



Report to the House and Senate Committees  
On Appropriations  
On the  
Office of National Drug Control Policy  
Counterdrug Technology Assessment Center (CTAC)

December 2010

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## EXECUTIVE SUMMARY

Following a Congressionally approved reorganization within the Office of National Drug Control Policy (ONDCP) in October of 2009, this Office initiated a series of organizational, procedural, and scientific changes to the Counterdrug Technology Assessment Center (CTAC) program. It should be noted, however, that the President's FY 2011 Budget request to Congress did not include funding for the CTAC program nor did the Senate or House Subcommittee FY 2011 budget marks. CTAC is continuing operations using prior year balances only.

This notification package identifies the significant changes made to the CTAC program to better match proposed projects to the current *National Drug Control Strategy (Strategy)*. In response to the provisions required in the FY 2010 Consolidated Appropriations Act, P.L. 111-117, "That the Office of National Drug Control Policy shall submit for approval by the Committees on Appropriations of the House of Representatives and the Senate, a mission statement for CTAC, a detailed explanation of the CTAC program, and a detailed spending plan for the use of these funds, prior to obligation of any funds provided...", this notification package provides:

- I. CTAC Mission Statement
  
- II. Detailed Explanation of the CTAC Program
  
- III. CTAC Spend Plan for FY 2010 Funding

## I. CTAC Mission Statement from the Congressional Authorization

CTAC, established by the Counter-Narcotics Technology Act of 1990, and most recently reauthorized in 2006 by the Office of National Drug Control Policy Reauthorization Act of 2006 (P.L. 109-469), serves as the central counterdrug technology research and development (R&D) organization for the United States Government. CTAC sponsors a counterdrug R&D program to advance the technological capabilities of Federal drug control agencies responsible for supply and demand reduction activities. The Deputy Director of the Office of State, Local, and Tribal Affairs Ben Tucker leads the CTAC program since the departure of the Chief Scientist, Tom McLellan, to achieve the goals of the *Strategy*.

The overall mission of CTAC is delineated in Section 401 of P.L. 109-469, which is included below.

### SEC. 401: COUNTER-DRUG TECHNOLOGY ASSESSMENT CENTER

- (a) Establishment.--There is established within the Office the Counter-Drug Technology Assessment Center (referred to in this section as the "Center"). The Center shall operate under the authority of the Director of National Drug Control Policy and shall serve as the central counter-drug technology research and development organization of the United States Government.
- (b) Chief Scientist.--There shall be at the head of the Center the Chief Scientist, who shall be appointed by the Director of National Drug Control Policy from among individuals qualified and distinguished in the area of science, medicine, engineering, or technology.
- (c) Research and Development Responsibilities
- (1) In general.--The Director, acting through the Chief Scientist, shall-- identify and define the short-, medium-, and long-term scientific and technological needs of Federal, State, local, and tribal drug supply reduction agencies, including—
- (A) Advanced surveillance, tracking, and radar imaging
  - (B) Electronic support measures;
  - (C) Communications;
  - (D) Data fusion, advanced computer systems, and artificial intelligence; and
  - (E) Chemical, biological, radiological (including neutron, electron, and graviton), and other means of detection;
- (2) Identify demand reduction basic and applied research needs and initiatives, in consultation with affected National Drug Control Program agencies, including-
- (A) improving treatment through neuroscientific advances;
  - (B) improving the transfer of biomedical research to the clinical setting; and
  - (C) in consultation with the National Institute on Drug Abuse, and through interagency agreements or grants, examine addiction and rehabilitation research and the application of technology to expand the effectiveness and availability of drug treatment;

- (3) Make a priority ranking of such needs identified in subparagraphs (1) and (2) according to fiscal and technological feasibility, as part of a National Counter-Drug Enforcement Research and Development Program;
- (4) Oversee and coordinate counter-drug technology initiatives with related activities from other federal, civilian and military departments;
- (5) Provide support to the development and implementation of the national drug control performance measurement system established under section (c) of section 706; and
- (6) Pursuant to the authority of the Director of National Drug Control Policy under section 704, submit requests to Congress for the reprogramming or transfer of funds appropriated for counterdrug technology research and development.

(d) Limitation on Authority - The authority granted to the Chief Scientist under this subsection shall not extend to the award of contracts, management of individual projects, or other operational activities.

(e) Assistance and Support to the Office of National Drug Control Policy - The Secretary of Defense, the Secretary of Homeland Security, and the Secretary of Health and Human Services shall, to the maximum extent practicable, render assistance and support to the Office and to the Director in the conduct of counterdrug technology assessment.

The Technology Transfer Program (TTP) portion of Section 401 is not included in this report because the program was not appropriated funding in FY 2008 through FY 2010.

## **II. Detailed Explanation of the CTAC Program**

### What is the Role and Purpose of CTAC?

CTAC has focused its efforts on identifying and supporting best practices and sound science to inform drug control policies, strategies, and programmatic practices in support of the *Strategy*. In FY 2010, the CTAC program sought opportunities consistent with the *Strategy* to fund technology-oriented research projects that might not otherwise have been funded.

### What are the Goals of the CTAC program?

CTAC has sought, at a minimum, to partially fund technology-oriented research projects that support the *Strategy*. Within this framework, emphasis has been placed on expanding evidence-based drug use prevention within communities, reducing prescription drug diversion and abuse, and reducing drugged driving throughout the Nation. CTAC research has contributed to the Administration's drug control *Strategy* through efforts such as:

1. Prescription Drug Monitoring Programs (PDMPs). There is a clear and pressing need for effective, sophisticated software and information exchange systems that will permit physicians, pharmacies, and, where necessary, law enforcement, to help prevent prescription diversion and

drug abuse. PDMPs reduce so-called “doctor shopping” by identifying patients who seek to fill multiple prescriptions, often from multiple prescribers and at multiple locations. These systems can not only help healthcare providers intervene with an individual struggling with an addiction to prescription drugs, but they can also reduce morbidity and mortality. PDMPs can also alert patients, pharmacists, and physicians of potentially toxic drug interactions.

2. Prevention Needs Assessment Technology – Local drug challenges require locally based solutions. ONDCP and its Federal drug control partner agencies seek to facilitate information and data access at the state local levels that will help communities identify the nature and extent of their unique drug control challenges, and the interventions necessary to address those challenges. Software and technology assistance enables communities to perform drug use prevention threat assessments in a standardized and effective manner. CTAC is striving to facilitate the development and implementation of programs and systems that transfer this scientific evidence into practical application.
3. Practical Methods of Monitoring “Drugged Driving” – Recent studies have shown that approximately one in eight weekend nighttime drivers test positive for an illicit drug in their system. To help law enforcement address this significant public safety threat, there is a need for accurate, easy-to-use technology to measure recent and biologically significant levels of metabolites from drugs such as marijuana, cocaine, benzodiazepines, and methamphetamine in a roadside environment. Saliva, blood, and urine sample testing all have practical uses, but are also limited in specificity, detection level, and period of detection. CTAC’s efforts to develop technology that assess levels of metabolites that constitute a “biologically significant level” of drug ingestion will significantly enhance drugged driving enforcement and prosecution efforts, and will help make our Nation’s roads and highways safer.

### **III. Method Used to Identify Project Ideas 2010 for the FY Spending Plan**

CTAC solicited and received extensive input from Federal drug control agency partners regarding the potential projects to support and advance the *Strategy*.

CTAC received twenty-nine project proposals from the Federal interagency counterdrug community for consideration for FY 2010 funding. CTAC convened a technical review panel consisting of five ONDCP staff members from the Office of the Director, Office of State, Local, and Tribal Affairs (Counterdrug Technology Assessment Center (CTAC), High Intensity Drug Trafficking Area (HIDTA), and the Media Campaign), and the Office of Research and Data Analysis to evaluate the project submissions. The projects were evaluated under the following criteria, which GAO approved as being appropriate (U.S. General Accountability Office (2009), *Counterdrug Technology Assessment Center: Clarifying Rationale for the Research and Development Funding Decisions Would Increase Accountability*, GAO-09-339R, Washington, DC):

- Alignment with *Strategy* priorities
- Consistent with CTAC mission
- Level of technical risk
- Scope of the research
- Potential for multiple agencies to benefit from the research, and
- Available funding

The review panel met to review and prioritize the projects. A consensus opinion was reached on the priority ranking for the projects, and is included in the table below.

#### IV. Description of FY 2010 Spend Plan

The following table identifies, in priority rank order, the eleven research projects that will be funded with the FY 2010 appropriation for CTAC research funds. CTAC was appropriated \$5,000,000 in FY 2010. The projects listed below are consistent with the rationale and approach outlined previously, as well as with the Congressional authorization for CTAC.

Because Congressional direction requires CTAC to make funding available to Federal agencies to oversee projects, CTAC will transfer funding directly to the relevant agencies via Interagency Agreements. The Federal agency recipients of CTAC funding will be responsible for administering contractual solicitations for the projects, awarding the contracts, and paying invoices associated with any contracts. Project descriptions follow the table.

#### FY 2010 CTAC SPEND PLAN

<b>FY 2010 Research and Development Spend Plan</b>	<b>Amount (\$)</b>
Online Interactive Tool for Drugged Driving – Phase 2	500,000
Marijuana-Impaired Driving Simulator Evaluation	1,000,000
Assessment of Existing Drugged Driving Testing Equipment – Phase 2	500,000
Assessment of Unattended Ground Sensors’ Utility for Ultra-light Detection and Tracking	375,000
Remote Retrieval of Stored Call Data and Communication from a Mobile Wireless Device	507,000
Red-Edge Illicit Crop Change Detection Test in Mexico	368,000
Maritime Trace Narcotic Identification/Verification	450,000
Social Network Analysis of Radio Frequency Interference (RFI) Communications Targeting Bulk Cash Smuggling	250,000
Development of Through-the-Wall Sensors for Tunnel Activity Monitoring	450,000
Development of an Online Assistance/Training Module for Prosecutors Involved with Drugged Driving Cases	250,000
Technology to Address Indoor Marijuana Grows	350,000
<b>FY 2010 Appropriated Funding</b>	<b>5,000,000</b>

#### 1. Online Interactive Tool for Drugged Driving – Phase 2 Follow on Effort

National Highway Traffic Safety Administration (NHTSA)  
 Estimated Cost - \$500,000

Drug Recognition Experts are police officers who are specially trained to recognize the signs of drugged driving. An issue that has arisen repeatedly with Drug Recognition Experts is the expense and time to train someone in this skill. The two-week training program is comprehensive and extremely beneficial; however, the cost in terms of time and funding is prohibitive for many police departments and emergency medical personnel. Phase 1 of the project which was funded by ONDCP will develop an online

application that will help end users become familiar with the key points in identifying a drugged driver. The application will be interactive and allow end users to gain valuable insight into drugged driving. The online interactive module will not replace the valuable hands-on training provided by other entities, but will allow for key findings and trends in drugged drivers to be documented for immediate use. The project will incorporate much of the Advanced Roadside Impaired Driving Enforcement (ARIDE) program tools, which is designed to address the gap in training between the Standardized Field Sobriety Testing and the Drug Evaluation and Classification program. This project will be coordinated through the National Highway Transportation Safety Administration (NHTSA), the International Association of the Chiefs of Police, and/or the Department of Justice. Phase 2 of this project will support the current software development of the online project through implementation of the developed software and incorporation of changes to the developed project, as needed.

With NHTSA as the lead agency, this research project supports the *Strategy's* goal of "Strengthening the Prevention of Drug Use in Our Communities" by providing increased training to law enforcement to identify drugged drivers.

## **2. Marijuana-Impaired Driving Simulator Evaluation**

National Institute on Drug Abuse (NIDA)  
Estimated Cost - \$1,000,000

NHTSA oversaw the development of the world's most sophisticated driving simulator, the National Advanced Driving Simulator (NADS), located at the University of Iowa. To date, this simulator has never been utilized for evaluating driving impairment following ingestion of an illicit drug. The Chemistry and Drug Metabolism (CDM) Section of the National Institute on Drug Abuse's Intramural Research Program (NIDA-IRP), has a productive program for conducting controlled-drug studies and evaluating the pharmacodynamic effects of drugs, and in evaluating the disposition of drugs and metabolites in multiple biological matrices, including blood and oral fluid (saliva). The NIDA-IRP has conducted cannabis dosing studies for more than 20 years, including functional magnetic resonance imaging (fMRI), specific brain activity research, and the first studies of the cannabinoid receptor antagonism of smoked cannabinoids. These studies are unique, in that they combine the pharmacodynamic and pharmacokinetics of drug exposure, providing a scientific database for interpreting drug test results in light of ongoing physiological, subjective, and behavioral effects. This research will conduct a study on the effects of inhaled cannabinoids on driving performance, decision-making, psychomotor control, risk-taking, and divided attention in the NADS facility.

With NIDA acting as the lead agency, this research project supports the *Strategy's* goal of "Strengthening the Prevention of Drug Use in Our Communities" by developing standard screening methodologies for drug testing laboratories to use in detecting the presence of drugs.

## **3. Assessment of Existing Drugged Driving Testing Equipment – Phase 2**

National Highway Traffic Safety Administration (NHTSA)  
Estimated Cost - \$500,000

This research will assess the current functionality of commercially available roadside drug testing equipment. Vendors have made improvements in saliva testing devices over the past five years which make them much more viable for roadside testing. CTAC last funded a research effort to assess roadside drug testing equipment in fiscal years 2003 to 2005. The technologies will be deployed in five to ten participating law enforcement agencies to assess the utility of the improved technologies and critique the

advantages and/or disadvantages of the equipment. This will be the second phase of a two-phase effort. The focus will be on expanding technologies evaluated and refined, based on the Phase 1 effort.

This research project will be coordinated and contracted through the resources of the NHTSA and NIDA with a goal of supporting the *Strategy's* emphasis on “Strengthening the Prevention of Drug Use in Our Communities” through increased data collection on drugged driving. NHTSA will assist in identifying the appropriate law enforcement agencies that can evaluate the roadside drug testing equipment from an operational end user approach. NIDA will perform laboratory testing of the roadside equipment to ensure that it is operating reliably as per technical specifications.

#### **4. Assessment of Unattended Ground Sensors' Utility for Ultra-light Detection and Tracking**

Department of Homeland Security Science and Technology Directorate (DHS S&T)  
Estimated Cost - \$375,000

As the Secure Border Initiative is being implemented and Customs and Border Protection (CBP) has increased surveillance and manpower, Ultralights have been increasingly used as a means of smuggling contraband. The numbers of flights and drops that are detected have been steadily increasing for the last two years.

This project entails data collection, data analysis, and operational evaluation to assess the utility of Unattended Ground Sensors (UGS) with acoustic sensing modalities as effective tools for detection and tracking of Ultralight platforms at the Southern Border. The first two phases (data collection and analysis) will be funded by ONDCP. The third phase, which includes the operational evaluation, will be funded by DHS S&T.

Phase 1, the data collection phase, will be carried out at a local airfield in Arizona or New Mexico. The operations of illegal smuggling entities are understood, and the structured tests in this project will consist of a leased Ultralight performing the same maneuvers as those carried out by smugglers. In Phase 2, the recorded data will be analyzed to understand what acoustic profiles are present and how they can be mined for more effective detection and tracking. In Phase 3, unattended ground sensors with acoustic sensing modality will be “tuned” to the data analysis findings and deployed in Southern Arizona. Detection and tracking performance against Ultralights will be measured.

This project addresses the *Strategy* priority of disrupting drug trafficking and production, specifically, “The United States must pursue an integrated strategy to disrupt and dismantle transnational drug-trafficking organizations.” This project seeks to assess the potential of acoustic UGS for disrupting drug trafficking via Ultralights. Coordinated and contracted through the resources of DHS/S&T, this project ties directly to the *Strategy's* goal of “Disrupting Domestic Drug Trafficking and Production” by denying use of port of entry and routes of ingress and egress between the ports.

#### **5. Remote Retrieval of Stored Call Data and Communication from a Mobile Wireless Device**

Drug Enforcement Administration (DEA) - Office of Investigative Technology  
Estimated Cost - \$507,000

In an effort to further the development and implementation of a project previously funded by ONDCP, the DEA proposed follow-on research to develop a system/software application that utilizes Short Message Service (SMS) technology to ascertain and exploit information on a mobile device for the purpose of conducting court-authorized, lawful intercepts.

The initial funding was used to develop the technology to silently and remotely collect data from smart devices (i.e., smart phones) via over the air (OTA) transmission. The initial funding targeted smart devices that utilized the Android operating system and Voice-Over-Internet Protocol (VoIP) technologies. Phase 1 which was funded by ONDCP CTAC is currently in the proof-of-concept stage. To date, the vendor has successfully developed software that can remotely collect SMS logs, call logs, Internet browser history, and phone applications, and can generate relevant reports.

This research proposed in the current project will support the development of multiple ways to silently and covertly install the software application on a smart device. The successful conclusion of Phase 2 is of critical importance to the overall project. The covert, over-the-air transmission of the software application to a smart device is essential, and is the most complex part of the technology development. Additionally, Phase 2 will expand the software application beyond the Android operating system to other operating systems, such as Symbian and Windows Mobile.

This research will be coordinated and contracted through the resources of the DEA Office of Investigative Technology. This project is a key element toward achieving the *Strategy's* goal of "Disrupting Domestic Drug Trafficking and Production" by partnering with local law enforcement agencies to combat street, prison, and motorcycle drug gangs.

## **6. Red-Edge Illicit Crop Change Detection Test in Mexico**

CIA Crime and Narcotics Center (CNC)  
Estimated Cost - \$368,000

In 2009, the CNC received the results of two separate, independent reviews of its illicit crop estimate methodology, including the "Sages Study" coordinated by ONDCP. CNC briefed ONDCP and the Department of State's Bureau of International Narcotics and Law Enforcement Affairs (INL) on the research and development plans resulting from the two studies, including investigations regarding the utility of state-of-the-art varieties of multispectral or hyperspectral imagery in illicit crop detection. ONDCP is statutorily required to provide Congress with annual estimates of illicit crop production in key countries, and relies on CNC to produce those estimates. Given the reliance of the U.S. Government on the CNC estimates as gauges of the international drug threat and as indicators of effectiveness of counterdrug programs, it is imperative that the estimates are as accurate as is technologically feasible.

The proposed research effort will collect and compare multiple images over a known high-density illicit crop-growing region in Mexico. Two time periods will be studied to test detection at early and late planting stages in individual images. Change detection will be evaluated using a recently developed methodology. The goal is to quantify the added value of the 'red edge' band in discriminating poppy or cannabis growing in Mexico by direct comparison with spectral data that does not contain the "red edge" band. The second objective is to begin evaluation of change-detection algorithms, by testing areas where illicit cultivation is known.

This research project will be coordinated and contracted through the resources of CNC to support the *Strategy's* goal of strengthening the strategic partnership with Mexico.

## **7. Maritime Trace Narcotic Identification/Verification**

Department of Homeland Security - United States Coast Guard (USCG)  
Estimated Cost - \$450,000

The USCG utilizes the IONSCAN 400B to identify/verify the presence of narcotics during maritime law enforcement operations. This verification is a critical step in establishing reasonable suspicion to conduct further searches of a vessel and crew leading to successful prosecutions of such cases. While these machines are effective at focusing a boarding team's vessel search to probable areas where drugs may be hidden, they are costly (approximately \$40,000 each) and not portable (the units must remain on the supporting cutter/ship). These constraints significantly increase boarding time, by requiring multiple small boat trips between the supporting ship/cutter and suspect vessels. Therefore, a new capability and detection technology is needed. The *Strategy* calls for a 40 percent removal rate by 2016. If the Coast Guard is to achieve this in a time of decreasing assets, it must improve its efficiency through utilization of more portable and cost effective detection technology.

There are two key performance aspects for a new maritime trace narcotic identification/verification capability. First, the results of the new system or device must be accepted by the courts as providing sufficiently accurate and reliable results to support determinations of reasonable suspicion when operated by USCG boarding team members. Second, the system or device must be much more efficient than the current IONSCAN 400B. This improved efficiency should be reflected in an increased capability, primarily through a combination of reduced weight, decreased size, minimization of consumables, improved portability, simplified user operations, improved calibration techniques, and reduced overall costs.

This research project will be coordinated and contracted through the resources of the DHS USCG to support the *Strategy's* goal of disrupting illicit trafficking in the transit zone.

## **8. Social Network Analysis of Radio Frequency Interference (RFI) Communications Targeting Bulk Cash Smuggling**

Department of Homeland Security – Immigration and Customs Enforcement (ICE)  
Estimated Cost - \$250,000

In support of the ICE Bulk Cash Smuggling Center (BCSC) operations, a collaborative project between the National Analytic and Visualization Center at Pacific Northwest National Laboratory and the Homeland Security Program Visualization Center at San Diego State University is being executed through funding from the Department of the Treasury and the Department of Homeland Security, Command, Control, and Interoperability Division, Science and Technology Directorate (DHS S&T). The focus of the program is to develop an intelligence collection, analysis, and targeting initiatives specifically designed to support the operational requirements of identifying, investigating, and disrupting bulk cash smuggling (BCS) networks operating on U.S. roadways. The objectives are:

- Identify BCS networks utilizing U.S. roadways as a means of conveyance between U.S. cash consolidation points and Southwest border destinations;
- Broaden the knowledge of BCS courier group structures, roles and behaviors to gain insight into the predictability of their actions;
- Provide indications of how BCS courier organizations may respond and adapt to proactive law enforcement actions; and
- Disrupt criminal enterprises by causing cascading failures in their supply chains.

In support of this project, engineering development is required to facilitate procurement of low-cost RFI cell phone signal interrogators and to evaluate their performance for operational deployment along high-interest roadway corridors.

Coordinated and contracted through the resources of the DHS ICE, this project supports the *Strategy's* goal of "Disrupting Domestic Drug Trafficking and Production" by implementing an aspect of the Southwest Border Counternarcotics Strategy.

## **9. Development of Through-the-Wall Sensors for Tunnel Activity Monitoring**

Department of Homeland Security Science and Technology Directorate (DHS S&T)  
Estimated Cost - \$450,000

Public infrastructure storm drains and sewers are frequently used as conduits to enter the U.S. Existing drainage tunnels provide effective cover for illegal immigration and contraband smuggling and allow criminals to evade detection and law enforcement. Tunnels exist in border cities such as Nogales and El Paso, and urban exits provide ready access to areas for smugglers to easily integrate into the population with very little scrutiny. In support of CBP operations on the U.S. – Mexico border, the Tunnel Activity Monitoring (TAM) program is being executed by MIT Lincoln Laboratory, through funding from ONDCP and DHS S&T. The focus of the program is to evaluate and demonstrate the effectiveness of an extensive system of intrusion sensors in providing persistent surveillance and monitoring of municipal tunnel and storm drain systems under and adjacent to the border.

Through-the-wall sensing technologies such as radio frequency and ultra-wide band (UWB) radar are being considered for use in the detection of human activity inside storm drain and sewer tunnels. The low frequency signal typical of UWB sensors provide adequate penetration through typical tunnels walls constructed of steel-reinforced concrete, and wide signal bandwidth provides appropriate range resolution.

Due to a lack of commercially available, off-the-shelf technology to meet existing needs, refinements of commercially available sensors are necessary. This project will assist in the development of sensors for the tunnel activity monitoring project, and evaluation of their performance in operational settings.

With DHS/S&T as the lead agency, this project will focus on the use of port of entry and routes of ingress and egress between the ports, tying directly to the Strategy's goal of "Disrupting Domestic Drug Trafficking and Production."

## **10. Development of an Online Assistance/Training Module for Prosecutors Involved with Drugged Driving Cases**

National Highway Traffic Safety Administration (NHTSA)  
Estimated Cost - \$250,000

This research will make resources available to educate prosecutors who are involved with drugged driving prosecutions. The emphasis will be to educate prosecutors and familiarize them with the Drug Recognition Experts (DREs) and their expertise in order to identify drugged drivers and to utilize this information as part of any criminal prosecution. Prosecutors will be able to utilize the training to better understand the impairment qualities of all drugs, both licit and illicit, resulting in an ability to make more prosecutable cases as well as to provide resources to assist the prosecutors with the treatment paradigms and drug court solutions that are available.

The research funding will be used to develop a software platform that can be used to train prosecutors nationwide. Valuable information resources will be included in the online training program, which will include data from the ARIDE program.

With NHTSA as the lead agency, this project directly supports the *Strategy's* goal of “Strengthening the Prevention of Drug Use in Our Communities” by enhancing educational efforts to prevent drugged driving.

## **11. Technology to Address Indoor Marijuana Grows**

United States Department of Agriculture or other High Intensity Drug Trafficking Areas Federal agency  
Estimated Cost - \$350,000

Domestic marijuana cultivation is an increasing problem across the United States. Eradication programs coordinated and implemented in cooperation with state and local law enforcement have had a positive impact on outdoor marijuana growing operations on public lands. The effectiveness of these outdoor eradication efforts, combined with rising demand for high-potency marijuana, has resulted in an increase in indoor growing operations nationwide. Indoor growing enables traffickers to maximize and protect their criminal enterprises. Law enforcement efforts are limited in identifying indoor grows because they are often on private property. Technology could assist law enforcement in identifying unusually high electrical power consumption, which is associated with the equipment and technologies used for indoor marijuana cultivation. The Electrical Power Research Institute has completed a proof-of-concept system that will enable law enforcement to identify and detect indoor marijuana grows. This effort will expand upon the initial research that has been done, and will further develop algorithms for the detection of indoor marijuana grows.

The Drug Enforcement Administration will lead this project, in coordination with the Appalachia High Intensity Drug Trafficking Area (HIDTA), to support the *Strategy's* focus on indoor marijuana production as part of actions related to “Disrupting Domestic Drug Trafficking and Production.”

## **V. Conclusion**

The Counterdrug Technology Assessment Center program acts as the central counterdrug research and development program for the U.S. Government. Based on the goals set out in the Administration's *National Drug Control Strategy* and the priority focus areas developed from the *Strategy*, CTAC conducted a solicitation with its interagency partners and ultimately awarded funds for eleven projects. The Office of National Drug Control Policy believes that investment in these projects makes optimal use of the \$5 million in CTAC funding that was appropriated in FY10. We anticipate that the developments from these projects will advance the supply and demand reduction activities of Federal drug control agencies.