

## Controversy ignites over chemical bomb

The Reagan administration has proposed spending \$56.9 million in the upcoming fiscal year to resume production of chemical weapons after a 17-year hiatus (SN:6/29/85,p407). The first of these weapons slated for production is the 595-pound "Bigeye" bomb. But a new congressional analysis of the Bigeye project identifies many serious problems with the weapon, several of which it says "appear to be intractable." Its conclusion — "that other technologies and other chemical weapons be examined to accomplish the deterrent and retaliatory mission assigned to Bigeye" — has kindled a fiery debate over the necessity of this bomb.

As a "binary" weapon, each Bigeye bomb would store two chemicals separately until the weapon was released from its launcher and en route to its target. Then the chemicals would be mechanically mixed, creating the lethal nerve gas VX, the same organophosphorus compound contained in the United States' older, stockpiled "unitary" (premixed) chemical weapons.

According to unclassified portions of the new report, released last week by the General Accounting Office (GAO), the congressional watchdog agency, the 14-year, on-again-off-again Bigeye program has not yet demonstrated that these binary weapons will achieve their design potency, will function as expected or can be delivered reliably and safely. Unless these uncertainties involving the chemistry and design of the bomb can be fully resolved — something the report says is unlikely — GAO recommends that the Department of Defense (DOD) postpone or even abandon production of the bomb.

In congressional testimony last week describing the study, Eleanor Chelimsky, director of GAO's program evaluation and methodology division, described some of the uncertainties identified. These, she said, include tests "conducted under conditions that would produce an acknowledged bias in the results" and calculations in which "DOD analysts have somehow moved from reporting a totally failed component to reporting a totally (100 percent) reliable system which uses that failed component."

"Most troubling of all, perhaps, with regard to the design and to the overall credibility of DOD's testing," Chelimsky said, "is the way in which important evaluation questions are posed at the start of a test, fail to be answered (or are answered inconclusively), and then disappear from serious consideration."

At a Pentagon briefing for reporters last week, DOD officials disputed not only GAO's interpretation of their

agency's test data but also the need to postpone bomb production. DOD Deputy Assistant Secretary Thomas J. Welch described some of GAO's criticisms as "nonproblems" — such as its concern that the VX might ignite while being sprayed over a target, rendering the weapon useless. For this to be a problem, said Welch, an ignition source must be present, and Bigeye has none. A more serious problem, he said, was the report's dated nature. He said many tests completed since GAO concluded its data collection in April 1985 suggest that earlier problems are on their way to being resolved.

DOD plans to begin construction of a facility this fall to produce the "hundreds" of bombs it will need for operational tests of the weapon. The first Bigeyes could be ready by September 1988, Welch says. But that's providing DOD gets funding for the bomb — not yet a certainty. In fact, Sen. David H. Pryor (D-Ark.), Rep. Dante B. Fascell (D-Fla.) and Rep. John Edward Porter (R-Ill.) — all critics of renewed chemical-weapons production — have seized on the new GAO report as the basis for an intended campaign to cut funds for DOD's Bigeye development program. — J. Raloff

## Captivity awaits the last wild condors

On April 15, biologists picked their way up a rugged cliff in Ventura County, Calif., to reach a cave containing the last remaining nest of a wild California condor. Gently, they retrieved its precious contents, a single egg, and airlifted it by helicopter to the San Diego Wild Animal Park 200 miles away. On June 6 the egg hatched, increasing to 27 the surviving world population of the largest flying bird in the United States. That alone makes the hatchling important. But this chick, named Nojoqui, is notable for another reason as well: It's the first surviving offspring of a mating between the only breeding pair of California condors alive.

It's also likely to be the last young condor to come from the wild for at least a decade, according to scientists at the Condor Research Center in Ventura. On the day Nojoqui hatched, its mother was brought into captivity. Known as Adult Condor-8, she was the last female outside a zoo. And as a result of a U.S. district court judgment handed down last week in Washington, D.C., the U.S. Fish and Wildlife Service (FWS) has been given permission to trap and bring into its captive-rearing program the three California condors that remain in the wild.

With the capture of the first of these — AC-9, Nojoqui's father — the U.S. condor rescue project will have its first breeding pair (these birds mate for life). Although six condors were lost over the winter of 1984-85, the prospect of a captive breeding pair raises expectations that the endangered bird's plummeting population may be stabilized and eventually increased. In fact, notes Jesse Grantham, a National Audubon Society ornithologist at the Condor Research Center (a joint FWS/Audubon project), within a few years very young condors may be introduced back into the wild.

Before they are, however, condor researchers want to establish an active captive-breeding program at the two California zoos now rearing the birds. Based on studies of AC-9, the re-



Nojoqui, being helped from its egg, weighed in at 5.5 oz. Inset: Wings of 20-pound adults may span 9 or 10 feet.

searchers now know that males as young as 6 years old can breed. That holds out hope that the two existing condor pairs now in captivity will begin to mate soon.

Bill Toone, associate curator for birds at the San Diego Wild Animal Park, says that when the condor rescue program began four years ago, "we were all in absolute ignorance." But new research, he says, has yielded a wealth of new findings. Among those findings are: that lead poisoning from gunshot in the carcasses the birds feed on appears to be the leading cause of wild condor deaths; that the bird has a calm, almost "Labrador retriever" type of personality; that except for eggs and hatchlings, condors appear remarkably immune to infection; and that in every way this vulture is more closely related to storks than to birds of prey.

One measure of the usefulness of these findings is the program's success record. Toone notes that the 13 chicks hatched and thriving at his zoo represent almost half the world's California condor population. — J. Raloff

Ron Garrison/Zoological Society of San Diego

Inset: Fred Sibley/Bureau of Sport Fisheries & Wildlife