

SnifferSTAR

(Continued from page 1)

small, lightweight, low power, and offers rapid analysis," says Doug. "Rapid analysis is currently not possible with any other package near this size."

Called SnifferSTAR, the invention consists of a series of tiny sensors on a platform about the size of a pat of butter, atop a microprocessor board smaller than a credit card. The forward motion of the vehicle forces air through the device.

Material in the sampled air is absorbed and concentrated. It is then thermally released (desorbed) to pass over thin stripes of coating materials, to which it temporarily sticks.

The coating stripes are located on a quartz surface that vibrates at pre-set frequencies when minute amounts of electricity pass through it. The mass of incoming stuck particles changes the frequencies of the vibrations of each stripe.

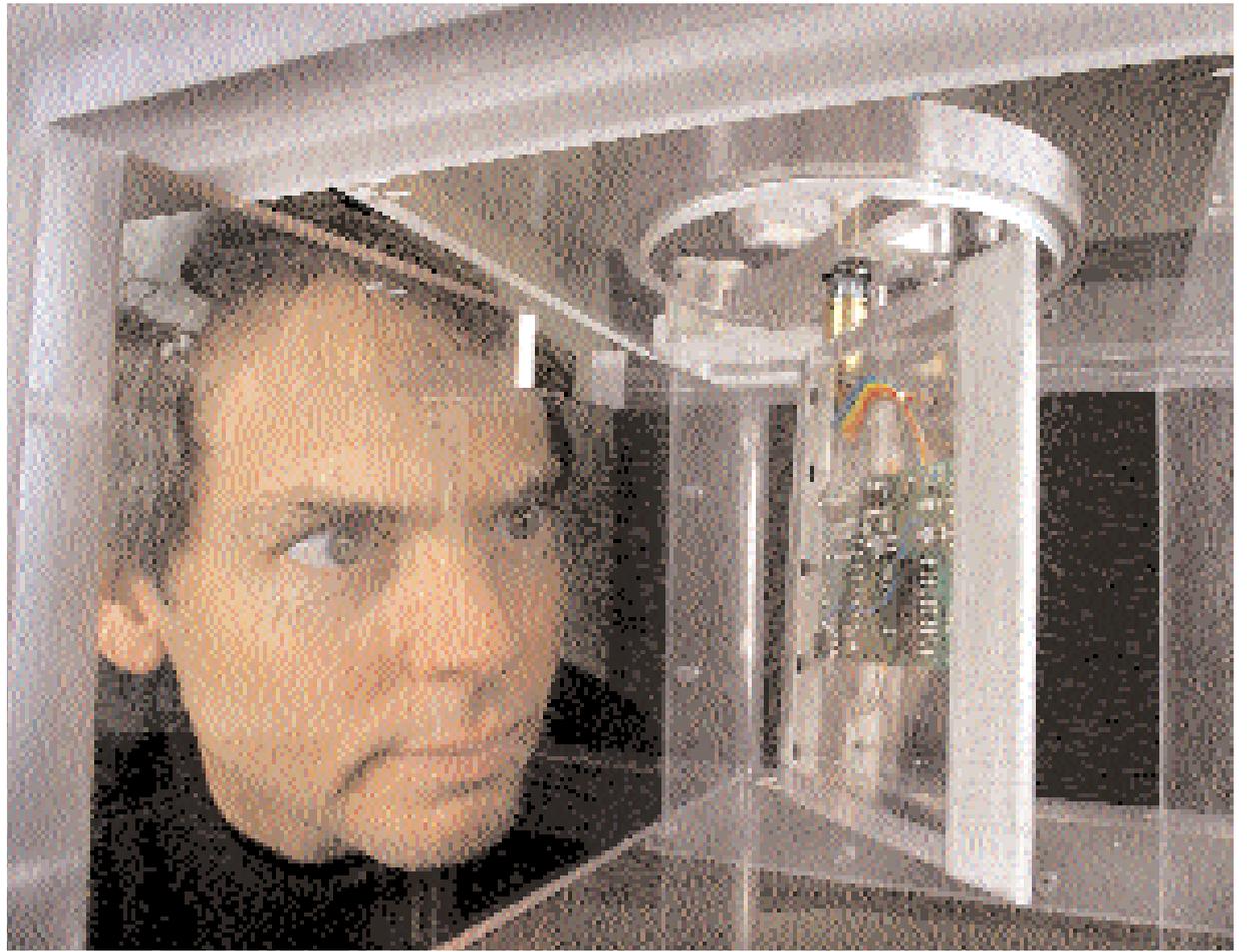
Few false positives

The altered frequency data is passed to a processing unit on the SnifferStar module. The data is then relayed to a processor on the drone or radio-linked to a main data processor on the ground. The information is automatically compared against a library of the patterns created by a range of gases.

"We have very few false positives," says Doug. "The device ignores most common interferents."

The sampling process is repeated every 20 seconds, with 15 seconds intake and five seconds for analysis. The inrush of air then clears the device sensors for the next reading.

Immediate analysis is critical in warning an endangered population of an attack or in surveying sites after alleged incidents.



SPEAK TO ME — Doug Adkins observes the wind tunnel performance of components of SnifferSTAR, a device intended to fly on drones and immediately detect airborne blister agents and nerve gases.

(Photo by Randy Montoya)

Discussions are underway with a US company that produces drone aircraft to include the device among sensors designed to detect biological and radiological threats.

The device also has possibilities for use in or near the ventilation systems of buildings, or, with addition of a small pump, on posts surrounding military bases.

Restructuring

(Continued from page 1)

Karen Boardman is the manager of the Sandia Site Office. She has been with DOE 19 years, most recently as deputy manager for programs and technical support at the former Albuquerque Operations Office (DOE/AL). Patty Wagner is her deputy. She most recently has been deputy manager for business and administration at the former DOE/AL.

The Sandia Site Office has several assistant managers responsible for key site office activities

including Oversight & Assessment, Facilities & Project Management, Security, Business & Contract Management, Production and Quality Assurance, and Nuclear Facilities.

The operations office system will be eliminated. This means the Albuquerque Operations Office no longer exists



KAREN BOARDMAN



PATTY WAGNER

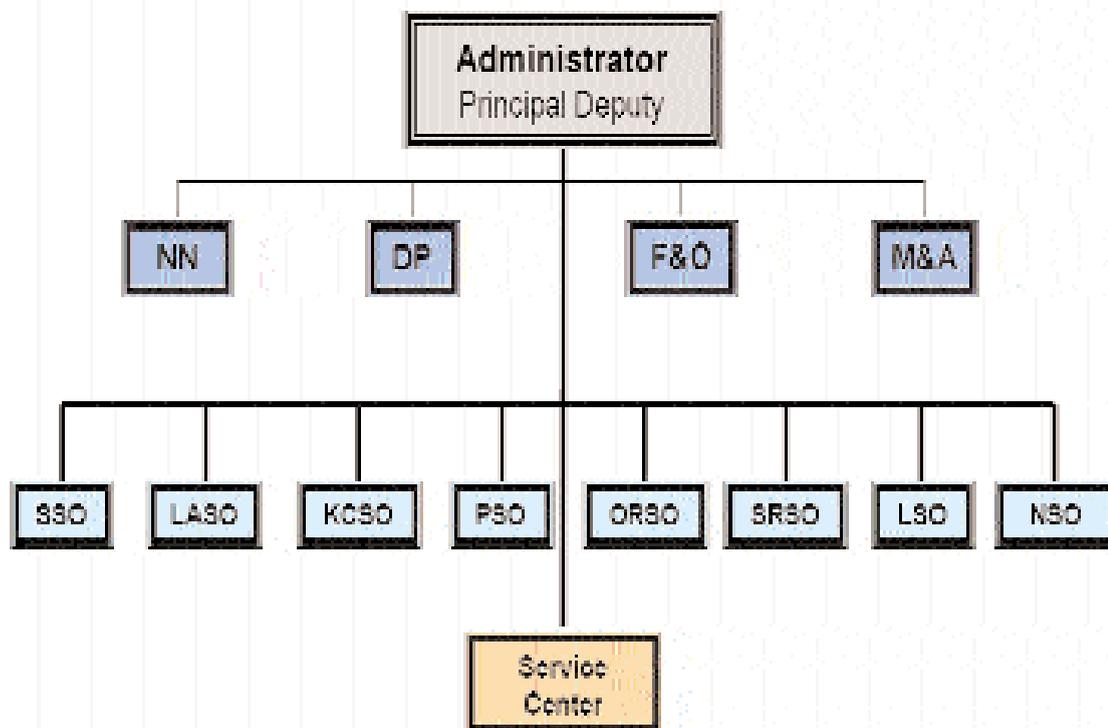
by that name. It is replaced by an entity known as the NNSA Service Center, located in Albuquerque. The NNSA Service Center will provide support to all eight site offices, and Headquarters program offices, in such areas as procurement, human resources, and other business and technical support services, using the expertise and (in most cases) personnel of the former operations offices.

There will be some consolidation of personnel. That consolidation will be completed by the end of FY '04, after which the Oakland office will close and the Nevada office will be reduced in size and concentrate on management of the Nevada Test Site.

James Hirahara will head the NNSA Service Center, with the title Director. Ken Powers will serve as Principal Deputy. The Service Center will have four major components: Technical Services, Federal Services, Business Services, and Field Financial Management. Physical consolidation of the Service Center in Albuquerque is expected to be completed by Sept. 30, 2004.

"The decision to establish the NNSA Service Center in a single location [Albuquerque], to close the Oakland office, and to convert the Nevada office into a significantly smaller Site Office was intended to ensure NNSA achieves the necessary efficiencies and to preclude the need for another consolidation in the future," said Brooks in his message.

Overall, he said, NNSA has worked hard over the past year to make sure the reorganization is done right. One goal, he said, is "ensuring that the NNSA of the future will have a world-class business environment that eliminates duplication and micromanagement and provides more effective federal oversight." — Ken Frazier



THE NEW NNSA STRUCTURE — The Sandia Site Office (SSO) is one of eight NNSA site offices reporting directly to Washington. The others are at Los Alamos, Kansas City, Pantex, Oak Ridge (Y-12), Savannah River, Livermore, and Nevada. Operations Offices will be replaced by a single Service Center, in Albuquerque.

SANDIA NATIONAL LABORATORIES

New sensors provide remarkable powers

Three microsensors, which have the ability to collect, concentrate, and analyze a gaseous chemical sample weighing less than a single bacterium, fit inside a pea pod.

Sandia is a world leader in developing sensors that see, hear, and feel events and substances thousands of times more sensitive than humans can. Today, Sandia sensors:

- Monitor the health of weapons
- Protect facilities
- Monitor nonproliferation treaties
- Detect radiological, chemical, biological, and explosive agents.

These sensors—using everything from gravity to sound to advanced physics effects—are becoming part of our everyday life, from communications to medical care.

Sandia's hydrogen sensor can detect leaks in rocket engines and refineries as well as monitor expensive equipment for corrosion. The technology is a 1993 R&D 100 winner.

Sixth in a series of 10 posters on "Stockpile Stewardship: Strength Through Science" prepared by Public Relations & Communications Center 12600 (design by Mike Vittitow; photo by Randy Montoya) in cooperation with the Nuclear Weapons Strategic Business Unit. All 10 posters are on display in the Bldg. 800 corridor.
NOTE: This poster was prepared prior to the 9/11 terrorist attacks on the US. Subsequently, Sandia sensor technology has found growing application in counterterrorism and homeland security.