RTI anticipates that information sharing will lead to increased knowledge directed at HFD goals:

- ***Methods, models, and technologies to enhance community resilience in the face of disaster.*** For example, the SRWP may be used to post the results of community needs assessments so that the research community can conduct meta-analysis of the factors that promote resilience. Furthermore, research methods of such evaluations (questionnaire, sample design, respondent outreach materials) can be shared through the SRWP so that future evaluations can benefit from the lessons learned from previous projects.

- ***Research into metrics related to resilience.*** The SRWP may be used to post alternative metrics used to assess the current level of resilience in the United States and in international communities. Such postings may be used to guide discussions around preferred metrics and alternative coding schemes and to generate consensus in the research community on preferred measurement practice, by vetting such measures with the data collection, analysis, and policy communities.

- ***Research into terrorist motivations, intent, and other factors to develop a framework for assessing threats to the homeland.*** Research programs in HFD could benefit from the research community collecting information about public reactions to security policies and practices and gauging the impact of these reactions on the potential for groups to engage in radical politics. However, such data collection and analysis is very difficult and will require insight from a diverse set of disciplines. The SRWP may engage experts in these disciplines to identify potential designs for capturing and presenting this information.

- ***Tools and technologies to determine when radical groups are likely to engage in violence and what may influence their actions.*** Numerous large and small research teams are engaged in the pursuit of analytical and computational tools to support the monitoring and assessment of emerging and escalating group violence. The SRWP may be used to disseminate findings and data across these project teams to more efficiently apply research funding and develop cumulative results.

The SRWP will be hosted on RTI's public network and will use the .Net framework to manage the functions available on the SRWP. Users will register by providing minimal information about themselves (e.g., name, affiliation, e-mail address) and will be granted login credentials to access the SRWP. RTI anticipates that content posted on the SRWP will not be sensitive, and therefore, risks to the public and the research community will be minimal.

The Web sites may use blogs, wikis, user-generated content, user profiles, professional networking, data repositories, and other collaboration tools to share information. Each Web site or content area will have a content champion who will recruit users from the public and the research community, encourage them to actively participate in discussions and information sharing, and ensure the information posted on the SRWP motivates users to share information

and return to the SRWP.

RTI will demonstrate effectiveness by tracking the number of users and the number of documents and files posted to the portal. To assist in evaluating the effectiveness of the SRWP, RTI will also review server logs to determine the number of users who access the SRWP, the frequency of their access, and the pages they hit. RTI will also review users' comments regarding the content, timeliness of information posted, and contacts made, proposals and grant applications submitted, improvements suggested by users, and other feedback to ensure the SRWP is serving the needs of its users.

(b)(6) the Principal Investigator, will manage the project and provide direction and oversight as needed. (b)(6) has extensive experience in project management, systems and database design and implementation, and quality control procedures.

(b)(6) will be the Senior Advisor. He will provide insight and guidance as needed. (b)(6) is a senior research methodologist and the director of RTI's Health Security Program. (b)(6) has over 17 years of experience managing large data collection projects and conducting research related to homeland security. (b)(6) has conducted extensive work on human-factors-related projects and support research funded through HFD. He has considerable experience organizing panels of subject matter experts on topics including research design, study evaluation, methods, political violence, and modeling.

The deliverables to be completed by RTI are described below:

November 1, 2010–July 6, 2011	Operational portal for up to 4 websites
January 17, 2011	Periodic progress reports covering October 2010– December 2010
May 16, 2011	Periodic progress reports covering January 2011– April 2011
July 6, 2011	Periodic progress reports covering May 2011–July 2011

Key milestones are described below:

October 15, 2010	First website is available on the SRWP
January 17, 2011	Second website is available on the SRWP
April 15, 2011	Third and fourth website available on SRWP
July 6, 2011	Project end date

III. Other Contract Details

1. **Period of Performance**. The period of performance for this SOW is from the effective date of modification P00011 to contract HSHQDC-08-C-00100 through 6 July 2011 and will not alter the current contract period of performance.

2. **Travel**. Travel will not be required in the performance of this SOW.

3. **DHS-Furnished Information**.

   a. DHS will provide certain DHS information, materials, and forms unique to DHS to RTI to support certain tasks under this SOW.

   b. The DHS S&T Technical Representative identified in this SOW will be the POC for identification of any required information to be supplied by DHS.

4. **Place of Performance**. RTI shall perform the work under this SOW at RTI's facility.

5. **DHS-Furnished Property**. DHS property will not be provided to RTI.

6. **Deliverables**. RTI shall provide all deliverables identified in this SOW directly to the DHS S&T Technical Representative.

7. **Security Requirements**.

   a. All work performed under this SOW is unclassified unless otherwise specified by DHS.

   b. If classified work is required under this SOW, DHS will provide specific guidance to RTI as to which work will be conducted in a classified manner and at which classification level. RTI shall also adhere to other applicable Government orders, guides, and directives pertaining to classified work.

8. **Publications and Communications Concerning Work Performed Under This SOW.** All public communication referencing the work performed under this SOW shall be coordinated between RTI and the S&T Technical Representative. RTI will route technical communication products such as reports, journal articles, presentations, and white papers and public communication products such as brochures and fliers through RTI's information review and release process before providing the deliverable to S&T for review and approval 30 days before any release to an external audience.

   Public and technical communications shall contain the following:

   Acknowledgement
   DHS is acknowledged as the sponsor of this work.

9. **Funding Requirements**. DHS will provide funding for the SRWP on Contract HSHQDC-08-C-00100 to RTI in accordance with DHS's appropriations and available funds.

IV. Points of Contact (POCs)

The RTI POC is as follows:

- (b)(6)
  RTI International
  3040 Cornwallis Road
  P.O. Box 12194
  Research Triangle Park, NC 27709-2194
  (b)(6)

RTI may change the individual designated as a POC upon notice to S&T of such change.

The DHS POCs are as follows:

- Technical Representative
  Richard Legault, PhD.
  U.S. Department of Homeland Security
  Science and Technology Directorate
  Washington, DC 20528
  (b)(6)

- Financial Analyst
  Michael Kim
  Contractor in the Support of
  Office of the Chief Financial Officer
  DHS Science and Technology Directorate
  (b)(6)

S&T may change the individuals designated as a POC upon notice to RTI of such change.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
[illegible]	(See Block 16C)	[illegible]	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than Item 6)	CODE
[illegible]	[illegible]	[illegible]	[illegible]

[illegible]
[illegible]
[illegible]
[illegible]
[illegible] (b)(6)
[illegible]

[illegible]
[illegible]
[illegible]
[illegible]
[illegible] (b)(6)
[illegible]

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)	(x)	9A. AMENDMENT OF SOLICITATION NO.
[illegible] ATTN: (b)(6) [illegible] [illegible]		9B. DATED (SEE ITEM 11) 10A. MODIFICATION OF CONTRACT/ORDER NO. 10B. DATED (SEE ITEM 13)

CODE	FACILITY CODE
[illegible]	[illegible]

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers [illegible] is extended [illegible] is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required) [illegible] (b)(4)
[illegible]

13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE
- A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
- B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
- C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: [illegible]
- X D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor [illegible] is not [illegible] is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible] (b)(6)

[illegible]
[illegible]

[illegible]

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
	[illegible]

15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)	(b)(6)		3/17/2011

NSN 7540-01-152-8070
Previous edition unusable

STANDARD FORM 30 (REV. 10-83)
Prescribed by GSA
FAR (48 CFR) 53.243

CONTINUATION SHEET

REFERENCE NO. OF DOCUMENT BEING CONTINUED: [illegible]

PAGE [illegible] OF [illegible]

NAME OF OFFEROR OR CONTRACTOR: [illegible]

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	[illegible]				

[illegible] this modification [illegible] [illegible] in the amount of [redacted] [illegible] Contracting Officer's [illegible] and Technical [illegible].

[illegible] remaining [redacted] [illegible] [redacted] [illegible] provide [illegible] [redacted] [illegible] total of [redacted] [illegible] [redacted] in [illegible] and [redacted] in fixed fee) by the total value [illegible] [redacted] (consisting of [redacted] in estimated cost and [redacted] in fixed fee) [illegible] a new total of [redacted] consisting of [redacted] in estimated cost and [redacted] in fixed fee). Therefore, [illegible] is hereby fully funded.

As a result of this modification, there is no change to the total maximum contract value, which remains at [illegible].

This [illegible] obligates a total of [redacted] increasing the total funding obligated under the [illegible] from [redacted] to a new total of [redacted]

[illegible] this modification, [illegible] as COR and [illegible] replacing [illegible] at [redacted] [illegible] [redacted]

[illegible] this agreement, [illegible] period of performance, [illegible] specifically [illegible].

[illegible] DPAS Rating: [illegible]

[illegible]

[illegible] MURRAY LANE

[illegible] ...

NSN 7540-01-152-8067

OPTIONAL FORM 336 (4-86)
Sponsored by GSA
FAR (48 CFR) 53.110

CONTINUATION SHEET	REFERENCE NO. OF DOCUMENT BEING CONTINUED	PAGE	OF
	[illegible]	[illegible]	3

NAME OF OFFEROR OR CONTRACTOR

[illegible]

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
(A)	(B)	(C)	(D)	(E)	(F)
[illegible]	[illegible]				(b)(4)

[illegible]

(b)(4)

[illegible]

(b)(4)

[illegible]

(b)(4)

[illegible]

(b)(4)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

(b)(6)

(b)(6)

(b)(6)

16Jun11

CONTINUATION SHEET	REFERENCE NO. OF DOCUMENT BEING CONTINUED	PAGE	OF
	HSHQDC-08-C-00100/P00013	7	8

NAME OF OFFEROR OR CONTRACTOR

RESEARCH TRIANGLE INSTITUTE

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	All [illegible] 0013 AMS: [illegible] The purpose of this modification [illegible] is to [illegible] HSHQDC-08-C-00100 is to extend the [illegible] period of performance through 3[illegible] [illegible] at no additional cost to the Government. As a result of this modification, there is a [illegible] the total maximum amount of the [illegible] which remains at (b)(4) As a result of this modification, there is a change to the total funding obligated under the contract, which remains at (b)(4) All other aspects of this agreement, including regulatory and terms and conditions not specifically altered herein, remain in full force and effect. AAP Number: None DO/DPAS Rating: NONE Period of Performance: 07/07/2008 to 06/30/2012				

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT	1. CONTRACT ID CODE	PAGE OF PAGES
		1 13

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00014	See Block 16C	RSHF-11-00072	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than Item 6)	CODE
DHS/OPO/S&T/EXBOR		DHS/OPO/S&T/EXBOR1	

6. ISSUED BY:
U.S. Dept. of Homeland Security
Office of Procurement Operations
S&T Acquisition Division
245 Murray Lane SW - Building 410
Duane Schatz (b)(6)
Washington DC 20528

7. ADMINISTERED BY (If other than Item 6):
U.S. Dept. of Homeland Security
Office of Procurement Operations
S&T Acquisition Division
245 Murray Lane SW - Building 410
Duane Schatz (b)(6)
Washington DC 20528

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)

RESEARCH TRIANGLE INSTITUTE
ATTN (b)(6)
PO BOX 12194
RESEARCH TRIANGLE PARK NC 277092194

CODE 004868105C000 FACILITY CODE

(x) 9A. AMENDMENT OF SOLICITATION NO.

9B. DATED (SEE ITEM 11)

X 10A. MODIFICATION OF CONTRACT/ORDER NO.
HSHQDC-08-C-00100

10B. DATED (SEE ITEM 13)
06/30/2008

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended, ☐ is not extended.
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)
See Schedule

Net Increase: (b)(4)

13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE	
	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
X	FAR 52.243-2, Changes - Cost Reimbursement
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

DUNS Number: 004868105+0000
Division/PPA: Human Factors/Behavioral Sciences Division
Thrust: Social-Behavioral Threat Analysis
Program: Motivation & Intent
Project: Institute for Homeland Security Solutions (Investigator Initiated Research)
Performer: Research Triangle Institute (RTI)
Project Manager: Richard Legault, (b)(6)
SETA: Jennifer Foley, (b)(6)
Appropriations Year: Reimbursable (RM)
Budget Authority: Multi-Year Reimbursable Funds

Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
(b)(6)	Duane Schatz

15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B.	16C. DATE SIGNED
(b)(6)	29Sep2011	(b)(6)	9/29/2011

NSN 7540-01-152-8070
Previous edition unusable

STANDARD FORM 30 (REV. 10-83)
Prescribed by GSA
FAR (48 CFR) 53.243

NAME OF OFFEROR OR CONTRACTOR
RESEARCH TRIANGLE INSTITUTE

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)

ALC: 70-08-1513
APPS: 70X0800

The purpose of this modification is to incorporate additional in-scope work as set forth in the attached Statement of Work, authorize Duke University as a subcontractor, and to extend the period of performance through 30 November 2012.

As a result of the above, the total value of this contract is increased:

FROM: (b)(4)
BY:
TO:

The total amount obligated under this contract is increased:

FROM: (b)(4)
BY:
TO:

The total amount obligated against CLIN 0003 is increased:

FROM: (b)(4)
BY:
TO:

Authorization to subcontract with (b)(6) is hereby provided.

All other aspects of this agreement, including requirements and terms and conditions not specifically altered herein, remain in full force and effect.
AAP Number: 201171346 DO/DPAS Rating: NONE
Discount Terms:
Net 30
Delivery Location Code: S&T MURRAY LANE
DHS S&T
245 Murray Lane
Building 410
Washington DC 20528

FOB: Destination
Period of Performance: 07/07/2008 to 11/30/2012

Continued ...

NAME OF OFFEROR OR CONTRACTOR
RESEARCH TRIANGLE INSTITUTE

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Change Item 0003 to read as follows(amount shown is the obligated amount):				
0003	Innovative Research in Human Factors for Homeland Security in accordance with Section C.3.3 of the SOW. Obligated Amount: (b)(4) Product/Service Code: AC41 Delivery: 07/06/2011 Amount: (b)(4) Accounting Info: NONE000-000-8X-34-02-04-000-01-00-0000-00-00-00-00 -GE-OE-25-50-000000 Funded: (b)(4) Accounting Info: NONE000-000-02-34-01-01-001-01-00-0000-00-00-00-00 -GE-OE-25-50-000000 Funded: (b)(4) Delivery: 11/30/2012 Amount: (b)(4) Accounting Info: RET1183-000-RM-70-00-00-000-01-00-0000-00-00-00-00 -GE-OE-25-50-000000 Funded: (b)(4)				(b)(4)

Statement of Work for Institute for Homeland Security Solutions: Investigator Initiated Research

U.S. Department of Homeland Security
Science and Technology Directorate
Human Factors/Behavioral Sciences Division
Motivation & Intent Program
PR RSHF-11-00072
Contract HSHQDC-08-C-00100 Modification P00014

I. Background

The Human Factors/Behavioral Sciences Division (HFD) of the Science and Technology Directorate within the U.S. Department of Homeland Security (DHS) is executing a research and development program with the Institute for Homeland Security Solutions (IHSS) to Investigator Initiated research that is directly related to the DHS mission. The work to date has focused on developing and applying a variety of methods to explore and understand DHS specific needs and knowledge gaps. The Transportation Security Administration (TSA) seeks an extension of one of the efforts to directly inform their "Officer Performance Studies" program within the TSA Office of Security Operations.

Desired Outcomes:

The goal of this work is to enhance TSA OSO's existing Officer Performance Studies program in three areas. These areas will improve aviation security, improve the efficiency and effectiveness of TSA's officer performance studies, improve TSA's officer training programs, and improve TSA's standard operating procedures at airport checkpoints. The three areas are:

- Comparing undergraduates' performance to officers' performance in order to determine the extent to which TSA can conduct studies using diverse human populations (currently, obtaining officers for studies is the primary limiting factor, in terms of time, cost, and availability, for conducting TSA performance studies because the TSA workforce is spread so thin over peak travel demands, AIT rollout, and other ongoing efforts in the field)

- Enhance the visual and related cognition components of the selection, training, and assessment of current and future employees (this task will provide additional visual and other cognition lab and study capabilities that do not currently exist within the TSA Officer Performance Studies toolkit)

- Enhance the visual and related cognition components of the TSA standard operating procedures for security checkpoints (this task will provide additional visual and other cognition lab and study capabilities that do not currently exist within TSA Officer Performance Studies toolkit)

II. Scope of Work

1. Management and Deliverables

Tasks 1-5 include each of the following steps. These steps will be conducted per the schedule shown below.

- Manage activities of research projects conducted with an undergraduate subject population. Provide quarterly progress reports and a draft and final report that summarize project methods and findings.
- Manage activities of research projects conducted with a TSA employee subject population. Provide quarterly progress reports and a draft and final report that summarize project methods and findings.
- Compile and analyze data collected from undergraduate and TSA employee subject populations.
- Prepare findings from undergraduate and TSA employee data sets for academic publication and conference presentation.

Deliverables. Over the course of the project the project manager will provide quarterly progress reports, a draft final report, and a final report. Significant effects will also be prepared for academic publication in relevant Journals and for submission to relevant academic conferences.

Schedule.
Based upon a 12-month Period of Performance:

Month	1	2	3	4	5	6	7	8	9	10	11	12
Prepare Experiments												
Establish Lab at Airport												
Test Undergraduate Subjects		T1	T2			T3	T4			T5		
Test TSO Subjects			T1	T2			T2	T4			T5	
Prepare manuscripts/presentations				T1	T2			T5	T4		T5	
Quarterly Reports												
Draft and Final Reports												

2. Undergraduate and Officer Assessments (Task 1)

The following assessments will be administered to undergraduate and TSO populations once the assessments have been cleared by OSO Office of Chief Counsel, Human Capital, and any other departments that assess viability of assessment use on TSA officers. Results will be documented in a Task 1A Report that links the assessment results, through interaction with the TSA project team, to relevant OSO study, training, SOP, and other requirements and plans in order to ensure results are acted upon as appropriate.

Autism Spectrum Quotient (AQ). Autism is a complex disorder with a spectrum of severity and symptoms. High-functioning individuals can live normal lives and many of undergraduate participants will reveal high levels of symptoms. The AQ (Baron-Cohen et al., 2001) offers 5 sub-scales and the most interesting is the Attention Switching and Attention To Detail.

Barratt Impulsivity Scale (BIS-11). The BIS-11 (Patton, Stanford, & Barratt, 1995) is a 30-item questionnaire that assesses three subscales of impulsiveness: attention, motor, and non-planning. It is the most used assessment of impulsivity and has informed several research fields. This has been previously found to significantly predict visual search performance.

Jasper/Goldberg Adult ADD Questionnaire. ADD & ADHD are multifaceted conditions with symptoms of impulsivity, hyperactivity, and inattention. This self-report questionnaire designed for adults (Jasper & Goldberg, 1993) uses 24 questions to determine a respondent's risk of having adult ADD or ADHD.

Maximization Scale. This scale (Schwartz, Ward, Lyubomirsky, Monterosso, White, Lehman, 2002) measures differences between subjects in their desire to maximize what they have versus be content with what they have.

NEO Personality Inventory (NEO-PI-R). The NEO is a standard personality assessment that measures the "big five" traits (Neuroticism, Extraversion, Openness, Agreeableness, & Conscientiousness), with 6 subscales of each trait (Costa & McCrae, 1992). It has been used extensively for research purposes as well as for vocational assessment and assignment.

Video game playing questionnaire. Extensive action video game playing has been linked to long-term perceptual malleability (e.g., Castel, Pratt, & Drummond, 2005; Green & Bavelier, 2003). For example, action video game players have better visual acuity (Green & Bavelier, 2007), enhanced contrast sensitivity (Li, Polat, Makous, & Bavelier, 2009), and better multisensory temporal processing (Donohue, Woldorff, & Mitroff, 2010). Non–players trained on video games reveal benefits, suggesting that the abilities arises from experience and not from pre-existing predilections (e.g., Green & Bavelier, 2003; but see Boot, Kramer, Simons, Fabiani, & Gratton, 2008). The constructed questionnaire assesses experiences with a variety of video game genres.

3. Effect of Physically Removing Found Targets (Task 2)

Standard operating procedures for TSOs are that once a banned object is found (e.g., a water bottle or pocket knife), it is to be removed and then the bag re-scanned. The officer is asked to inhibit the previous target location and search as if it were a new bag. However, a recent psychological study has suggested that a found target can act as an additional distraction and slow the search process for any additional targets (Körner & Gilchrist, 2008). The primary goal here is to assess whether a found target reduces the *accuracy* of finding a second target by acting as a source of distraction. Based upon fixation data from radiographic searches, it has been suggested that radiologists might be less likely to succumb to multiple-target search errors if found targets were to be removed from the display (Berbaum et al., 1994), but this has not been experimentally tested.

Methods. This experiment is based upon prior Satisfaction of Search research (Cain, Dunsmoor, LaBar, & Mitroff, under review, Clark, Fleck, & Mitroff, in preparation; Fleck, Samei, & Mitroff, 2010), and Figure 1 is a typical display. Each item will be comprised of two perpendicular lines slightly offset from each other. The target items are rotated "T" shapes where the two lines are perfectly aligned. The distractor items are rotated "pseudo-L" shapes where the crossbar is slid at variable distances away from the center. 'T's and 'L's are useful stimuli since they are easily controlled and have been used in vision research for decades, making them an accepted standard that provides a reasonable proxy for other stimuli. The background will be a rendered grayscale "cloud" (brightness range=10%–50% black) that differs on each trial. The background increases overall difficulty and models background noise commonly present in radiological searches. Distractor 'L's are presented at varying shades of gray (range=28%–66% black), and target Ts are

presented at one or both of two visibility levels: high salience (range=66%–70% black) or low salience (range=28%–40% black). High-salience 'T's will be relatively easy to detect, and low-salience 'T's will be more difficult to detect. Each stimulus is placed with a slight spatial jitter within randomly selected cells of an invisible 8x7 grid subtending 25.4°x19.1° at an approximate distance of 60 cm.

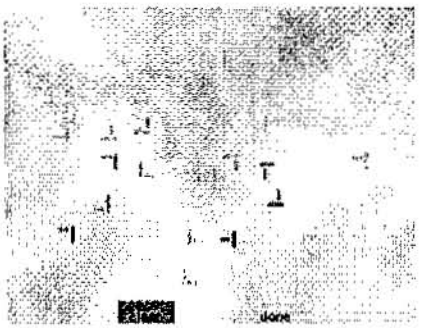

Figure 1. Sample display.

Each trial will begin with a central cross for 0.5 seconds, and then the search array will appear. Participants will be informed that there will be 0, 1, or 2 target 'T's on each trial. Participants will use the mouse to click on each detected target item(s) and then click a blue button at the bottom of the screen labeled 'DONE' to complete the trial. In contrast to earlier, comparable work (Fleck et al., 2010), here an item will be removed once the participant makes a mouse click on it. Any item clicked (even if it is not an actual target) will disappear; participants will be informed that accuracy is the primary goal and that they are to keep false alarms (incorrect clicks) to a minimum. Responses made prior to a timeout will be recorded and analyzed, even if the 'DONE' button is not clicked. Trials are classified as one of four types on the basis of the number and the salience of the target 'T's, resulting in trial types of: *no target, single high salience, single low salience*, or *dual target* (both a high-salience target and a low-salience target present). There will be 250 total trials (randomly presented in blocks of 50): 50 no target, 120 single high salience, 40 single low salience, and 40 dual target. This creates a biased expectation with high salience targets more frequent than low salience targets and single target trials more frequent than dual target trials. This arrangement creates the most conducive situation for Satisfaction of Search (Fleck et al., 2010, Experiment 3). The experiment will begin with one block of 25 practice trials. During practice, immediate feedback will be provided on any false positive identification or missed targets.

The main focus is accuracy defined by miss rate (false alarms are too infrequent for meaningful analyses). Response times will be analyzed, but have not previously been found to be informative. The project team will calculate each participant's accuracy for: (1) high-salience targets on single-target trials, (2) high-salience targets on dual-target trials, (3) low-salience targets on single-target trials, and (4) low-salience targets on dual-target trials given that the high-salience target was detected. Of most interest is the *Satisfaction of Search effect* (Figure 2): the difference in accuracy for low-salience targets when they are the only target (low-salience single targets) versus accuracy for low-salience targets in a dual-target trial, given the high-salience target was detected.

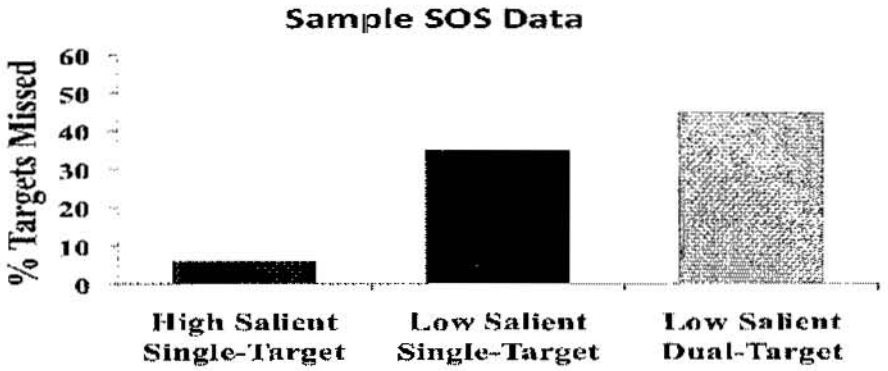

Figure 2. Sample data. Key comparison is last two bars.

Predictions & implications. Prior studies predict that physically removing a target will produce fewer Satisfaction of Search errors – when participants no longer have visual access to a found target, they will more accurately detect a second target. This manipulation of removing a found target was suggested before (Berbaum et al., 1994) but has yet to be tested. TSOs currently implement a variant of this manipulation, but it is not known if it is helpful or if it is being implemented optimally. If such an easy manipulation can improve multiple-target search accuracy, this will have broad implications that can immediately improve several important real-world searches. Advances in technology (i.e., radiologists now do most searches through digital forms that could be electronically modified) make this manipulation a viable means for improving accuracy. Likewise, this experiment will combine with prior work that focused on search speed (Körner & Gilchrist, 2008) to delineated how found targets influence future search procedures.

4. Effect on Search Accuracy of Having Adjacent Bags Visible (Task 3)

A TSO X-ray operator is faced with many challenges and it is important to explore ways to reduce their task difficulty. A well-known phenomenon in the cognitive psychology literature is that of 'visual flankers' - having distracting information visible around a search array can interfere with the primary task (e.g., Eriksen & Eriksen, 1974). From observing the RDU checkpoint operations, visual flankers appear to be a possible issue for the TSOs. Without a front-loader spacing the bags far apart, the X-ray operator is typically presented with a continuous stream of images. Even when there are breaks between bags, two to four unique bags are simultaneously present on the screen. Are TSOs affected by still being able to see the bags they just searched, or by being able to see the bags they are about to search? Would accuracy increase if they were only able to see a single bag at a time?

Methods. This experiment will use the identical methods as described for Option #1 above, except for two changes: (1) items will not be removed after they are clicked on; (2) the project team will manipulate visual distraction. Rather than having a single search array present for each discrete trial, the project team will present trial-by-trial searches in a "conveyor belt" manner. At any given moment within the experiment there will be one primary search array centrally presented, but the previous and subsequent trials will also be visible (see Figure 3).

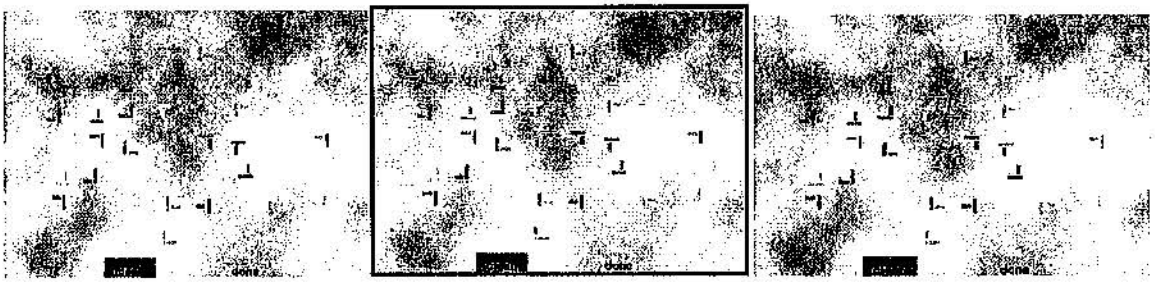

Figure 3. Sample Option #2 display.

Predictions & implications. Prior studies predict that the physical presence of the previous and subsequent trials will increase errors as well as both single-target errors and Satisfaction of Search errors will increase. If this is found, the project team can vary parameters (e.g., the spacing between images) to determine the optimal conditions. This experiment can have broad implications for how TSOs operate and could offer a simple solution – have a front-loader space out the bags.

5. Effect on Search Accuracy of Time Pressure via a Visible Clock (Task 4)

Advances in checkpoint technology offer a variety of changes in how images are presented to TSOs and offer a wealth of options for what to include and not to include. RDU's newest X-ray systems that simultaneously offer two images of each bag also introduce the presence of a timer. An operator can see how they are spending on a given bag and how long they have been on their shift. Does such information help or hinder their performance? What is the impact of continuous available feedback on timing? If it is helpful, should it be emphasized more? If it is harmful, should it be removed? These are all questions that can be answered with simplified and controlled experiments.

Methods. This experiment will use the identical methods as described for Option #1 above, except for two changes: (1) items will not be removed after they are clicked on; (2) the project team will manipulate visual information about task timing. There are many ways to implement this research question so the project team will start with a few and then adjust as the data accumulate. The first test will be to add a visible clock to the upper right corner of the display. It will remain visible for the entire experiment. Additional tests will include a trial-by-trial timer, summary information after each trial (e.g., total accumulated time, average time per trial, fastest time, slowest time), summary information compared to peers after each trial, and a visible timer that counts down until a break between blocks of trials.

Predictions & implications. In general time pressure seems to produce higher error rates (e.g., Fleck et al., 2010), but benefits of motivation and feedback (Clark, Adcock, & Mitroff, in preparation). As such, the project team predicts that there will be an optimal combination of types of information to present to TSOs to help their performance. This information is easy to test, and easy to implement at the checkpoint.

6. Influence of Strategic Instructions of Multiple-target Search Accuracy (Task 5)

In this experiment the project team examines whether metacognitive awareness of aspects of the search process can counteract Satisfaction of Search errors. The project team predicts that explicitly drawing participants' attention to the relative proportion of high-salience and low-salience targets might lead to a strategic avoidance of the Satisfaction of Search effect. This question is guided by prior findings in radiology; it has been recommended that radiologists use "checklists" as an external aid to offer protection against Satisfaction of Search errors during a radiographic search (Kinard, Orrison, & Brogdon, 1986; Samuel et al., 1995). While some evidence suggests that this may actually increase the likelihood of Satisfaction of Search (e.g., Berbaum et al., 2006), other work has shown that incorporating knowledge about the clinical history of a particular case can offset the errors (Berbaum et al., 2010). Here the project team explores this issue of external guidance by offering participants information about the task they are about to perform.

Methods. This experiment uses the same basic design as Option #3 except that no timing information will be made available to the participants. The design is the exact stimuli and methods as Experiment 3 of Fleck, Samei, & Mitroff, 2010, with the addition that participants will be verbally informed about the nature of Satisfaction of Search immediately prior to their search. A variety of explicit instructions will be piloted to establish the optimal information to present to participants.

Preliminary Data. In prior studies, teams have run 10 participants on a similar version of this experiment (participants had a 30-second time limit rather than 15 seconds). The verbal instructions eliminated any evidence of the Satisfaction of Search effect (Figure 4). These data suggest that instructions improve accuracy for detection a second target in a display: no effect of Satisfaction of Search is observed whereas these same parameters, *without* instructions, previously showed Satisfaction of Search (Fleck et al., 2010, Experiment 5).

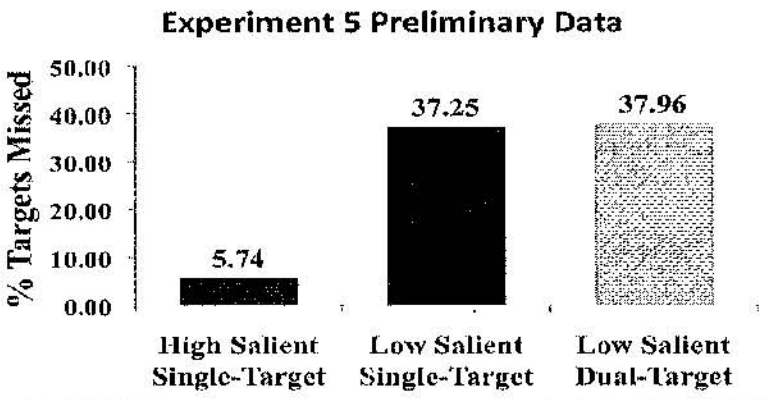

Figure 4. Option #4 Pilot Data.

Predictions & implications. Here the project team will offer participants a form of a "checklist" by providing (1) information about the frequency of targets, and (2) a suggested strategy for the order in which to find them. This will be done to examine whether metacognitive knowledge, a factor known to influence accuracy in radiology (Berbaum et al., 2006; 2010; Kinard et al., 1986; Samuel et al., 1995), might influence Satisfaction of Search errors in the paradigm. The current experiment will provide a

stronger test than the preliminary data since it employs a 15-second time, which produces a more robust Satisfaction of Search effect. It is exciting that simple instructions may potentially affect performance, suggesting that strategies can help alleviate Satisfaction of Search. If the project team replicates the preliminary data with this more stringent version, this will provide clear evidence that Satisfaction of Search is not entirely a visual phenomenon and that it can be influenced by "top-down" knowledge. This will inform visual search theories and provide a simple template for increasing TSO search accuracy.

III. Staffing

IHSS, a consortium of research and policy institutions dedicated to improving homeland security through applied research, is uniquely suited to the development of VIMS. IHSS was designed to leverage the research capacity in the Research Triangle region in central North Carolina, including RTI International, (b)(6) Many of the research partners are already engaged in collaborative efforts to support the applied research needs of many elements of the federal government. The IHSS team contributes a combination of high-capacity research capabilities, rigorous management processes, and industry-leading scientists.

IV. Other Details

1. **Period of Performance**. The contract period of performance is from 7 July 2008 through 30 November 2012.

2. **Travel**. Domestic travel may be required in the performance of the duties listed herein.

3. **DHS-Furnished Information**. DHS may provide certain DHS information, materials, and forms unique to DHS to the performer to support certain tasks under this SOW. The DHS S&T Technical Representative identified in this SOW will be the point of contact (POC) for identification of any required information to be supplied by DHS. The performer will prepare any documentation according to the guidelines provided by DHS.

4. **DHS-Furnished Facilities, Supplies, and Services**. No work at DHS-provided facilities is anticipated for the services being performed under this SOW.

5. **Place of Performance**. OSO leadership has approved the use of Raleigh-Durham (RDU) Airport for any fieldwork required under this SOW. Work will also be conducted at (b)(6) (b)(6)

6. **DHS-Furnished Property**. DHS property will not be provided to the performer.

7. **Deliverables**. The performer will provide all deliverables identified in this SOW directly to the DHS S&T Technical Representative.

8. **Funding Requirements**. DHS will provide funding to the performer in accordance with DHS's appropriations and available funds.

9. **Program Status Report**. The performer will deliver a quarterly program status report to the DHS S&T Technical Representative to include short summary of project-relevant progress, challenges, and accomplishments.

10. **Security Requirements**. All work performed under this SOW is unclassified.

V. Points of Contact

The performer POCs are as follows:

RTI Technical Point of Contact

(b)(6)

RTI International
3040 Cornwallis Rd.
P.O. Box 12194
Research Triangle Park, NC 27709-2194

(b)(6)

RTI Administrative Point of Contact

(b)(6)

Office of Research Contracts
RTI International
3040 Cornwallis Rd.
P.O. Box 12194
Research Triangle Park, NC
27709-2194

(b)(6)

RTI may change the POC information upon notice to DHS S&T of such change.

The DHS POCs are as follows:

DHS Technical Representative
Richard L. Legault, Ph.D.
Program Manager
Human Factors/Behavioral Sciences Division
Science and Technology Directorate

Department of Homeland Security
(b)(6)

Financial Analyst
Michael Kim
Contractor in support of the
Department of Homeland Security
Science and Technology Directorate
Washington, DC 20528
(b)(6)

DHS S&T may change the POC information upon notice to the performer of such change.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 11

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00015	See Block 16C	RSHF-12-00047	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than Item 6)	CODE
DHS/OPO/S&T/EXBOR		DHS/OPO/S&T/EXBOR	

6. ISSUED BY:
U.S. Dept. of Homeland Security
Office of Procurement Operations
S&T Acquisition Division
245 Murray Lane SW - Building 410
Duane Schatz (b)(6)
Washington DC 20528

7. ADMINISTERED BY (If other than Item 6):
U.S. Dept. of Homeland Security
Office of Procurement Operations
S&T Acquisition Division
245 Murray Lane SW - Building 410
Duane Schatz (b)(6)
Washington DC 20528

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)

RESEARCH TRIANGLE INSTITUTE
ATTN (b)(6)
PO BOX 12194
RESEARCH TRIANGLE PARK NC 277092194

CODE	FACILITY CODE
0048681050000	

(x) 9A. AMENDMENT OF SOLICITATION NO.

9B. DATED (SEE ITEM 11)

x 10A. MODIFICATION OF CONTRACT/ORDER NO.
HSHQDC-08-C-00100

10B. DATED (SEE ITEM 13)
06/30/2008

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended, ☐ is not extended.
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)
See Schedule

Net Increase: (b)(4)

13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE	
	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
X	FAR 52.243-2, Changes - Cost Reimbursement
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

DUNS Number: 0048681050000
Division/PPA: Human Factors/Behavioral Sciences Division
Thrust: Social-Behavioral Threat Analysis
Program: Motivation & Intent
Project: Institute for Homeland Security Solutions (Threat Analysis System Requirements (TASR))
Performer: Research Triangle Institute (RTI)
Project Manager: Richard Legault, (b)(6)
SETA: Jennifer Foley, (b)(6)
Appropriations Year: FY12 (24)
Budget Authority: 3-Year Funds
Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF CONTRACTOR/OFFEROR	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
(b)(6)	Duane Schatz
(b)(6)	(b)(6)
15C. DATE SIGNED: 27July2012	16C. DATE SIGNED: 7/27/2012

NSN 7540-01-152-8070
Previous edition unusable

STANDARD FORM 30 (REV. 10-83)
Prescribed by GSA
FAR (48 CFR) 53.243

NAME OF OFFEROR OR CONTRACTOR
RESEARCH TRIANGLE INSTITUTE

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)

ALC: 70-08-1513
APPS: 70240800

The purpose of this modification is to change the CLIN 0004 project name from Violent Intent Modeling and Simulation (VIMS) to Threat Analysis System Requirements (TASR),incorporate additional within-scope work as set forth in the attached Statement of Work, and extend the period of performance through 6 July 2013.

As a result of the above, the total value of this contract is increased:

FROM: (b)(4)
BY:
TO:

The total amount obligated under this contract is increased:

FROM: (b)(4)
BY:
TO:

The total value of CLIN 0004 and the total amount obligated against CLIN 0004 is increased from (b)(4) (consisting of (b)(4) in estimated cost and (b)(4) in fixed fee) by $130,070.00 (consisting of (b)(4) in estimated cost and (b)(4) in fixed fee) to (b)(4) (consisting of (b)(4) in estimated cost and (b)(4) in fixed fee).

All other aspects of this agreement, including requirements and terms and conditions not specifically altered herein, remain in full force and effect.
AAP Number: 201171346 DO/DPAS Rating: NONE
Delivery: 07/06/2013
Discount Terms:
Net 30
Delivery Location Code: S&T MURRAY LANE
DHS S&T
245 Murray Lane
Building 410
Washington DC 20528

FOB: Destination
Continued ...

NAME OF OFFEROR OR CONTRACTOR
RESEARCH TRIANGLE INSTITUTE

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Period of Performance: 07/07/2008 to 07/06/2013 Change Item 0004 to read as follows(amount shown is the obligated amount):				
0004	Threat Analysis System Requirements (TASR) in accordance with Statement of Work - Section C.3.2. Total Line Item Value: (b)(4) Product/Service Code: AJ41 Product/Service Description: R&D- GENERAL SCIENCE/TECHNOLOGY: ENGINEERING (BASIC RESEARCH) Amount: (b)(4) Accounting Info: NONE000-000-02-34-02-02-001-01-00-0000-00-00-00-00-GE-OE-25-50-000000 Funded: (b)(4) Accounting Info: NONE000-000-13-34-02-02-001-01-00-0000-00-00-00-00-GE-OE-25-50-000000 Funded: (b)(4) Amount: (b)(4) Accounting Info: 3400000-000-24-53-04-01-000-08-05-0000-00-00-00-00-GE-OE-25-50-000000 Funded: (b)(4) Accounting Info: 3200000-000-24-55-05-10-000-07-01-0000-00-00-00-00-GE-OE-25-50-010210 Funded: (b)(4)				(b)(4)

Threat Analysis Systems Requirements

Statement of Work

July 5, 2012

1.0 Introduction

The Human Factors/Behavioral Sciences Division (HFD) of the U.S. Department of Homeland Security's (DHS's) Science and Technology Directorate (S&T) engaged the Institute for Homeland Security Solutions to develop a user-centric analysis tool that applies state-of-the-science data, theory, and models to counterterrorism intelligence analysis. This analytical tool and the supporting knowledge products are also well suited to analyze operational crime data including geospatial analysis, statistical analysis, and analysis of groups, individuals, targets, and events to provide standardized, evidence-based assessment of threats and countermeasures.

The purpose of the Threat Analysis Systems Requirements (TASR) project is to leverage the intellectual and technical foundations of the previous HFD efforts to cost-effectively develop an analytic system that meets the specific analytical needs of the Federal Protective Service (FPS). TASR will proceed in multiple phases. This first phase will be an assessment of the current threat analysis processes being conducted at FPS, and will include a job task analysis, a review of existing documentation, data sources, and analytic tools in use at FPS, and a review of the FPS system and security requirements for analytic tools. Future phases are not part of the current effort but may draw on the knowledge products generated through this statement of work.

The specific tasks that are involved in the TASR project are provided in the following sections.

2.0 Project Management

The TASR project manager (PM) and associate project manager will provide oversight, coordination, and quality control for all operations associated with the work described herein. Each will bear primary responsibility for routine and ad hoc updates to the DHS contracting officer's technical representative (COTR), including but not limited to the overall direction of the TASR project. Specific subtasks comprising project management are provided in the following subsections.

2.1 Requirements Gathering

It is essential for the TASR project team to gain a thorough understanding of current and past efforts to collect and analyze intelligence to assess the state of the threat analysis processes and methods used at FPS. The TASR project team will meet with appropriate FPS staff to identify documents, analytic tools, topical experts, and any other relevant information that will assist this process. The TASR team will submit a written request for the information to the FPS point of contact and will coordinate the appropriate receipt and management of the information.

2.2 Communication Plan and Reporting

2.2.1 Kickoff Meeting

In coordination with DHS, the TASR project team will coordinate and participate in a formal kickoff meeting. The meeting will occur within the first 2 weeks of finalizing the statement of work (SOW) and will include the TASR project team, DHS, and appropriate representatives from FPS. The TASR project team will handle all logistical arrangements, including hosting the meeting at the RTI International Washington, DC, office, announcing meeting details, setting the meeting agenda, and distributing all meeting materials in advance.

2.2.2 Meeting Schedule

The TASR project team will coordinate and participate in (at least) biweekly status report teleconferences with DHS throughout the schedule for completing the statement of work. The TASR project team will provide an agenda prior to and minutes following each of these meetings. Additionally, and at DHS's request and approval, the TASR project team will participate in quarterly in-person status meetings during the same period.

2.3 Budgeting

The TASR project team will develop a subtask budget within the first 30 days of finalizing the SOW that allows for identification and tracking of planned and actual expenses for each of the following TASR activities:

- Management
- Job Task Analysis
- Secondary Data Gathering and Management
- Systems and Security Review

Fiscal management activities will include, but not be limited to, within-project team communications about planned and available expenses, projection of planned expenditures (both labor and other direct costs), review of monthly actual expenses, and generation of updated monthly forecasts (applicable to the remaining period of performance and associated activities).

2.4 Program Management Plan (PMP)

The TASR project team will develop a PMP within the first 30 days of finalizing the SOW. The PMP will be developed by the TASR project manager and will be updated regularly and serve as a guide to the work being completed, the management practices in effect for this contract, and the overall schedule. The PM will use the PMP to monitor the quality of the tasks being completed and RTI's adherence to the schedule. In addition, changes in scope or schedule, agreed upon by both RTI and the DHS COTR, can be enacted via updates to the PMP without the need for a separate contract modification.

2.5 Subcontract Management

As appropriate and indicated by the PMP, the TASR team will contract with subject matter experts and other consultants to support the needs of the project. This may include experts on structural vulnerability, evidence-based risk reduction, risk assessment data and modeling, and other topics.

2.6 Document and Materials Review

The TASR project team will determine which data are needed from FPS to inform the job task analysis and systems tasks. Starting concurrent with finalizing the SOW, the TASR team will develop a list of needed reports, examples of data used by FPS, prior system descriptions and requirements, and other qualitative inputs. This list of needed data will be submitted to the COTR, who will in turn coordinate with FPS. Upon receipt of these requested items, the TASR project team will undertake a systematic review of each item, ensuring that observations, questions, and needed notations are tracked (for resolution or reference during the period of performance and completion of activities within the SOW). To keep costs low, data gathering by the vendor will use existing program data to the extent feasible.

2.7 Milestones and Deliverables

The TASR project team will develop a project schedule, which will include both a work breakdown structure and specific milestones associated with the SOW and TASR period of performance. This schedule will be maintained and, as needed, edited in coordination with the aforementioned PMP.

The formal deliverables for the TASR project include:

- Kickoff Meeting (within the first 2 weeks of finalizing the SOW)
- Project Management Plan (within the first 30 days of finalizing the SOW)
- Strategic Job Task Analysis Report
- Report on current analytics capability and data usage at FPS
- Report on current IT & IT Security Requirements for analytic systems at FPS
- Report on the viability of other data sources that are not currently used for Threat Analysis, but may be useful to FPS
- Report on current state of evidence base for employed countermeasures in the prevention of crime/terrorism

The specific content for these deliverables will be resolved through the PMP in consultation with the COTR.

3.0 Job Task Analysis

To support the risk assessment activities of the Threat Management Division (TMD), particularly as it pertains to the job of the Regional Intelligence Analyst (RIA) it will be critical to gain a thorough understanding of what the RIA does to generate threat assessments, and how that information is used

by facilities and facility inspectors to safeguard federal facilities and federal employees. Because it appears that the RIA job is also evolving to meet the needs of FPS, it will be important to understand how that job might look in future years. To examine both the current state and strategic direction of the RIA job, the TASR team will conduct a detailed job task analysis (JTA) of the RIA job, gathering information from RIAs in all 11 regions, facility inspectors in those regions, and decision-makers within the FPS TMD and external consumers of TMD and risk assessments. The results of these activities will not only more clearly define the job of the RIA, but also support software and analytic design and specification components of the project.

3.1 Stakeholder Identification and Recruitment

An important first step in the strategic JTA task is identification of the key stakeholders, primarily within the FPS TMD, but external to the division where deemed necessary. Determination of key stakeholders will evolve from preliminary discussions with TMD management. Discussions will focus on selecting individuals who possess in-depth knowledge of current or desired job activities of RIAs, users of the products generated by these RIAs, and FPS decision makers with a broader organizational perspective on current and expected RIA job requirements. Once these individuals have been identified, the TASR project team will work with the DHS S&T and FPS points of contact to solicit stakeholder involvement.

3.2 Interview Process

Five primary activities define this component of the JTA: (a) review of relevant documents, (b) informal discussions with TMD planners/decisionmakers, (c) interviews with RIAs, (d) interviews with users of the intelligence provided by RIAs, and (e) interviews with TMD planners/decisionmakers. First, it will be important to become as familiar as possible with the RIAs' job, the general activities they engage in, the equipment/tools they use, the data sources they rely on, the consumers of the intelligence they produce, and the people they interact with to get their job done. Consequently, the TASR JTA team will work with other project team members to request and examine materials that describe the RIA job in greater detail (e.g., job descriptions, previous job analyses, performance management documents).

Prior to the more formal interviews noted above, we also propose to hold a meeting with TMD management (and other FPS decisionmakers as required) to discuss in greater detail the current operation of the division, how the RIA position supports the vision and objectives of the Division, and how the position might evolve in the future. This meeting will be designed to provide the necessary context for the interviews that will follow. It is anticipated that the TASR team will hold one 2-hour meeting with these decisionmakers.

RIAs from each of the 11 regions will be interviewed during this subtask. Because of the small number of RIAS and the expected regional differences, it will be important to gather data from all RIAs. The primary focus of the interview will be identifying the major activities of the job, tools/equipment used, and the consumers of their products. In general, it will be important to learn about the input, throughput, and output aspects of their job. During these interviews, it will also be important to obtain RIA perspectives on current and future job structure and functioning. In addition, depending on how the job is structured and the time constraints involved, it might be useful to spend time observing several of the RIAs

performing some of their job functions. It is anticipated that the TASR team will conduct 11 90-minute interviews with these RIAs.

During trips to each of the 11 regions to interview the RIAs, we will also meet with and interview experienced facility inspection officers, who rely on information provided by the RIA when conducting their facility assessment. A small number of these individuals co-located in the same geographic area as the RIAs will be interviewed, with the focus of the interview being their interactions with the RIAs, the information obtained, its usefulness, and general perspectives about the RIA job (present and future). If it can also be coordinated within the timing constraints of the study, it would be informative to accompany several inspectors when they visit facilities to conduct their assessment. It is anticipated that the TASR team will conduct 20 1-hour interviews with these individuals.

Once data have been collected from RIAs and facility inspectors, it will be important to interview TMD and FPS planners/decisionmakers about the RIA job, and gain their perspective about present and future job requirements. To design a software support system that meets the needs of the current and future job as much as is feasible, it will be crucial to understand the strategic vision for the position. It is anticipated that the TASR team will conduct three to five 1-hour interviews for this subtask.

3.3 Analysis and Reporting

Based on the data collected from relevant documents, TMD/FPS decisionmakers, each of the 11 RIAs, and facility inspectors, the TASR team will compile the data, conduct a content/thematic analysis, and develop a profile of the job of the RIA, both current and forward-looking. The profile will depict the major job activities; the tools, equipment, data, and people RIAs work with; and reflect the processes and procedures engaged in as part of the job. A final report will be provided that describes all of the steps in the JTA.

4.0 Secondary Data Gathering and Management

4.1 Identification of Data Sources

One of the key steps will be for the TASR project team to obtain a comprehensive understanding of the full range of data sources used by FPS to conduct threat assessments. Data sources may include crime data submitted to FPS by state and local law enforcement agencies; data from regional, state, and local Fusion Centers; data collected by FPS staff either at the regional or national level; and data from other existing sources. As part of this task, the TASR project team will meet with appropriate FPS staff to identify all relevant data sources and to discuss in detail what these data contain (e.g., are crime data collected at the incident-level or collected in aggregate form). As part of these discussions, we will also determine the processes used for collecting and compiling data, the frequency of collection, and the coverage of the data sources (i.e., which sources are specific to certain jurisdictions versus which data sources are collected across multiple jurisdictions). We will also talk to FPS staff about issues concerning data quality, differences in data formats and compatibility, and perceptions on the utility of specific data sources for the threat assessment process.

4.2 Team Review and Notation

Following the data sources identification stage, the TASR project team will review the information collected and identify any gaps. If necessary, the TASR project team will attempt to follow up with FPS staff to address any missing or inconsistent information. Next, the TASR team will develop and submit a written report which describes all key data sources used by FPS for threat assessments, the characteristics of these data sources (i.e., content, coverage, timeliness, scope), and recommendations for their integration and use into the proposed threat assessment tool. As part of this process, we will also identify other data sources that are not being used by FPS. Our written report will include recommendations as to which of these additional data sources could be integrated into the threat assessment tool and the level of effort associated with collecting and compiling these other data sources.

4.3 Identification/Recommendation of Additional Data Sources

The TASR project team will work to identify and recommend other potential data sources that are not being used by FPS but that we recommend should be considered for the FPS threat analysis processes. A summary of these findings will be included in our written report which describes all key data sources used by FPS for threat assessments, the characteristics of these data sources (i.e., content, coverage, timeliness, scope), and a listing of alternative data sources that could be considered by FPS. The report will also provide recommendations on how both the existing FPS data sources as well as the identified alternative data sources could be accessed from their source included and integrated in a subsequent threat assessment tool.

5.0 Scope of Work

Milestone	Delivery Date
Analytics and Data Usage Report	8/28/12
IT Security Requirements Report	10/23/12
Job Task Analysis	12/28/12
Data Sources Report	1/14/13
FPS Countermeasures Report	3/11/13

6.0 Period of Performance

The period of performance associated with this SOW is from the award date to July 6, 2013.

7.0 Systems and Security Review

RTI will work with the appropriate FPS staff and stakeholders to determine the FPS IT systems and security requirements and guidelines that must be followed in developing the TASR tool. We will work closely with FPS to ensure that TASR is a valuable, easy-to-use tool.

Most federal agencies have documentation that describes the requirements for developing IT systems to be installed on their computer servers and networks. RTI has developed many applications for several

federal agencies in accordance with their IT systems requirements. Generally, these requirements ensure that the delivered system will operate effectively on the platforms used by the federal agency and that the appropriate documentation is provided for installing, maintaining, and perhaps modifying the application. The requirements may also specify how the application is to be structured, developed, or tested. RTI will request the appropriate IT system requirements documents from FPS.

RTI will engage all appropriate stakeholders in developing requirements to ensure that our understanding of system requirements is comprehensive.

8.0 Points of Contact (POCs)

Contractor POCs:

Technical POC:

(b)(6)

RTI International
3040 Cornwallis Rd.
P.O. Box 12194
Research Triangle Park, NC 27709-2194
(b)(6)

Administrative POC:

(b)(6)

Office of Research Contracts
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(b)(6)

The Contractor may change the individual designated as a POC upon notice to DHS-S&T of such change.

The DHS POCs are as follows:

Technical Representatives:

Dr. Richard Legault, COTR
U. S. Department of Homeland Security
Science and Technology Directorate
(b)(6)

And

Ms. Jennifer Foley, Contract Support
Department of Homeland Security
Science and Technology Directorate
(b)(6)

Financial Representatives:

Mr. Duane Schatz, Contracting Officer
Department of Homeland Security
Science and Technology Directorate
(b)(6)

And

Mr. John Meehan, Financial Analyst
Department of Homeland Security
Science and Technology Directorate
(b)(6)

DHS S&T may change the individual designated as a POC upon notice to the Contractor of such change.