 2) developing research topic areas according to those requirements and/or CWMD Office priorities and National Security Strategy, and 3) executing Cooperative Agreements with awardees to develop the technology to a point that it can be transitioned to the marketplace. The TSI facilitates this transition by requiring applicants to have industrial or national laboratory partners.

Priorities

Each application will be evaluated based on the criteria provided in Evaluation Criteria under the Application Review Information section. The research topics in this announcement will address each of the following challenges list below. The solicitation research topics are listed in **Appendix A**.

Anomaly Detection

The focus of this NOFO will be on projects that can generate actionable information for outliers indicative of weapons of mass destruction (WMD) terrorist activity. Maximizing the accuracy of the output while minimizing operational burden are keys to success. For example, in a radiation detection operation, an algorithm that detects a radiation source only 50% of the time is not successful because operators will need to manually inspect or take more time to scan. In these type of scenarios, detection probability will typically need to be >95% with probability of false alarm < 5%. Areas of interest in this NOFO are 1) anomaly detection for sensor data including handheld radiation sensors, radiation portal monitors, non-intrusive inspection (NII) x-ray systems; 2) baseline radiation monitoring in operational environments; More details can be found in **Appendix A**.

Expected Outcomes

The topic(s) listed in Appendix A have defined overall project goals. These are developed to push the state-of-the-art in the performance, cost effectiveness, and/or operational risk reduction in the priorities described above. Proposal submissions must clearly define intermediate targets and goals (quantitatively as much as possible) for each budget year.

Progress toward goals will be a consideration for continuation during project evaluation, in addition to project costs and schedule. Project evaluation includes, but is not limited to, information provided during three project reviews during the year, as well as monthly financial reporting and teleconference updates.

Program Structure

Project Schedule

One of the goals of the TSI is to pull promising technologies from university laboratories into the commercial marketplace. To help facilitate this development, successful Offerors will be awarded a two-year base period (funded annually) to prove feasibility of the proposed concept. The two-year base period will allow the awardee to develop the project to feasibility, provide time to bring students onboard to work on the project, and better develop a relationship with an industry and/or national laboratory partner. The partnership with industry and/or national laboratory is REQUIRED as part of this

program and will help facilitate technology transition. It is preferred that Offerors have a partner before submitting a proposal, but in some circumstances, a partnership can be developed during the Base period if the proposal is awarded. If no partnership is established during the Base period, the project will not continue after the Base period.

For projects that prove technical feasibility during the Base period, up to three additional one-year option budget periods will be available to work on the project to develop the technology to a proof-of-concept level. At that point, the technology will be able to demonstrate utility to the operators need(s) and be available to transition to an industry or national laboratory partner.

Project Budget

It is understood that as the project matures, additional funding from the applicant is likely necessary for development. Additionally, time is required to recruit students to work on the project. The proposed budget should be structured to account for this.

Project Metrics

The TSI requires reporting of various project metrics to allow for adequate project oversight. These metrics will be reported during any project review and submitted reports. Templates for reporting can be requested after awards are made. They include: 1) progress toward project and intermediate milestones; 2) schedule (Gantt chart); 3) financial/budget; and 4) student participation.

B. Federal Award Information

Award Amounts, Important Dates, and Extensions

Available Funding for the NOFO: \$1.3 M

Projected number of Awards: 5 – 7

Total Period of Performance: Up to 60 months

DHS anticipates the period of performance of awards to range from 24-60 months, encompassing two to five program years. Awardees must prove feasibility by 24 months. If successful, awardees can apply for up to three, one-year options to bring the proposed work to proof-of-concept. **Extensions – Refer to Section H.**

Projected Budget Period of Performance Start Date(s): 09/01/2018

Projected Budget Period of Performance End Date(s): 08/31/2019

Funding Instrument

Cooperative Agreement

The Program Office will have substantial involvement in the administration of the award(s) including tracking research progress toward defined objectives and goals,

funding levels and expenditures, and tracking of project publications, patents, and student participants. The recipient will be required to maintain close and regular interaction with the Program Office, including: a) in-person meetings 3 times per year at recipient site, CWMD office, and/or a neutral site (such as industrial partner), b) monthly teleconferences (roughly 1 hr) to report on progress (including financial status), c) an annual report that details the work completed in a given year.

C. Eligibility Information

Eligible Applicants

The following entities below are eligible to apply for this NOFO:

- Private institutions of higher education
- Public & State controlled institutions of higher education

Eligibility Criteria

Organization Limit. The following listed below are organizations that are eligible and encouraged to submit a proposal:

- Universities and Colleges. Universities and two- and four-year colleges (including community colleges) accredited by a U.S. Department of Education recognized accrediting agency, and having a campus located in the U.S;
- Organizations are referred to as academic institutions for the purposes of this Solicitation.

All non-academic institutions regardless of profit or non-profit status are ineligible to participate.

Principal Investigator (PI) Limit. One (1). The PI will act as lead researcher as well as the primary point-of-contact for the project.

Limit on Number of Proposals per Organization. None Specified

Limit on Number of Proposals per PI. One (1). Further, an individual researcher may not be named as a participant on more than one proposal submitted to this Solicitation. This limitation includes participation as a PI, senior researcher, consultant, or any other role for which financial remuneration is requested.

Other Eligibility Criteria-Applications DHS Considers Non-Responsive

DHS will not consider applications that do not adhere to one or more of the following requirements:

1. **Deadlines.** DHS will not accept late applications. Without exception, applications must be received by Grants.gov on or before the deadline in this announcement or they will not be considered.
2. **Application relevance.** Applications that do not address the purpose of this announcement will not be considered.
3. **Compliance and completeness.** Applications must substantially comply with the application submission instructions and requirements in this announcement or they will not be considered.

Cost Share or Match

Cost Share or Match is not required in this NOFO.

D. Application and Submission Information**Key Dates and Times**

Date Posted to Grants.gov: 08/01/2018

Application Submission Deadline: 08/31/2018 at 11:59:59PM [Eastern Time]
08/31/2018 at 3:59:59AM [GMT]

Note: Late applications will not be reviewed.

Anticipated Funding Selection Date: 09/14/2018

Anticipated Award Date: 09/21/2018

Other Key Dates

Event	Suggested Deadline For Completion
Obtaining DUNS Number	Four weeks before actual submission deadline
Obtaining a valid EIN	Four weeks before actual submission deadline
Updating SAM registration	Four weeks before actual submission deadline
Starting application in Grants.gov	One week before actual submission deadline
<i>If applicable additional critical dates</i>	N/A

Address to Request Application Package

Application forms and instructions are available at Grants.gov. To access these materials, go to <http://www.grants.gov> ; select “Applicants” then “Apply for Grants.” In order to obtain the application package select “Download a Grant Application Package.” Enter the CFDA and/or the funding opportunity number located on the cover of this NOFO, select “Download Package,” and then follow the prompts to download the application package.

For a hardcopy of the full NOFO, please write or fax a request to:

Janet Bailey
Office of Procurement Operations (MGMT I OPO)
245 Murray Lane SW, Mail Stop 0115
Washington, D.C. 20528-0115
Office: (202) 447-0362
Email: janet.bailey@hq.dhs.gov

Content and Form of Application Submission

Note: There are two groups of forms associated with this application: mandatory and optional. Please read the instructions carefully to determine which forms you must submit.

MANDATORY FORMS

- **SF424 (R&R) Application for Federal Assistance (SF424-V2.0)**

Please complete this form in its entirety. If you fill this form out first, other required forms will populate with basic data such as name, address, etc. Signature and date will auto-fill when you submit the application package through Grants.gov.

- a. Block 1, Type of Submission – Please check “Application.”
- b. Block 8, Type of Application – Please check “New.”
- c. Block 12, Proposed Project – Enter Dates of Entire Project Period
- d. Block 15a, Estimated Project Funding – This amount should correspond to your R&R Budget form’s total and budget justification total for the requested budget period.
- e. Block 16, E.O. 12372 review question – Please check “No.”
- f. Block 17 - By submitting this application, your organization is providing certifications and assurances regarding:
 - i. Drug-Free Workplace Requirements
 - ii. Debarment, Suspension, and Other Responsibility Matters—Primary Covered Transactions
 - iii. Assurance that your organization is not delinquent on any Federal debt.

- **Research & Related (R&R) Budget**

An R&R Budget is required for ALL applications. Please ensure that the total amount requested corresponds to Block 15.a on the SF 424 R&R form.

Include up to two to five annual budgets, one for each year of the duration of the award; a cumulative budget will be automatically generated by Grants.gov. A detailed budget justification (up to three pages) should document proposed expenses. Multi-institutional proposals should use the award-sub award proposal mechanisms or the collaborative mechanism.

Mention if any government-furnished equipment (GFE, e.g. specific radioactive sources to calibrate or test detector systems) is required. Attach an expanded equipment list (see item C on R&R Budget Form) if necessary.

An annual grantees review will enable the investigators of grants awarded through this solicitation to review progress, exchange information, and promote collaborations. The PI, all co-PIs, and at least one of the students supported from each funded grant will be required to participate. Representatives of DNDO, DHS Science and Technology, other Federal agencies, and various National Laboratories and industry are also expected to be present at this annual review to provide an expanded opportunity for collaboration and information sharing. Funds must be included in

each year of the proposal budget for attendance at this annual workshop. For budgetary purposes, the workshop may be assumed to be in the U.S. and be of three days duration. This workshop will be a primary mechanism for the DNDO program managers to assess progress and thus to adjust the future funding profiles for individual projects.

- **Budget Justification**

A Budget Justification is required for ALL applications. Please ensure that items listed in the budget justification correspond to the funds requested on the R&R Budget form. Attach the Budget Justification to the R&R Budget form. If you need to attach more than one file to fully capture your budget justification, you may use the optional “Attachments” form.

Please use the following guidance when assembling your budget justification:

Use the following cost categories to group items of cost in your budget justification.

PERSONNEL

FRINGE BENEFITS

TRAVEL

EQUIPMENT (see item C on R&R Budget Form)

SUPPLIES (see item F.1 on R&R Budget Form)

CONTRACTUAL (see item F.5 on R&R Budget Form)

OTHER DIRECT COSTS (see items under item F on R&R Budget Form)

INDIRECT COSTS

If you wish to display your budget justification by task, please ensure that you supply a total for each of the cost categories listed above (and related fields on the R&R Budget Form) for the proposed budget period in your application.

- **Research & Related Project/Performance Site Location(s)**

Please provide information for every site (including subcontractors and outside vendors, with sub-awards or subcontracts of \$25,000 or more) in your project.

- **SF 424B Assurances for Non-Construction Programs**

Submit this form. It will be electronically signed upon submission to Grants.gov as part of your application.

- **Certification Regarding Lobbying (GG_Lobbying Form-V1.1)**

Submit this form. If paragraph two of the certification applies, then complete and submit the SF-LLL Disclosure of Lobbying, which is provided as an optional form in the application package.

- **Research & Related Senior/Key Person Profile**

Please supply biographical information on key personnel. The files can be attached at item 12 on the “Other Project Information Form”, or use the optional “Attachments” form.

- **Research & Related Other Project Information**

Tips: Write for a general audience. Please define any technical terminology that is discipline-specific. Be concise and direct in descriptions. The file submission for this section shall have the cover page, project summary and quad chart followed by the items 3-7 below.

Proposal Preparation Instructions:**1. Cover Sheet:**

The cover sheet information is shown below. Note: for a proposal ID, please follow the following naming convention:

TSINOFO18-XXXX-YYYY-TA-0#-0##

XXXX = four letter (maximum 4 letter) character shortcut for organization name

YYYY = four letter (maximum 4 letter) character shortcut for department/division name

= Topic Area number

= number of proposal submission.

Example: Organization A, Dept. B's submission for its first proposal to topic 01 would have the ID listed: ORGA-DEPB-TA-01-001

The cover sheet should describe:

- Overall project information (Requested budget for this period, project duration, project title)
- Primary Organization Information (Name and address, DUNS+4, TIN/EIN)
- Principal Investigator information (Name and address, phone, email, Co-PI information if applicable)
- Contact information for any organization involved in a collaborative effort, if applicable.

For a fillable .pdf copy of the cover sheet, please send a request to dndo.ari@hq.dhs.gov.

2. Project Summary:

The Project Summary is limited to a one page narrative and a quad chart that summarizes the effort.

The Project Summary must address the intellectual merit and broader impacts of the proposal and must include a brief but explicit statement on how the proposed research relates to enabling the global nuclear detection architecture and/or addressing the topic areas and research objectives outlined in Priorities section and **Appendix A**. **Omission of this statement will result in the proposal being returned without review.**

The quad chart provides a single page summary of the effort and should include a picture, graphic or artist's conception of the effort in the top left, a summary of intellectual merit in the bottom left, a summary of broader impact on the top right, and a summary of schedule and proposed budget in the bottom right.

For a quad chart template, please send a request to dndo.ari@hq.dhs.gov.

3. Project Description:

Describe the vision and goals of the proposed research, approaches and methodologies to attain the goals, and the expected outcomes as described in Section A. The project description must present a clear and compelling explanation of the cutting-edge nature of the proposed research and its potential impact. High-risk proposals with the potential for high impact are encouraged. The Project Description and Proposed Research sections are limited to a total of fifteen (15) pages. The following the sections on Modes of Dissemination and Education, actual or proposed

industry and/or national laboratory partners, Management Plan, and References Cited are limited to a total of three (3) pages.

4. Proposed Research: Narrative consisting of the following items:

- An explanation of the scientific context, intellectual merit, relevance to the solicitation research topics in **Appendix A**, its potential long-term impact and timeliness of the proposed project;
- A detailed description of the proposed research, its goals, objectives and milestones, how it compares to the current state-of-the-art, and any substantive risks and risk mitigation strategies;
- A discussion of the broader impacts of the proposed work;
- If appropriate, a justification for why an effort involving at least two investigators is necessary to carry out the proposed project;
- If appropriate, a discussion of the multidisciplinary approach taken and its proposed benefits;
- A description of the contribution to be made by each senior investigator; and
- A timeline for the planned work.

5. Modes of Dissemination and Education:

- Narrative describing:
- The mode of training undergraduate students, graduate students, and postdoctoral researchers, including co-mentorship or other collaborative training; and
- Plans for dissemination and education/outreach/publications including any pilot activities.

6. Management Plan: If appropriate, narrative describing:

- How the group effort will be coordinated, including the role of industry and/or national laboratory partners;
- How decisions will be made regarding the conduct of the project; and
- How collaboration will be evaluated.

7. References Cited:

- References should include full titles of articles and book chapters cited. This section should include bibliographic citations only and must not be used to provide parenthetical information outside of the project description. Indicate with an asterisk (*) references co-authored by two or more proposal investigators.

8. Formatting: The format applies to items 2-7 above:

- a. Margins – Margins for length and width should be at least one (1) inch.
- b. Page formatting – Use standard, single-column format.
- c. Figures, Tables, Diagrams – Use captions and appropriate references with at least size 10 font for caption descriptions.
- d. Spacing – Use least single spacing (for size 12 font and higher) and use single and a half (for size 11)
- e. Font and size (except for item c above) - Use Calibri or Times New Roman font at size 11 or larger.

Unique Entity Identifier and System for Award Management (SAM)

DHS is participating in the Grants.gov initiative that provides the grant community a single site to find and apply for grant funding opportunities; therefore, applicants with electronic access are to submit their applications electronically through <http://www.grants.gov/web/grants/applicants/apply-for-grants.html>. Before you can apply for a DHS grant at grants.gov, you must have a DUNS number, be registered in SAM, and be approved as an Authorized Organizational Representative (AOR).

Applicants are encouraged to register early. The registration process can take four weeks or more to be completed. Therefore, registration should be done in sufficient time to ensure it does not impact your ability to meet required submission deadlines.

DUNS number. Instructions for obtaining a DUNS number can be found at the following website: <http://www.grants.gov/web/grants/applicants/organization-registration/step-1-obtain-duns-number.html>. The DUNS number must be included in the data entry field labeled "Organizational DUNS" on the Standard Forms (SF)-424 forms submitted as part of this application.

System for Award Management: In addition to having a DUNS number, applicants applying electronically through Grants.gov must register with SAM. Step-by-step instructions for registering with SAM can be found here: <http://www.grants.gov/web/grants/applicants/organization-registration/step-2-register-with-sam.html>. Failure to register with SAM will result in your application being rejected by Grants.gov during the submissions process.

Authorized Organizational Representative: The next step in the registration process, is to create a username and password with Grants.gov to become an AOR. AORs will need to know the DUNS number of the organization for which they will be submitting applications to complete this process. Applicants must register the individual who is able to make legally binding commitments for the applicant organization as the AOR; this step is often missed and it is crucial for valid submissions. To read more detailed instructions for creating a profile on Grants.gov visit: <http://www.grants.gov/web/grants/applicants/organization-registration/step-3-username-password.html>.

AOR Authorization: After creating a profile on Grants.gov, the E-Biz Point of Contact (POC), who is a representative from your organization listed as the contact for SAM, will receive an email to grant the AOR permission to submit applications on behalf of their organization. The E-Biz POC will then log in to Grants.gov and approve an individual as the AOR, thereby giving him or her permission to submit applications. After you have been approved as an AOR you will be able to submit your application online. To learn more about AOR Authorization, visit: <http://www.grants.gov/web/grants/applicants/organization-registration/step-4-aor-authorization.html>. To track AOR status, visit:

<http://www.grants.gov/web/grants/applicants/organization-registration/step-5-track-aor-status.html>.

Electronic Signature: Applications submitted through Grants.gov constitute a submission as electronically signed applications. When you submit the application through Grants.gov, the name of your AOR on file will be inserted into the signature line of the application.

If you experience difficulties accessing information or have any questions please call the [grants.gov](http://www.grants.gov) customer support hotline at (800) 518-4726 or email [grants.gov](mailto:support@grants.gov) at support@grants.gov.

The Federal awarding agency may not make a Federal award to an applicant until the applicant has complied with all applicable DUNS and SAM requirements and, if an applicant has not fully complied with the requirements by the time the Federal awarding agency is ready to make a Federal award, the Federal awarding agency may determine that the applicant is not qualified to receive a Federal award and use that determination as a basis for making a Federal award to another applicant.

Intergovernmental Review

An intergovernmental review may be required. Applicants must contact their State's Single Point of Contact (SPOC) to comply with the State's process under Executive Order 12372 (see <http://www.fws.gov/policy/library/rgeo12372.pdf>). Name and addresses of the SPOCs are maintained at the Office of Management and Budget's home page at http://www.whitehouse.gov/omb/grants_spoc to ensure currency.

Funding Restrictions

Award Size: DHS intends to make between 5-7 awards in FY 2018.

For the purposes of this announcement, applicants should account for time to ramp up research including finding students to work on the project. Budgets for the first year will likely be lower than for future years when the team is fully formed and the project is at a more mature stage of development.

Students: Students supported (funded) under this project are classified as trainees and must be citizens or permanent residents of the U.S., its territories or its possessions. Students who are not citizens or permanent residents of the U.S., its territories, or its possessions may be involved in the project, but not funded.

Kick-Off Review: This meeting will be held remotely or on-site to discuss in detail the technical and programmatic aspects of the proposed research.

Project Reviews and Updates: The TSI requires 3 in-person meetings each year and can take place at the awardee site, CWMD office, and partner site. These meetings will go over project progress to date and allow for in depth discussions of the project, as well as

opportunities for students to participate. Each month there will also be a teleconference to go over project updates.

Publications and Press Releases: All public-facing materials which discuss work completed under the TSI including, but not limited to, publications, abstracts, presentations, media releases, and interviews, must be approved for public release by the Program Office. The Program Office requires 10 business days to review any material in advance of submission.

Foreign Travel: Foreign travel required in the performance of the duties approved in this Award must be approved by DHS in advance and in writing and comply with the applicable OMB Cost Principles Circular. Requests for foreign travel identifying the traveler, the purpose, the destination, and the estimated travel costs must be submitted to the DHS Grants Officer 60 days prior to the commencement of travel.

Management and Administration (M&A) Costs:

M&A are not operational costs but are necessary costs incurred in direct support of the grant or cooperative agreement or as a consequence of it, such as travel, meeting-related expenses, and salaries of full/part-time staff in direct support of the program. As such these can be itemized in financial reports.

Indirect Facilities & Administrative (F&A) Costs: Indirect Cost (IDC) is allowable by the recipient and sub-recipients. IDC is based on a federally approved and negotiated rate. Please provide a copy of the negotiated rate approved by the applicant's cognizant agency at the time of application. Indirect costs on sub-awards are limited to the first \$25,000 of direct costs

Other Submission Requirements:

All files submitted in the application shall be in .pdf format. Limit filenames to 50 characters. Do not password-protect files.

E. Application Review Information

Prior to making a Federal award, the Federal awarding agency is required by 31 U.S.C. 3321 and 41 U.S.C. 2313 to review information available through any OMB-designated repositories of government-wide eligibility qualification or financial integrity information. Therefore application evaluation criteria may include the following risk based considerations of the applicant: (1) financial stability; (2) quality of management systems and ability to meet management standards; (3) history of performance in managing federal award; (4) reports and findings from audits; and (5) ability to effectively implement statutory, regulatory, or other requirements.

Application Evaluation Criteria

The following criteria are of equal importance.

Criteria I: Intellectual Merit and Technical Approach

The following elements will be considered upon technical evaluation:

- The intellectual merit of the proposed research activity will serve to advance knowledge and understanding within the related technical field and/or across multiple related disciplines.
- The proposed team (including industry or laboratory partner) has the experience (include prior, if available) and expertise to conduct the proposed research.
- The proposed technical plan is clear and complete and addresses cost/schedule, technical strategies, and resources.
- The proposed approach has reasonable likelihood of transition to an industrial or laboratory partner

Criteria II: Transformational Impact

The following additional elements will be considered upon technical evaluation, as applicable:

- The relevance of the application toward the topic area requirements/objectives and the CWMD mission
- The proposed research has a reasonable likelihood of transitioning to the commercial marketplace
- The success of the proposed research addresses operator needs in the CWMD mission space
- The proposed research activity exhibits creative, original (non-duplicative), innovative, and/or transformative concepts.

Criteria III: Broader Impact

The following elements will be considered upon technical evaluation:

- The research activity will advance knowledge and understanding in CWMD related solutions while promoting teaching, training, and learning to support fostering the next generation scientists and engineers.
- The degree of undergraduate and/or graduate student participation in the proposed research.
- The proposed activity will broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.).
- The dissemination of the results will broadly enhance scientific and technological understanding that may be beneficial to the academic community and society.

Review and Selection Process

Application Receipt. All completed applications (“proposals”) submitted through grants.gov in response to this NOFO will be subjected to a technical evaluation by a

panel review. This NOFO contains four topic areas. Proposals that are determined non-compliant to the topic area(s) will not be considered for technical evaluation.

Application Handling. Completed applications will be handled following DHS safeguarding procedures. All application materials will be treated as confidential.

Panel Review and Reviewers. Each application will be reviewed by at least three (3) panelists. Each panelists are subject-matter experts (SMEs) assigned to the appropriate topics (areas) based on their technical expertise. The panelists and review will be established and conducted by the Program office.

Selection Process

Evaluation: Reviewers will conduct their individual evaluation for each assigned application. Following the individual evaluation, a consensus review will be held to formulate a recommendation for each application. The rating of recommendations for each application will follow:

Recommended (R) – Proposals have met and/or exceed the topic requirements/objectives and have high likelihood to conduct successful research. Proposals under this rating are recommended for funding.

Selectable (S) – Proposals will likely satisfy the topic requirements/objectives and has reasonable likelihood of successful research. Proposals under this rating are recommended for funding, if available.

Not Recommended (NR) – Proposals that are non-responsive to the topic area requirements/objectives and/or do not satisfy the evaluation criteria and will unlikely conduct a successful research. Proposals under this rating are not recommended for funding.

A summary of the recommendation and accompanying narrative will be completed by each reviewer. The Program Office will make the selection based on the consensus evaluation. Please note that decisions to fund all the recommended for funding proposals are subjected to available funding.

When the anticipated Federal award amount will be greater than the simplified acquisition threshold, currently \$150,000 (see 2 CFR §200.88), the following applies:

- “ i. Prior to making a Federal award with a total amount of Federal share greater than the simplified acquisition threshold, DHS is required to review and consider any information about the applicant that is in the designated integrity and performance system accessible through SAM (currently FAPIIS).
- ii. An applicant, at its option, may review information in the designated integrity and performance systems accessible through SAM and comment on any information about itself that a Federal awarding agency previously entered and is currently in the designated integrity and performance system accessible through SAM.
- iii. DHS will consider any comments by the applicant, in addition to the other information in the designated integrity and performance system, in making a judgment about the applicant’s integrity, business ethics, and record of performance under Federal

awards when completing the review of risk posed by applicants as described in 2 CFR §200.205 Federal awarding agency review of risk posed by applicants.”

F. Federal Award Administration Information

Notice of Award

Notification of the award is made to the submitting organization via email by a Grants Officer in the Grants and Financial Assistance Division. Notification may be made prior the award being completed. The notification of award is not an authorization to begin performance. Award documentation, signed by the grants officer, is the authorizing document. The award documentation will also have period of performance dates.

Notice of Not Selection for Award

Applications that were not selected for award will be notified by a Grants Officer via e-mail in the Grants and Financial Assistance Division in a timely manner. The Applicant will receive feedback comments from the consensus reviews. The feedback comments will not include the identities of the panelists and reviewers.

Administrative and National Policy Requirements

All successful applicants for all DHS grant and cooperative agreements are required to comply with DHS Standard Administrative Terms and Conditions, which are available online at:

[DHS Standard Terms and Conditions](#)

The applicable DHS Standard Administrative Terms and Conditions will be for the last year specified at that URL, unless the application is to continue an award first awarded in an earlier year. In that event, the terms and conditions that apply will be those in effect for the year in which the award was originally made.

Before accepting the award the AOR should carefully read the award package for instructions on administering the grant award and the terms and conditions associated with responsibilities under Federal Awards. Recipients must accept all conditions in this NOFO as well as any Special Terms and Conditions in the Notice of Award to receive an award under this program.

Reporting

Federal Financial Reporting Requirements.

The Federal Financial Reporting Form (FFR) is available here:

<https://www.grants.gov/web/grants/forms.html>

- A. Quarterly Federal Financial Reports (Cash Transaction)** – The Recipient shall submit the FFR (SF 425) Federal Cash Transaction Report to the Department of Health and Human Services, Payment Management System, Smartlink. Quarterly Cash Transaction reports shall be submitted no later than 1/30, 4/30, 7/30 and 10/30.
- B. Annual Federal Financial Report** – The Recipient shall submit an annual Federal Financial Report (SF 425) to the DHS Grants Officer no later than 90 days after the Budget Period end date. The report must be submitted via email to DHS-GrantReports@dhs.gov and dndoari.del@hq.dhs.gov. Be sure to include the grant program name and number in the subject line.
- C. Final Federal Financial Report** – the Recipient shall submit the final Federal Financial Report (SF425) to the DHS Grants Officer no later than 90 days after the end of the Project Period end date. The report must be submitted via email to DHS-GrantReports@dhs.gov and dndoari.del@hq.dhs.gov. Be sure to include the grant program name and number in the subject line.

Program Performance Reporting Requirements.

Please adhere to the Research Performance Progress Report (RPPR) format provided at: <http://www.nsf.gov/bfa/dias/policy/rppr/index.jsp>

- A. Monthly Project Teleconferences:** A teleconference will be held each month to provide project updates. Attendees shall be at least the project PI and CWMD technical program manager. Additional attendees can include students, industry/laboratory partners, and the TSI program officer.
- B. Annual Project Report and Accomplishments:** A detailed annual report shall be submitted no later than 30 days after the budget period end date. The report shall include an updated project quad chart and summary of fiscal year accomplishments.
- C. Final (End of Program) Performance Report Final Federal Financial Report** – The Recipient shall submit the final Federal Financial Report (SF425) to the DHS Grants Officer no later than 90 days after the end of the Project Period end date. The report must be submitted via email to DHS-GrantReports@dhs.gov and dndoari.del@hq.dhs.gov. Be sure to include the grant program name and number in the subject line.

Close Out Reporting Requirements.

Within 90 days after the end of the period of performance, or after an amendment has been issued to close out a grant, whichever comes first, recipients must submit a final FFR and final progress report detailing all accomplishments and a qualitative summary of the impact of those accomplishments throughout the period of performance.

If applicable, an inventory of all construction projects that used funds from this program must be reported with the final progress report.

After these reports have been reviewed and approved by CWMD, a close-out notice will be completed to close out the grant. The notice will indicate the period of performance as closed, list any remaining funds that will be deobligated, and address the requirement of maintaining the grant records for three years from the date of the final FFR.

The recipient is responsible for returning any funds that have been drawn down but remain as unliquidated on recipient financial records.

G. DHS Awarding Agency Contact Information

The Program Officer shall be the DHS official responsible for monitoring the completion of work and technical performance of the projects or activities described in the Program Narrative Statement:

Keith Jankowski
DHS Domestic Nuclear Detection Office, Mail Stop 0550
245 Murray Lane SW
Washington, DC 20528-0550
Office: (202) 254-7604
Email: Keith.Jankowski@hq.dhs.gov
Program inbox: dndo.ari@hq.dhs.gov

The Grants Officer shall be the DHS official that has the full authority to negotiate, administer and execute all terms and conditions of this Award in concurrence with the Program Officer.

Janet Bailey
Office of Procurement Operations (MGMT I OPO)
245 Murray Lane SW, Mail Stop 0115
Washington, D.C. 20528-0115
Office: (202) 447-0362
Email: janet.bailey@hq.dhs.gov

H. Additional Information

Extensions

Extensions to projects awarded under this NOFO are allowed. Note: Extensions are only allowed during the last year of the award. Please follow the instructions below to apply for an extension.

- Send a request for the form to the Program Office, the Grants Officer and the program inbox - dndo.ari@hq.dhs.gov. Upon completion of the Extension Request form, send your completed forms to the Program Office, Grants Officer and the program inbox.
- Requests shall be submitted no later than one month prior to the end of period of performance.

Carry-forward/Carry-over

Budget periods are funded annually. Any unobligated funds remaining at the end of a initial budget period will automatically transfer to the next budget period, a process commonly known as carry-forward or carry-over, subsequent budget period amounts may be reduced in proportion to the carry-forward/carryover amounts. DHS may request estimated Federal Financial Reports (FFRs) be submitted prior to the budget period end date to determine potential unobligated amounts. **Large unobligated amounts may result in reduction in new funds for future budget years.**

Financial Risk Assessment Evaluation

DHS staff will evaluate the risks to the program posed by each applicant, including conducting due diligence to ensure an applicant's ability to manage federal funds. This evaluation is in addition to the evaluation of the applicant's eligibility and the quality of its application on the basis of the Selection Criteria, and results from this evaluation will inform funding decisions. If DHS determines that an award will be made, special conditions that correspond to the degree of risk assessed may be applied to the award.

In evaluating risks, DHS may consider the following:

- Financial stability
- Quality of management systems and ability to meet the management standards prescribed in applicable OMB Guidance
- Applicant's record in managing previous DHS awards, cooperative agreements, or procurement awards, including:
 1. Timeliness of compliance with applicable reporting requirements
 2. Accuracy of data reported
 3. Conformance to the terms and conditions of previous federal awards
 4. If applicable, the extent to which any previously awarded amounts will be expended prior to future awards
 5. Information available through OMB-designated repositories of government-wide eligibility qualification or financial integrity information, such as: Federal Awardee Performance and Integrity Information System (FAPIIS), DUNS and SAM
 6. Reports and findings from single audits performed under Subpart F – Audit Requirements, 2 C.F.R. Part 200 and findings and reports of any other available audits
 7. Applicant organization's annual report
 8. Publicly available information, including information from the applicant

organization's website

9. Applicant's ability to effectively implement statutory, regulatory, or other requirements imposed on award recipients.

In addition, organizations who have not received prior DHS awards may be required to complete a risk assessment questionnaire as part of the pre-award financial and administrative review.

Applicant Disclosure of Risk Status

Applicants are to disclose whether they are currently designated high risk by another federal grant making agency. This includes any status requiring additional oversight by the federal agency due to past programmatic or financial concerns. If an applicant is designated at a higher risk by another federal grant making agency, you must submit the following information at the time of application submission:

- The federal agency that currently designated the applicant as high risk.
- Date the applicant was designated at a higher risk.
- The higher risk point of contact name, phone number, and email address, from that federal agency.
- Reasons for the higher risk status.

DHS seeks this information to ensure appropriate federal oversight of any grant award. Disclosing this higher risk information does not disqualify any organization from receiving a DHS award. However, additional grant oversight may be included, if necessary, in award documentation.

Obligation by DHS/GFAD

Publication of this Notice of Funding Opportunity (NOFO) does not obligate the Department of Homeland Security (DHS), Grants and Financial Assistance Division (GFAD) to award any specific number of grants and/or cooperative agreements or to obligate any particular amount of funding.

Program Income

No program income is anticipated to be generated under the award(s) at this point. However, if program income generates during the implementation of the program, the Grants Officer reserves his/her rights in determining exactly how that income will be treated and considered under the award, in line with 2 CFR 200.307. Otherwise, the following will be observed:

For U.S. Organizations, the following paragraph (e) (1) of the 2 CFR 200.307 must apply:

“(1) Deduction. Ordinarily program income must be deducted from total allowable costs to determine the net allowable costs. Program income must be used for current costs unless the Federal awarding agency authorizes otherwise. Program income that the non-Federal entity did not anticipate at the time of the Federal award must be used to reduce the Federal award and non-Federal entity contributions rather than to increase the funds committed to the project.” For non-U.S. organizations, see the provision named “Program Income.”

Appendix A: Research Topic Areas

1. Anomaly Detection

Merriam-Webster defines an anomaly as something different, abnormal, peculiar, or not easily classified. This topic seeks research to explore data sets to improve algorithms for detection and classification of anomalies that could be associated with smuggled materials. Anomaly detection differs from threat detection in that threat detection is looking for specific items of interest. Anomaly detection is looking for something out of the ordinary.

Sensors at ports-of-entry, for example, scan for radiological and nuclear (R/N) materials. Often there is cargo that contains Naturally Occurring Radioactive Material (NORM) or other legitimate radioactive sources such as those used in medicine. The challenge is to reduce time spent on investigating legitimate commerce by looking for something out of the ordinary. This can be done by developing analysis techniques for the detection of anomalies in detector data and/or other data such as manifest information. Research can also include how to feed that data back and fuse with other data streams to better inform operations.

Examples of data sets that could be used include:

- Networked passive systems, such as those used in the DARPA SIGMA program (<https://www.darpa.mil/program/sigma>)
- Radiation portal monitors
- Non-intrusive inspection x-ray images utilizing single (6 MeV) and dual energy (6/9 MeV) x-rays
- Other data sets relevant to the CWMD mission
- And/or other data sets proposed by the Offeror. Note that these data sets are largely independent of each other.

Proposals should be specific as to technical approaches to be applied, relevance for the data sets of interests, and expected outcomes.

Reference: <https://www.merriam-webster.com/dictionary/anomaly> , accessed 14 May 2018.

2. Determine Baseline Radiation Environments across Ingress Pathways to the Homeland in Order to Support Anomaly Detection

The goal of this project is to expand upon prior DHS measurement efforts by initiating a campaign to determine baseline radiation environments across the ingress pathways used to enter high-profile target areas, such as major cities, within the homeland. For example, ingress pathways can refer to the spatial extents of road-, water-, and airways used to access the border or a metropolitan area. This project supports the CWMD mission and vision to prevent the use

of weapons of mass destruction by introducing sensors into ingress pathways for the purpose of anomaly detection. Further, this baseline measurement project can be used for threat injection in future CWMD research, which can support algorithm development, training, and sensitivity analyses.

Anomaly detection algorithms require an understanding of the spectroscopic baseline environments in which sensors might be deployed. A careful mapping of the baseline environments also can provide insight into the specific capabilities of sensors necessary for detection of anomalies. In determining baseline environments along ingress pathways, consideration should be given to the environmental conditions under which anomaly detection measurements might be taken. For example, anomaly detection measurements in the maritime containerized cargo pathway might exploit long dwell measurements in relatively low backgrounds, while air cargo pathway measurements might occur with intermediate dwell times and relatively high background levels.

Proposals should consider either ingress pathways to enter the United States or ingress pathways to reach a high-profile metropolitan area. Innovative and cost effective means for establishing baseline environments should be developed. Consideration should be given to including contextual data, such as video, to help determine correlations in detected radiation with changes in the monitored environment. Proposals should also consider how data fidelity and quality would be maintained for proposed data collections as well as approaches to data management and curation that support optimal use of collected data in other applications, such as threat injection. Finally, a measurement program should be implemented for an ingress pathway selected in coordination with the sponsor in order to deliver a characterization of the baseline environment for the pathway.