

# Rapid response

The first operational unit to be equipped with the UH-72A was the National Training Center's Air Ambulance Detachment at Fort Irwin, California. (Photo: EADS North America)

The US Army took delivery of its 100th UH-72A Lakota Light Utility Helicopter at the beginning of March. **Scott R Gourley** takes a focussed look at that rarest of creatures – a successful army helicopter programme.



**C**reated as an outgrowth of the decision to end the RAH-66 Comanche programme in the spring of 2004, the US Army's UH-72A Lakota Light Utility Helicopter (LUH) was funded with money originally planned and programmed for the Comanche.

The original requirement was for 322 aircraft, but that figure has now increased to 345 platforms with the majority of those – 210 UH-72As – destined for the Army National Guard (ARNG). As it is fielded, the UH-72A is beginning to replace UH-60 Black Hawk, UH-1 Huey, and OH-58A/C Kiowa aircraft used by the ARNG and elements of the active army.

The cost of supporting the UH-1 and OH-58A/C aircraft had been increasing in recent years due to parts availability and old age. The UH-72A is a smaller (fuselage length 10.1m/length rotor rotating 13m), less costly

aircraft that can fulfil the missions that the older types were conducting at the US Army's Combat Training Centers (CTCs) and elsewhere around the US.

Moreover, the UH-60 aircraft being freed up by incoming Lakotas are now available to support US operations in Afghanistan and Iraq. Already, the rapid acquisition, production and fielding of the UH-72A over the last three and a half years has allowed the army to transfer 24 UH-60 aircraft to other missions that support overseas contingency operations.

## EXPRESS DELIVERY

EADS North America is the prime contractor and overall programme lead, with American Eurocopter responsible for aircraft production, assembly and delivery. EADS highlights a supplier network that includes Aerolite, BAE

Systems, CAE, Goodrich, L-3, Labarge, Luminator, Meggitt, Nordam, Sagem, Sikorsky, Thales USA, Turbomeca USA, Whelen and Wulfsberg Electronics.

Noting that the first aircraft delivery was in November 2006, five months after contract award, US Army representatives have emphasised that the team has been able to deliver as many as five aircraft in any one month and remain on schedule and within the army cost position.

As of the end of 2009, 93 Lakota aircraft had been fielded to ARNG units in 11 states, the District of Columbia and Puerto Rico. In addition, medevac and general support units at the National Training Center (NTC) and Joint Readiness Training Center (JRTC) have also received UH-72As, while active army units at Fort Rucker, Fort Eustis and the



The arrival of the Lakota is freeing up Black Hawks to be deployed in support of operations in Iraq and Afghanistan. (Photo: US Army)

US Military Academy (USMA) also operate the new aircraft.

On 4 March, EADS North America held a ceremony to mark the delivery of the 100th Lakota to the army, which it trumpeted as 'another on-time and on-budget achievement for a highly successful programme'. The aircraft in question will be deployed to Germany with the Joint Multinational Readiness Center (JMRC).

In addition to army applications, five UH-72A aircraft were purchased by the US Navy for use at the Naval Test Pilot School (NTPS) in Patuxent River, Maryland, which not only trains naval aviators but also other US service pilots as well as those from overseas allies.

Programme representatives credit the UH-72A as being a highly capable and manoeuvrable aircraft, able to support the requirements of NTPS testing and training.

#### FLYING START

'I think the programme is really off to a great start,' Lt Col Dave Bristol, US Army LUH product manager, told *Defence Helicopter*.

'We've currently [mid-February 2010] got 97 aircraft that are actually fielded to the army and that also includes five navy aircraft. Again, the team has done a super job. That includes American Eurocopter [production, assembly, and delivery] and the supporting role of Sikorsky on the maintainer side.'

Sikorsky Aerospace Services (the aftermarket business of Sikorsky Aircraft) plays a primary role in providing contractor logistics support (CLS) for the UH-72A team. In late August 2009, it announced the delivery of enhancements to the HELOTRAC RL maintenance management system for the UH-72A, including 'improvements to three primary features requested by the US Army: safety; an operating and support management information system; and fleet management capabilities'.

'The five navy aircraft – and we just delivered the fifth one a few weeks ago – were fielded to the NTPS up at Pax River where they are using those for test pilot training,' Bristol continued. 'So that's another big accomplishment for the programme.'

The standard LUH configuration includes: cockpit features such as glass cockpit, wide field of view, LCD displays and three-axis autopilot; performance features such as low-noise rotor blades, twin-engined (Turbomeca



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The first two Lakotas fielded by the ARNG land in Tupelo, Mississippi, in 2008. (Photo: US Army)

Arriel 1E2) reliability, a maximum speed of 268km/h and endurance of up to 3.2 hours; capacity features such as a 500kg payload with gross weight of 3,500kg; and communications features such as the ARC-231 suite, interagency VHF/UHF comms and a cabin intercom system.

In addition, mission equipment package (MEP) kits optimise the Lakota to perform specific missions in support of its different roles.

For example, the UH-72A is currently being primarily delivered in two army configurations – medevac and VIP. The Lakota medevac MEP includes two NATO standard litters, a medical storage kit, an external rescue hoist and an environmental control unit (ECU). The VIP MEP features special seats, carpet and an ECU.

#### MULTIPLE VARIANTS

Beyond those two configurations, additional MEP kits are being developed to optimise three new variants: security and support (S&S) battalion (ARNG); observer/controller; and opposing force (OPFOR).

Designed to facilitate homeland security operations for ARNG units, the S&S battalion MEP, funded by the National Guard Bureau, includes the Skyquest VRDV-4010 digital video recorder, a EuroNav V RN6 moving map and Sierra Nevada TactiLink-Eagle communications system.

Selected aircraft can also be fitted with the L-3 Wescam MX-15i EO/IR sensor, the Luminator

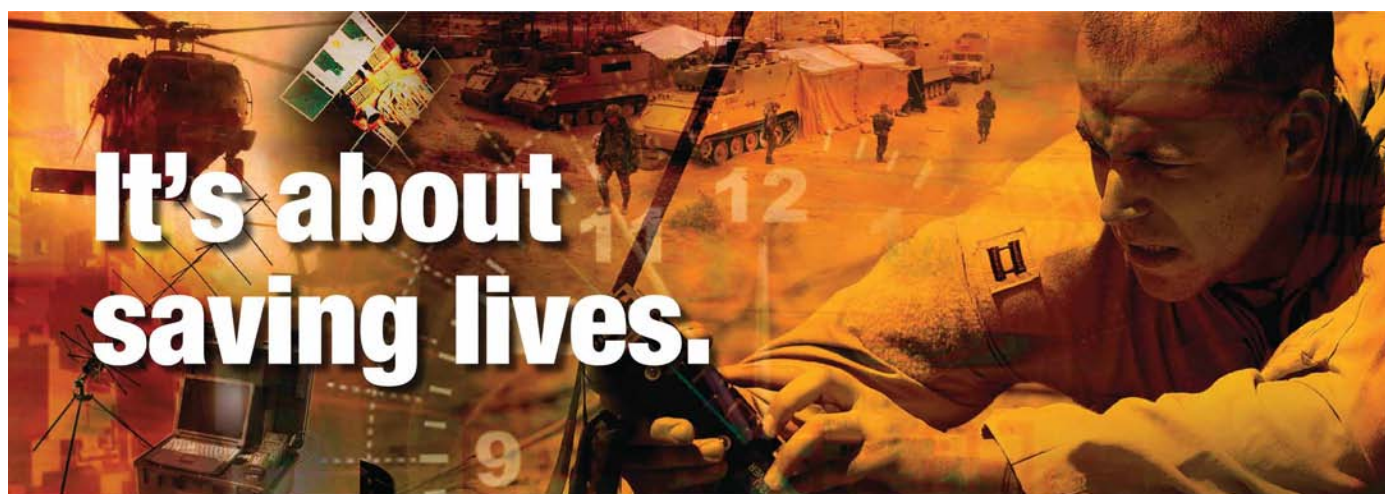
LS16 searchlight, which is slaved to the EO/IR sensor and provides 30 million candlepower, and a hoist.

The new observer/controller MEP will include enhancements such as an external public address system, while the OPFOR MEP will add items such as MILES/TESS (Multiple Integrated Laser Engagement System/Tactical Engagement Support System) and a unique camouflage paint pattern.

‘We currently have the medevac variant and the VIP variant,’ Bristol noted. ‘And right now we also have the security and support birds that we’re building for the National Guard.’

He said the critical design review (CDR) was recently completed for controller helicopters for the CTCs at the JRTC at Fort Polk, the NTC at Fort Irwin and the JMRC in Hohenfels, Germany, and the aircraft was now at the prototype stage.

‘The two in production right now are the medevac and the VIP, with S&S and the CTC variants just completing CDR and seeking FAA



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certification this summer [mid-2010]. And then of course we'll cut those into production. So all programmes are on cost/on schedule, so I'm very pleased with that. The fifth variant, the OPFOR configuration, is also looking for FAA certification in the late summer timeframe.'

### IN THE FIELD

Recapping quantities already fielded, Bristol added: 'They're performing very well. The customers are very happy. As they divest the OH-58s and UH-1s I think they are very pleased with this aircraft and the MEP that they are receiving. And I look forward to the response to the security support package, as that retrofit process and cut into production happens around the end of this year or early next year. I think they're going to be very pleased with it.'

In terms of platform modifications, one early UH-72A effort involved the aircraft ventilation system. 'That has worked out very well,' Bristol said. 'Currently we just have the ECUs in the medevac and VIP variants. That was the only thing approved. But I believe that the customer

is very happy with that and there has been some interest across the fleet to add additional ECUs. But nothing has been approved for that yet.

'Other than that, there is an engine inlet barrier filter (EIBF) that we have added on to aircraft in certain locations – about 65 aircraft at this point – where we have done site surveys and that has proved to help save erosion on the compressor blades. So every time we go to field – for example, this year we have 11 fielding sites – we do a site survey. And part of that is looking at the environment. And, if need be, we will put an EIBF on each engine to help protect those blades,' he said.

Bristol noted that other potential platform modifications ranged from leveraging blade coating efforts from other helicopter programmes to integrated health management systems.

'Right now we're testing a set of coated blades at NTC,' he said. 'And we look for a two-phased approach for LUH. One is coating the leading edge and testing that out there in the field. And we also want to look at coating the entire blade. So that programme is going very well. We are also looking at hardened windshield applications, just because of the environments we fly in, and that programme is also going very well. And then the last thing we are looking at is just a little seed money for IVHMS [Integrated Vehicle Health Management System], so we're looking to do some testing with IVHMS in this aircraft.'

He added that one additional modification could involve the installation of blue force tracking capabilities on selected Lakotas.

### TRAINING UP

With more than 500 pilots and maintainers trained to date by American Eurocopter at EADS North America's Grand Prairie, Texas, headquarters and at the Eastern ARNG Aviation Training Site at Fort Indiantown Gap, Pennsylvania, Bristol was also quick to highlight the contributions of the related training and support activities to the overall programme success.

'Here in the programme we have not only production but we also have the training of the pilots,' he explained. 'I've trained 360 pilots and 184 National Guard maintainers to date, and we continue to train pilots and maintenance personnel. So not only production but training



**A UH-72A in medevac configuration after landing at its new home at Fort Polk, Louisiana, where it is replacing the UH-1 Iroquois. (Photo: US Army)**

is going very well, as is our sustainment plan. I think the customer is very pleased with the full CLS for the TDA sites and the National Guard is really enjoying the ability to receive parts in a timely manner. All parts are delivered within 48 hours so operational readiness is the highest, I think, across aviation. We are consistently over 90%. I think that's a huge accomplishment.'

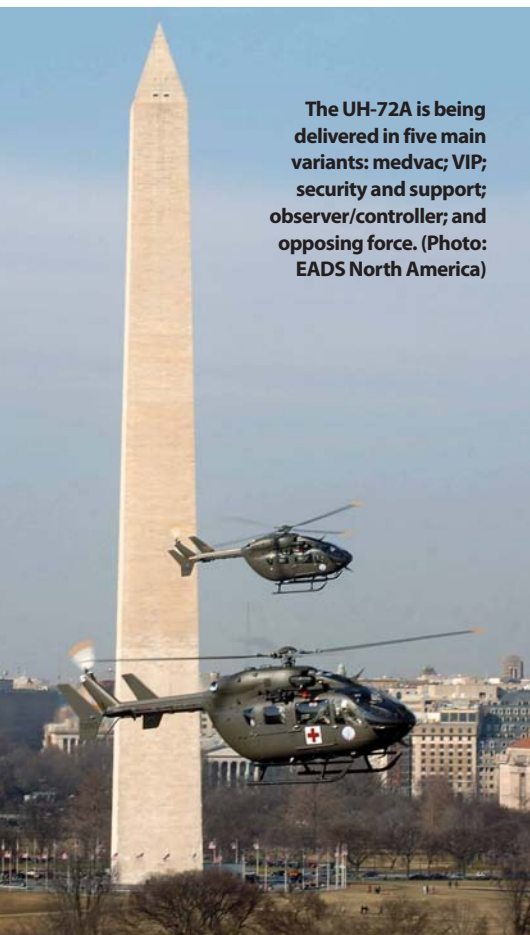
Bristol said although a few aircraft were still coming out of Eurocopter's Donauwörth facility in Germany, production had largely moved to the US.

'By the October timeframe we will have 100% coming out of Columbus, Mississippi. But that's just a little bit of overlap in the production schedule. Right now almost everything on my programme is coming out of Columbus... So I think that it's really a proud moment for our programme that we are producing a high-quality product, a very sophisticated aircraft, for the user.'

In terms of Fiscal Year 2010 (FY10) and FY11 fielding plans, Bristol pointed to a schedule of 35 aircraft being fielded to 11 locations during the current fiscal year, adding that 'next year, in FY11, we are fielding a total of 64 aircraft across 20 locations, which is phenomenal.'

'Our most challenging fielding locations are going to be Hohenfels, Germany, as a full OCONUS CLS site, and then Kwajalein [Atoll]. That's going to be pretty significant for our team.

'Again, the programme is really doing solidly. I really don't have any challenges on the production side or modifications. The National Guard has been a solid team player in helping develop the security support package. So I think overall that everyone has been very pleased with the product.' **DH**



**The UH-72A is being delivered in five main variants: medvac; VIP; security and support; observer/controller; and opposing force. (Photo: EADS North America)**