NATIONAL LAW ENFORCEMENT AND CORRECTIONS TECHNOLOGY CENTER
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Technology: Alaska to the Appalachians

How do you transport a body from a town that has no vehicle access to a medical examiner's office at the other end of the State? How can your equipment stand up to average winter temperatures that fall well below zero?

The National Law Enforcement and Corrections Technology Center (NLECTC)–Northwest in Anchorage, Alaska, will be tackling just these types of challenges and problems. The center will study the effects of the extreme weather conditions found in Alaska and similar areas of the United States on law enforcement and corrections equipment, technology, and operations.

What can a police chief do when illegal drugs spiral out of control in a town with only three officers, no surveillance technology, and little training in undercover operations? How effective can a patrol officer be when traveling long distances back to the station to access criminal information databases?

The Rural Law Enforcement Technology Center (RULETC) in Hazard, Kentucky, will provide technology and technical solutions to a historically underserved population—the country's rural, small town, and small county criminal justice agencies. NLECTC–Northwest and RULETC are the two newest facilities to join the NLECTC system. In addition to their own focus areas, the two centers will work with the other centers to provide objective advice and technology assistance.

NLECTC–Northwest and RULETC will enhance capacity building for isolated and rural agencies, provide crime mapping capabilities and long-distance learning opportunities, enhance the interoperability of communications systems, and share best practices and lessons learned.

Technology on Ice

Alaska, with its immense size, diverse geography, and extreme weather, poses unique challenges for law enforcement and corrections. The largest State in the Union, Alaska has the fewest law enforcement personnel—just shy of 1,200 sworn officers. Alaska's land mass, if overlaid on a map of the contiguous United States, would stretch from Santa Barbara, California, to Savannah, Georgia. It encompasses 586,000 square miles and has a population density of 1 person per square mile. One-third of the State lies above the Arctic Circle. It shares a 1,500-mile border with Canada and boasts a coastline of 6,640 miles—33,400 miles if you include major islands. It has thousands of rivers and lakes. Alaska is home to the highest peak in the United States, and to the next 15 highest peaks. It contains almost all of the country's active volcanoes. Temperatures range from the high 90s in the summer in Fairbanks to an average winter temperature of 20 degrees below zero in Barrow. Powerful storms blow in from the Arctic Ocean, bringing with them plenty of wind, rain, and snow.

"Snow is a big problem, especially in rural areas where there are no landmarks," says Bob Griffiths, director of NLECTC–Northwest. "When everything is white, it's impossible to get your bearings. It's very difficult to run a search and rescue operation under those conditions. In addition, equipment may not function under certain weather conditions. The shutter release of the camera used to photograph the crime scene stops working in the cold. The batteries die, or the optics fog. The extreme cold can be life threatening. When officers leave the shelter of their vehicle, they are risking their lives."

Griffiths says that technology can help alleviate some problems. Infrared equipment is being used to find individuals in snowstorms. Special batteries are being developed to operate in subzero conditions. The aerospace industry and the military are exploring some of the same extreme weather issues but with far larger budgets than are typically available to law enforcement.

"Small agencies can only try what they think might work," Griffiths says, "and, if it doesn't work, they've wasted their money. If it does work, they need to share that information. One of NLECTC–Northwest's missions is to pass on the lessons departments have learned about equipment and strategies that work in extreme weather and geography."

Transportation Challenges. Extreme cold, ice, and snow affect how police get around, Griffiths says. When it's 50 degrees below zero, officers keep cruiser engines running. This results in wear and tear and makes the cruisers more vulnerable to theft. If the cruisers are turned off, the oil and transmission fluid become too viscous in the extreme cold.

In addition, most cruisers are equipped with studded tires for driving on ice. The Anchorage Police Department, he says, extensively tested studless winter tires but found that they were not particularly functional. Griffiths says his center would like to work with the Office of Law Enforcement Standards to test winter tires in adverse conditions.

According to Griffiths, 30 percent of Alaska's population lives in communities that cannot be accessed by road or ferry. The result is that 1 out of 58 Alaskans has a pilot's license. This high number of pilots who fly small, private aircraft, coupled with few airports, is a challenge to State law enforcement personnel, who must initially respond to crashes, render aid, locate and rescue victims, and investigate the incidents.

In the summer, most communities, especially on the Yukon River, connect with each other by boat or all-terrain vehicle. In the winter, snowmobiles are the primary mode of transportation, particularly in rural areas. Because of the extensive use of snowmobiles and a higher-than-normal rate of substance abuse, Alaska has the highest rate of snowmobile fatalities in the United States.

Alaska's vast expanse requires planning ahead when it comes to investigating crime scenes in remote or inaccessible areas. "You need to bring a complete crime scene processing equipment kit," Griffiths says, "because you can't go back to the office if you forget something. The Alaska State Crime Laboratory has developed a complete portable crime processing kit for remote sites."

Prisoner transportation is another problem, he says. Anyone arrested in outlying areas has to be transported to a correctional center. When the weather is bad, prisoner transport becomes a major challenge. Another challenge is maintaining appropriate population levels at the correctional centers. Because Alaska lacks sufficient prison space, some prisoners must serve their sentences in Arizona, Minnesota, Missouri, or Montana and must be flown back and forth for court hearings. Griffiths says NLECTC–Northwest will investigate videoconferencing that may help departments avoid the time and expense of this travel.

Communication Challenges. In his 17 years at the Anchorage Police Department, Griffiths spent 5 years directing the emergency communications center, where he oversaw several technology upgrade projects. He says that NLECTC–Northwest is providing technology assistance to the State in updating the Alaska Public Safety Information Network, which links all agency information, including wanted-subject files, fingerprint records, and motor vehicle files.

NLECTC–Northwest also is involved in a larger interoperability effort, now at the project definition stage. Alaska's Integrated Criminal Justice Information System will connect police departments, courts, district attorneys' offices, public defenders' offices, probation departments, and juvenile justice and social services agencies through an integrated data exchange system. This will avoid the duplication of effort in keying in information in each of the separate systems. "Of particular importance is the ability to share fingerprint and mug shot information as they are gathered for each arrest," Griffiths says.

Training Challenges. Because small agencies seldom can exchange information or best practices with other agencies, training and sharing information are big goals for NLECTC–Northwest. Griffiths wants to establish an open line of communication to enable Alaskan agencies to share information via the Internet. His center will help individual agencies build their infrastructures to allow this interaction.

Distance learning opportunities are needed not only in Alaska, Griffiths says, they are needed by rural and geographically isolated agencies nationwide. NLECTC–Northwest will be working closely with RULETC to develop these opportunities.

Alaska, he says, is beginning to deploy geographic information systems (GIS) applications for patrol officers in rural areas to use in search and rescue operations. State law enforcement agencies also are beginning to use GIS to map crime trends and crime rates in certain areas. Because there are few law enforcement officers, they need to be effective and efficient in targeting crime. GIS crime analysis is not yet widespread, however, and Griffiths would like to host train-the-trainer programs, working with the crime mapping programs at NLECTC–Rocky Mountain and NLECTC–Southeast, to increase its use.

NLECTC–Northwest also is assembling an advisory council, which will be active by spring 2002. Initially, most members will be Alaskan law enforcement and corrections officers. As the center grows, however, Griffiths plans to include members who have experience working with extreme weather challenges. The center is developing a needs assessment survey for all law enforcement and corrections agencies in the State. The survey will be supported by research staff at the University of Alaska's Justice Center. By the time the advisory council is on board, NLECTC–Northwest should have the results of that survey to guide its assistance to Alaska's law enforcement and corrections agencies.

NLECTC–Northwest is hosted by the Chenega Technology Services Corporation (CTSC), a subsidiary of the

Chenega Corporation, a Native Alaskan corporation whose stockholders live on an island in Prince William Sound. CTSC provides technology services, technical support, and systems integration to such clients as the U.S. Department of Defense, the Defense Advanced Research Projects Agency, and the National Security Agency. CTSC is developing distance training programs for the military. NLECTC–Northwest will be able to apply elements of these programs to law enforcement and corrections needs.

For more information on the National Law Enforcement and Corrections Technology Center–Northwest, contact Bob Griffiths, 866–569–2969 or 907–569–2969, or e-mail nlectc_nw@ctsc.net.

Technology RFD

There are more than 14,600 small and rural law enforcement agencies with 50 or fewer officers; most have 10 or fewer officers. These agencies represent almost 90 percent of all law enforcement agencies in the United States. Despite their size and location, these smaller departments face many of the same crimes that their larger municipal counterparts do, often without enough manpower, training, or technology. "These are agencies that can benefit mightily from the force multiplier of technology," says Rod Maggard, director of the new Rural Law Enforcement Technology Center.

"Rural law enforcement and corrections have been left out of access to technology, research, training, and technical assistance that have been geared to larger agencies," he says. "Their problems are as great, if not greater, than those faced by large departments because they are compounded by the lack of manpower, training, technology, equipment, funding information, and information sharing and capacity building."

RULETC is unique and long overdue, says Maggard. "Rural departments make up the majority of United States law enforcement agencies. They deal not only with the same types of crimes as their big city counterparts but also with agricultural crimes like ecoterrorism, the cultivation or manufacture of illicit drugs in rural areas, and other crimes such as poaching or illegal dumping." Maggard is well aware of the challenges small, rural departments face. He has been in law enforcement for 34 years, signing on as a Kentucky State trooper in 1967, leaving in 1981 to head corporate security for Blue Diamond Coal Company, and serving for 10 years as the chief of police of Hazard from 1991 until he became director of RULETC.

Communication Challenges. Like their counterparts in the remote stretches of Alaska, small and rural agencies have communication problems. RULETC will concentrate on information technologies, communications, evaluations of available off-the-shelf technologies, and other technology areas that can improve the effectiveness and efficiency of rural law enforcement. "We want to bridge the information and technology gaps that exist in so many small and rural agencies," Maggard says. His center will review technologies and best practices as they apply to the needs of rural agencies and disseminate that information to other agencies across the country.

"Communication problems are exacerbated by geographic isolation, limited interoperability, and limited equipment. Small and rural agencies simply do not have the tax base for anything other than the most essential police equipment," Maggard says. "It's analogous to an elderly couple living on a fixed income. Departments have the same budgets year in and year out with no money for new or improved technology." In southeastern Kentucky, he says, agencies are just beginning to get a few mobile data terminals in their patrol cars. Generally, a patrol officer who needs information must radio in the request to the dispatcher, then wait until the dispatcher retrieves the information from the computer and radios it back to the officer.

Currently, RULETC staff are part of the advisory board for a law enforcement technology grant that was awarded to 40 counties in southeastern Kentucky to address the interoperability of 106 agencies. When completed, the interoperability project could become a national pilot program that would share best practices and lessons learned with similar agencies nationwide.

The advisory board for this project pooled knowledge from many perspectives. Police chiefs, State police, the League of Cities, sheriffs, and academics are working to solve communications difficulties created by southeastern Kentucky's mountainous terrain and flood plains. Maggard says Hazard and other communities are in valleys where any construction must be above the 100-year flood mark. The interoperability project advisory board has developed a collaborative problem-solving approach that uses private, Federal, State, and local resources. The board received permission from the Public Broadcasting Corporation to use its existing towers, which were strategically located above the high water mark, for public safety communication.

Training Challenges. In fall 2002, RULETC—currently operating in satellite facilities—will open its doors in a new 36,000-square-foot, multipurpose building. The center will have access to an 800-seat theater, a multifaceted classroom for 250 people, a computer lab with 30 workstations, a driving simulator, and a firearms training simulator with shootback capability. RULETC also will employ mobile simulation systems to increase opportunities in the field for small and rural agencies that do not have the time or budget to travel. The center will have access to video teleconferencing capability; CD–ROM, DVD, and video production capabilities; and GIS for crime mapping and analysis in rural areas.

Maggard says that because RULETC represents all small and rural agencies throughout the United States, its advisory council will include representatives from departments and agencies across the country. Maggard already is collaborating with the other NLECTC facilities to identify law enforcement professionals who are familiar with the challenges of law enforcement on a small scale and who have specialized knowledge in the center's focus areas.

RULETC's host agency is the Eastern Kentucky University Justice and Safety Center, a component of the College of Justice and Safety, which is involved in numerous Federal, State, and local projects. The Justice and Safety Center focuses on law enforcement technology, crime prevention, domestic violence, and community-oriented policing. Working with the National Institute of Justice's Office of Science and Technology, Eastern Kentucky University has developed distance learning and computer-based training on such topics as weapons of mass destruction, DNA evidence collection, Spanish for law enforcement, and school security evaluations. RULETC will collaborate with other universities to enhance distance learning and offer teleconferencing training opportunities across the country.

As part of the development of RULETC, the Justice and Safety Center created a needs assessment survey that was mailed out nationwide. The self-report survey included both closed- and open-ended questions on the use of technology in small and rural departments. "We wanted to learn the types of technology these agencies currently use and how frequently they use it, their technological needs, their attitudes toward technology, the availability of technology training, and their organizational demographics," Maggard says. A research report based on the survey and on the advisory council's recommendations will help RULETC to build a responsive rural law enforcement program.

For more information about the Rural Law Enforcement Technology Center, contact Rod Maggard, 606–436–8848, or e-mail ruletc@aol.com.

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