

# Vertical

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THE PULSE OF THE HELICOPTER INDUSTRY

Ad revenues, especially for radio station traffic watches, have been hit especially hard lately. Logo sponsorship and the lower costs of using the R44 have kept many of these programs viable. Justin Chandran Photo



## FINDING Opportunity

MANY ALE AND ENG OPERATORS ARE FINDING THAT ROBINSON'S PREVIOUSLY IGNORED SPECIAL-MISSION R44s MAY BE THE SOLUTION TO TROUBLING ECONOMIC TIMES.

by Guy R. Maher

Over the past year, there have been countless stories of helicopter operations in dire circumstances due to the ongoing economic crisis. Among the most vulnerable have been those in the parapublic sector. Airborne law enforcement (ALE) programs in particular have been falling at a disturbing rate, mostly due to local government budgets steeped in red ink and the often high cost of operating turbine aircraft.

Electronic news gathering (ENG) operations have also felt the pinch. Local television and radio stations have suffered a significant drop in advertising dollars, which has challenged the very existence of their aviation assets.

As is often the case, though, failure is just another word for opportunity, and a number of success stories have emerged from the rubble of others' bad news. And, lately, many of those success stories in ALE and ENG have arrived on the back of the venerable Robinson R44 special-mission helicopters.

### THE RIGHT SHIP FOR THE RIGHT TIME

By the end of 2009, Robinson Helicopter Company (RHC) had delivered 60 R44 Raven II Newscopters and 45 R44 Raven II Police Helicopters. While modest by RHC standards, interest in both models has increased dramatically over

the last couple of years. One reason for that, not surprisingly, is that both governments and television stations have been looking to cut costs. Said RHC vice-president Kurt Robinson, "People that would never talk to us before are now turning to the R44, because it will allow them to keep their operation [and] thus save their own job."

These sentiments were echoed by Ken Pyatt of Sky Helicopters in Dallas, Texas, "What used to be traffic helicopters are now airplanes, and what were [ENG] AStars are now R44s. We have seen a lot of stations shed their [turbine] helicopters."

Another factor in the growth of the special-mission R44s has been the evolution of smaller, more compact technologies that lend themselves to the piston stalwart. Job-specific moving-map technologies that didn't exist 10 years ago have revolutionized the ways helicopters can operate.

And, the equipment you get for your dollar today is much more powerful than it was several years ago (notably the FLIR Systems Ultra 8000 thermal imager in the R44 Police Helicopter and the high-definition camera system in the Newscopter).

On the ENG side, a driving force behind increasing interest in the R44 has been the switch to high-definition: since they have to switch to the new HD format anyways, TV stations are looking to do so in a way that saves money. Essentially, if they can get the same image quality from an R44, why would news departments need to spend more for a larger helicopter?

Of course, one negative to the R44 Newscopter for some operators is that it doesn't allow them to carry around extra people — it is not big enough to be a multi-purpose helicopter. But the value of this capability has to be weighed carefully against the cost to provide it. Consider that a fully equipped 2010 model R44 Newscopter costs around \$800,000 US, which is less than half the price of a similarly equipped Eurocopter AS 350 AStar.

### UNDERSTANDING THE MARKET

In the early 1990s, when RHC began development on the ALE and ENG variants of the R44, the company's initial thought was to create add-on kits. But, given the ship's weight and size limitations, RHC soon realized it needed to do considerably more engineering to optimize the aircraft for these types of operations. This led to the development of the nose-mounted task-specific options, the tail-cone-mounted battery (to offset the forward center of gravity of the nose-mounted items) and the shielded electrical system, among other features that are present in the ALE and ENG models.

Then, as RHC talked to law enforcement and news operators, it realized the functions and requirements of an ALE helicopter were vastly different from those of an ENG one. In the police helicopter, the observer needs to sit in front and quickly relay information to ground units or headquarters. In the news helicopter, the camera operator sits in back — in what is a mini TV station — and controls various cameras, a recorder and a transmitter with the capacity to broadcast live. The result of these conversations was the evolution of two separate models of the basic R44.

In the technology department, RHC either uses the same top-of-the-line brands installed in the turbines or products it has developed in-house. As surveillance and broadcasting equipment has gotten smaller, lighter and more sophisticated, RHC has been able to put the same equipment used in larger turbine helicopters in the R44 police and news models. However, there are two big exceptions. First, in the Police Helicopter, RHC installs the Spectrolab SX-5 (15-million to 20-million candlepower) searchlight, whereas some larger turbine helicopters can have the SX-16 (30-million to 40-million candlepower) model. Second, in the Newscopter, RHC uses a 22x zoom Canon lens on the HD camera system, whereas larger turbine aircraft can have a gyro-stabilized camera system with bigger (e.g. 36x zoom) lenses.

Nevertheless, these are acceptable compromises for many operators. And you can't downplay the turnkey aspect of

**BELOW** Mercury Aviation of Jackson, Miss., has considerable experience in operating both ALE and ENG R44s. The company credits the reliability and lower cost of these models for allowing its programs to forge on while many turbine programs have folded.  
**Joe Root Photo**

**BOTTOM** In hard economic times, special mission R44s have found favor with ALE and ENG operators. **Craig Dyer Photo**





**ABOVE** Specialized, mission-specific equipment demanded distinct ALE and ENG versions of the special mission R44s. Note the battery box at mid-tailboom to offset the nose-mounted equipment.

**Ken Swartz Photo**

**RIGHT** The useful load of the R44 is just right for typical ALE or ENG missions requiring a crew of two and sufficient fuel. **Joe Root Photo**

what RHC provides. Many TV stations and police agencies don't want, or have time, to learn all the different equipment, get it installed and hope it all works together. They appreciate that the bundled equipment comes factory installed — without the expense and down time of a completion center — that it works well together, and that it can be easily supported.

And, for 2010, RHC began offering the Ikegami HDL-F25i HD camera system on the Newscopter as part of an overall gyro-stabilized offering. The Ikegami is a three-chip system that offers better low-light HD capability. Also, the Newscopter now has smaller HD transmitters available from both Nucomm and Link/Microwave Radio Communications.

Interestingly, Kurt Robinson said RHC, to date, has sold more Newscopters outside the United States than within it. "I believe one big reason is because of the delays due to switching to HD and digital transmitters," he said, referring to the fact that a lot of foreign countries continued to buy Newscopters with analog (or standard digital) systems. Operators in the U.S., though, have waited until HD was available in a Robinson package. Now the foreign countries are starting to change over to HD, as well.

For the Police Helicopter, in addition to the new, higher-end FLIR Systems thermal imagers (which offer higher magnification and tracking capabilities than previous models), RHC

now offers moving-map displays with split-screen capability, which allow operators to have the infrared image on half the screen and the moving map on the other. Inertial measurement unit installations, meanwhile, enable tracking of where the camera is pointing; you can point at a house and have the address pop up on screen, or type in an address and have the camera point to the location. And, mobile data terminal support enables the pilot and tactical flight officer, to, among other things, receive police dispatches on the computer screen.

#### **PROVING IT IN THE REAL WORLD**

The first R44 Police Helicopter was purchased by the police department in El Monte, Calif., and delivered in October 1998. No stranger to doing things a little differently, in the early 90s El Monte had purchased an R22 with a searchlight and police radios.

Today, the fact that RHC has fielded both R44 news and police models for over a decade means both have proven themselves well. Not too long ago, there was still a strong prejudice against considering an R44 for special mission work. This has changed as the testimony of operators who have used R44s successfully for several years has convinced other operators that this ship can meet their mission requirements, for a lot less money.

A strong case in point is the Baton Rouge Police Department's air support unit in central Louisiana, which recently took delivery of a new R44 Police Helicopter. This start-up operation had considered surplus Bell OH-58s and other aircraft, but quickly determined that in budgeting for continued operations, the R44 would outperform the cheaper-to-purchase OH-58. For well under \$1 million, the unit received a brand-new helicopter with its standard comple-



**TOP** The digital age has allowed all the ALE gear you could want to fit nicely in the cockpit of the R44.

**ABOVE** The R44 Newscopter is a modern, flying production studio that now offers HD.

Kurt Robinson Photos

ment of equipment. It also got a laser designator on the FLIR thermal imager; a digital down-link that sends images to ground crews via digital receivers in real time; and the newest mapping system with split-screen capability, which can overlay where the thermal imager is pointing on the moving map. All of this, and the R44 can still carry a good-sized pilot and crewmember, along with full fuel.

Mercury Aviation Inc. of Jackson, Miss., has a long history operating both police and news R44s in its region. And, as its president, Coyt Bailey, stated, "Both our news program and police program are surviving these tough times because the costs are reasonable." He added, "We have made some changes in our radio station partnerships because of ad revenue being way down on the radio side of the house. TV and radio stations both are under intense pressure right now. But, I also know of a lot of good [helicopter] news programs that have closed due to the economy and budget cuts,

and the lower costs of our R44s mean we are a lower point on the cost radar."

Among other operators of the R44 special mission helicopters is the New Hanover County Sheriff's Office in coastal North Carolina, which took delivery of a brand new police model in summer 2008. The helicopter is primarily used for observation support, with some regular patrol. But, since it was purchased in part through a U.S. Department of

Homeland Security port security grant, it is also used to support Homeland Security activity at area ports, assisting the U.S. Coast Guard and providing infrastructure support.

Lieut. Scott Gerow explained New Hanover's decision, "We didn't even look at other aircraft. Our budget for the program was limited and the R44 was the best alternative to surplus." He added, "With being a new program, we wanted a new aircraft, simplicity of maintenance and the security of not having a \$100,000 'surprise' in the shop. I can honestly say that I don't think we'd otherwise be here right now — the R44 allowed this program to happen." Gerow also reported that because of the R44, even with tight budgets, the program has no limits on how much it can fly or train.

Also in North Carolina, but on the ENG side, the Charlotte market, like many other larger markets, has historically been turbine-only. This changed last year, when the CBS affiliate, WBTV, contracted with Metro Networks, a division of New York-headquartered Westwood One, to provide an R44 Newscopter for its Part 91 operation. WBTV had previously used turbine equipment, so the move to the R44 was a culture shift. Said pilot Derick Yates, "We had the normal skeptics, but they were proven wrong. We can hover OGE [out of ground effect], can get in and out of our [tight] pad, and our shooters are excited at how well they can see out of the R44." Yates reported that WBTV was also the first in this market with an HD camera, and will be ready to transmit when the station can receive the signal. In the meantime, they can record to an HD recorder in the helicopter. Yates also stated, "The recession has been good for our company; due to the lower costs of the piston versus the turbine helicopters. Our operation here is slowly growing, with a busy month now putting 30 hours on the R44."

#### WHAT TOMORROW BRINGS

With the success of the R44 in the special missions theater, the obvious question is what impact will the R66 have? For the moment, we won't know, as RHC reported it doesn't expect the news and police versions of the R66 to be available until some time in 2011. No doubt there will be those operators who feel they must have the R66 — and, of course, RHC is counting on that, too.

The reverse problem (and it's a good one to have) is that the reliable R44 may have proven itself too well. For those cash-strapped news and police operations who typically only need two people on board and don't need the added capacity, keeping their programs alive with the R44 smells a lot better than the Jet-A exhaust of the more costly turbine, which — no matter who builds it — would only threaten their very existence.

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