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# INTERNATIONAL DEFENCE REVIEW

■ The AW159 – to be known as Wildcat in UK military service – was conceived to meet the needs of the UK's Battlefield Reconnaissance Helicopter (seen here) and Surface Combatant Maritime Rotorcraft programmes.



## What's new, pussycat? AgustaWestland begins breeding its new-look Wildcat

AgustaWestland: 1364298

The UK's Future Lynx programme has spawned AgustaWestland's AW159 intermediate helicopter to replace the British Army's and Royal Navy's Lynx fleets. **Richard Scott** reports on development progress

**H**aving achieved significant international sales with several variants of the Lynx and Super Lynx shipborne helicopter over the last 20 years, the UK arm of AgustaWestland has begun gearing up marketing efforts for its successor, the AW159.

Conceived under the banner of Future Lynx, but latterly rebranded as the AW159 to bring it in line with other products in the company's portfolio, the aircraft was originally developed to meet the needs of the UK's Battlefield Reconnaissance Helicopter (BRH) and Surface Combatant Maritime Rotorcraft (SCMR) requirements.

As such, the AW159 – to be known as

Wildcat in UK military service – is a six-tonne-class multirole rotorcraft that will be equally adept in land or maritime environments. A total of 62 aircraft have been ordered by the UK Ministry of Defence (MoD), with 34 destined for the British Army and the remaining 28 for the Royal Navy (RN).

Its antecedents are clearly rooted in the Lynx, conceived more than 35 years ago to meet requirements for an agile battlefield helicopter and versatile small ship rotorcraft. Multiple variants have given sterling service to the British Army, Royal Marines and the RN, and continue to make a vital contribution in current operations, culmi-

nating recently with the re-engined Lynx AH.9A deployed in Afghanistan.

Over the same period, Lynx variants have clocked up significant orders overseas, becoming the shipborne helicopter of choice for more than 10 international navies. Indeed, in 1996 AgustaWestland decided to invest its own funds in the development of the export-oriented Super Lynx 300, featuring uprated engines and an advanced integrated avionics suite. Total sales of all variants had exceeded 420 as of mid-2010.

Today, the next offspring of the Lynx is in flight-test and entering volume production to meet the land-based and maritime needs

of the UK armed forces well into the middle of the 21st century. On the outside it is recognisably of the same breed, but inside it is an altogether different beast, incorporating a substantially re-engineered airframe, new engines, uprated transmission and all-new avionics architecture.

Wildcat, as the end product for the UK customer, is an essentially common platform configured with the role equipment required for the BRH and SCMR programmes, receiving the respective service designations Wildcat Mk 1 AH and Wildcat Mk 1 HMA. Its export doppelgänger, the AW159, is meanwhile being marketed overseas with an initial focus on the existing Lynx user community.

## Future Lynx genealogy

Under what was then known as the Future Lynx programme, in June 2006 AgustaWestland was awarded a GBP950 million (USD1.5 billion) contract for the development and manufacture of 70 aircraft – 40 BRH and 30 SCMR – with an option for 10 more. This contract was taken under the umbrella of a strategic partnering arrangement (SPA) between the company and the MoD. Underpinned by an incentivised business transformation agreement focused on delivery schedule, cost reductions and aircraft availability improvements, this accord also put strong emphasis on developing an open, transparent and co-operative working relationship between customer and supplier.

However, by early 2008 the intense pressure weighing down on the MoD's equipment budget had put a dark cloud over Future Lynx, and while development activities were already well advanced, there was a very real threat to the production programme. "This was when the value of the SPA really came through," recounts Graham Cole, managing director of AgustaWestland. "We had a number of ups and downs, and it was a real test of the re-

lationship. The partnering behaviours, based on mutual trust and understanding, really made a difference and the programme came through."

He adds: "At the start of 2008 things did not look good. But we did a lot of work in the subsequent months to ... engineer out the [BRH and SCMR] variant-specific differences so as to move towards a truly common multirole air vehicle able to satisfy both requirements."

The MoD's Equipment Examination 2008 concluded that reductions could be realised in procurement costs if production quantities were trimmed and a more versatile design solution adopted. The latter would allow for both aircraft variants to be utilised across a wider range of roles and environments, but with some minor trade-off against the achieved performance.

The protracted period of uncertainty surrounding the project ended in December 2008 with a ministerial announcement confirming that the project would proceed to full-scale production but in a de-scoped form. Accordingly, AgustaWestland's contract was restructured to increase commonality between the respective army and naval variants, and initial production pared back to 62 aircraft. At the same time it was announced that AgustaWestland would re-engine an initial batch of 12 Army Air Corps Lynx AH.9 helicopters to improve 'hot and high' performance in Afghanistan.

Current plans call for the Army Air Corps to introduce Wildcat Mk 1 AH into service in January 2014. The in-service date (ISD) is defined as four force elements at readiness to deploy on a small-scale focused intervention operation.

The RN plans to achieve its ISD 12 months later (the first Mk 1 HMA maritime variant is due for delivery in December 2012, but evaluation, validation and crew conversion determine that the ISD will not be declared until a first operational flight is ready to deploy). The RN commissioned

700W Naval Air Squadron as its Operational Evaluation Unit in May 2009; the new squadron has formed part of a Combined Test Team – with AgustaWestland, QinetiQ and the Rotary Wing Test Squadron at Boscombe Down – that will bring the aircraft into service.

## User requirements

So what will the UK armed forces get from Wildcat? For the RN, the Wildcat Mk 1 HMA will provide an essentially like-for-like replacement for the current Lynx – that is an agile, organic, all-weather, small, ship's helicopter able to find, fix and strike in support of littoral manoeuvre, force protection, sea control and maritime security operations. As regards the army's Mk 1 AH, current thinking is that the aircraft will be less a battlefield taxi, and more a reconnaissance, targeting, and command-and-control platform able to support land force elements as well as the AH-64D Apache attack helicopter force.

Commander Stewart Kilby, maritime aviation desk officer and requirements sponsor in the MoD's Above Water Capability area, observes that there is a mutual dependence between the services on Wildcat. "The two services' commitment to Wildcat has ensured that the two separate requirements can be delivered within allocated resources.

"What the programme has also emphasised is the development of overwhelmingly common solutions – a multirole airframe fully wired for either the AH or HMA role, a single training and support infrastructure, and one main operating base."

"Having started from the point of distinct 'land find' and 'maritime search' variants that shared about 80 per cent commonality, we have now moved to an even greater degree of commonality, fully loomed for all equipment fits," says David Hillcoat, AgustaWestland's head of Lynx. "That has meant trading out some items to bear down on cost, but also going forward with single fleetwide fits where we had previously planned different installations.

"For example, it was originally planned that only the tactical processors fitted to the BRH aircraft would receive a BOWMAN card. Now we will have a common tactical processor across the entire Wildcat fleet. Similarly, infrared [IR] exhaust suppressors will now be installed on both army and navy aircraft."

Hillcoat adds: "We've also done a significant amount of work to re-examine the scope of the donor programme. In fact, we have now brought the donor component count down to 50, most in the blade-to-blade section. Even here, most components are being modified."

In terms of the basic air vehicle system, very few variant-specific differences remain. "The naval version will have a castoring nosewheel for deck operations, while the army will use trailing nosewheel," says Cdr Kilby. "The Mk 1 HMA will also incorporate

■ The HMA variant of Wildcat will enter RN service in early 2015.





AgustaWestland: 1364297

■ The changes embodied in the AW159 Lynx Wildcat are more than skin deep, encompassing a substantially re-engineered airframe, new engines, uprated transmission and a new avionics architecture.

ing marginally superior fuel consumption. The result is an endurance of more than two hours with standard fuel, while being able to carry half as much again as the current Gem-powered Lynx; the uplift in power provided by the CTS800-4N will also allow the aircraft to operate in extreme hot and high conditions.

What is more, the AW159 will, from the outset, have a built-in mass growth provision to allow incremental weight growth through life, from an in-service maximum all-up mass (MAUM) of 5,790 kg through to an out-of-service MAUM of 6,250 kg. That is a significantly higher payload than the current Lynx, and can be achieved even in extreme hot and high conditions (up to 48 degrees Celsius). The uprated power plant will also give much improved single-engine performance.

The main composite rotor blades, the main rotor gearbox and selected other transmission components are 'donor' items from the existing Lynx inventory, helping to keep costs down. All will be refurbished and overhauled for the Wildcat programme, with the main rotor gearbox uprated to a maximum continuous power rating of 2,150 shp and modified to incorporate involute output stage gears. The main rotor hub is re-tested and requalified to MAUM.

An all-new four-bladed tail rotor unit is being introduced to give improved yaw control at high weights. The associated gearbox has been modified to suit the new tail rotor assembly and in-line tail rotor servo configuration to cater for the increased loads.

"The new composite tail blade is a single-piece design with a bigger diameter that maintains its aerodynamic profile in the transition to the hub," says Hillcoat. "It's a fundamental change to maintain the aircraft control margins at higher all-up weight.

"As a risk reduction, we manufactured a development standard tail blade and ran successful flight trials on our own Super Lynx 300 demonstrator. This proved the concept, although the knowledge we gained also allowed us to make some minor refinements."

The new 12,000-hour fatigue life airframe, fabricated by GKN Aerospace at Yeovil, is assembled from monolithic machined aluminium structural parts. The result is a much lower part count, lower weight and easier maintenance. The airframe also enables much better repeatability in manufacture.

Hillcoat explains: "Instead of building up the structure from a large number of panels, angles, doublers, plates and rivets, high-definition computer-aided design and manufacture techniques are being used to machine large-scale structural assemblies from a solid aluminium alloy billet. In some areas we are achieving a 50-to-1 parts count reduction – overall it translates to a structure comprising just 83 major components. The cost of manufacture is roughly halved, compared to the legacy Lynx airframe."



AgustaWestland: 1364300

■ The new 'glass' cockpit is based on four 10x8-inch (254x203 mm) active matrix multifunction colour displays.

a Harpoon deck-lock and flotation gear.

"But all aircraft are fully wired, which means that the army's Wildcat could be quickly modified to receive HMA sensors and weapons. Assuming the appropriate assets were available, we think that role conversion could be accomplished in about five days."

## System design

The AW159/Wildcat builds on the dynamic and vehicle systems of the existing Lynx design, while capitalising on AgustaWestland's own investment in the uprated engines and integrated avionics of the Super Lynx 300 export variant. These improvements, allied to a new airframe structure, greater load-carrying capability and further avionics enhancements, have collectively borne a new multirole helicopter with a 12,000-hour airframe and a minimum 30 years' service life.

Design activities have seen AgustaWestland use the CATIA computer-aided design tool to create a high-fidelity 3-D product model. While digital product

design has previously been used by the company for selective re-engineering in the Super Lynx 300 programme, this marks a first from a 'whole aircraft' perspective.

Hillcoat says: "Application of digital product modeling has been central to accelerated development. Our design and manufacturing departments were effectively integrated onto a common platform, and what we have seen, using clash-detection mechanisms in the software, is that fouls are being resolved in design, not in manufacture."

Power for the AW159/Wildcat comes from the CTS800-4N turboshaft engine, co-developed and collaboratively manufactured by Rolls-Royce and Honeywell under the banner of LHTEC. Already in service aboard the Super Lynx 300, its proven pedigree on board the Lynx export variant has in effect 'de-risked' the power plant for the UK.

Rated at 1,015 kW (1,361 shp), the CTS800-4N is central to the improved payload, range and endurance offered by the AW159. It provides 37 per cent greater power than the legacy Gem 42-1 engine while afford-

One very noticeable change to the aerostructure is a new low-set symmetric tailplane arrangement to improve flying qualities. This is itself mated to a new fixed tail cone-pylon structure. Redesign of the rear fuselage has freed up additional space and offers easier access to avionic units; similar work has been undertaken to increase nose volume and access.

Significant attention has been paid in the design to improving survivability in the event of a ditching or crash landing. An uprated

ter crashworthiness through strengthened attachments optimised for energy absorption. There is a new flotation system, and inside the cabin there will be crashworthy, armoured crew seating and crashworthy passenger seating.

## Common avionics

While the Future Lynx programme had originally spawned approximately 80 per cent commonality between the respective BRH and SCMR variants, work undertaken by

around a single, common-wired multirole rotorcraft that maximises overall commonality for the land-based and naval aircraft.

The 'glass' cockpit environment is based on four GE Aviation 10x8-inch (254x203 mm) active matrix multifunction colour displays, and a common mission system tactical processor (the latter being jointly developed by General Dynamics UK and AgustaWestland). The wider avionics suite is controlled and managed by twin AMS2000 Control Display Navigation Units. It includes embed-

## Dual FASGW solution offers littoral firepower for Wildcat Mk 1 HMA

Under the umbrella of Team Complex Weapons, Thales UK and MBDA are developing complementary guided weapon solutions to meet the requirements of the Future Anti-Surface Guided Weapon (FASGW) capability that will be deployed from the SCMR version of Wildcat.

Originally intended as a replacement for the current Sea Skua light-weight anti-ship missile in the offensive anti-surface warfare role, the FASGW requirement was in 2005 split into distinct 'Light' and 'Heavy' components. According to Cdr Kilby, FASGW(L) is characterised "as a lightweight precision guided weapon capable of providing multiple channels of fire and delivering a proportional and precise effect against the lower end of the FASGW target set" (such as fast inshore attack craft and rigid inflatable boats). FASGW(H) "is intended to counter the more severe threat posed by fast attack craft and corvettes [up to 1,000 tons], while both weapons will additionally deliver a capability to strike static and 'soft' coastal targets".

Thales UK's Lightweight Multirole Missile (LMM), as the preferred technical solution for FASGW(L), is a low-cost missile - using either laser beam riding or semi-active laser guidance - engineered to engage a wide range of air, land and sea targets out to ranges of about 8 km. Building on the pedigree of the company's existing Starburst and Starstreak surface-to-air missiles, the new weapon is intended to exploit proven subsystems and technologies while also emphasising a value-engineered approach.

Sized to fit inside the same canister as the Starburst/Starstreak missile, LMM features four flip-out, movable canards in the nose, plus four fixed fins aft. While the fixed-fin Starstreak rolls in flight, the point accuracy sought by Thales for LMM requires that the missile fly 'nose stable', demanding a new control actuation system and fully controlled forward canard fins to impart skid-to-turn commands.

A 3 kg blast fragmentation/shaped charge warhead is baselined, which combines localised effect with good armour penetration. The laser proximity fuze, using simple low-cost gate technology set at the point of launch, is designed to ensure that the missile can successfully engage very-low metal, semi-solid targets, such as rigid inflatables, which many rockets pass through before detonating.

Thales has designed a seven-cell 'snowflake' launcher for LMM/FASGW(L). AgustaWestland is currently examining the integration of the



■ The Thales LMM forms the basis for FASGW(L).

Richard Scott/NAVYPix: 1364305

carrier/pylon with the Wildcat air vehicle, and also looking at the integration of a laser illuminator within the MX-15Di EO/IR nose turret.

Work to define the larger FASGW(H) is being taken forward by MBDA under a joint Anglo-French assessment phase that harmonises the UK requirement with that of France's Anti-Navire Léger (ANL) programme. The ISDs of FASGW(H) and ANL are aligned to 2015.

Designed to succeed the current Sea Skua and AS.15TT weapons, FASGW/ANL is a high subsonic speed 110 kg weapon offering standoff operation and minimum sensor-to-effect time with autonomous guidance and a human-in-the-loop capability. According to MBDA, assessment phase work to date has matured a modular design that mixes existing and upgraded Sea Skua components with selected new technology and subsystems shared with other MBDA guided weapons.

A new uncooled IR seeker for FASGW/ANL will, in conjunction with a datalink, allow the target image to be relayed back to the launch platform for human-in-the-loop control.

Advocates reason that this will allow the operator to uplink changes to the missile flight profile right up to the point of impact, offering a high level of target discrimination, some degree of aim-point selection and, if necessary, mission abort.

One distinctive feature of FASGW/ANL is the boost/sustain propulsion arrangement, which adopts a fixed boost motor aft and a mid-body rocket sustainer with a downward canted ventral nozzle.

This arrangement, says MBDA, offers better drop stability, maintains the centre of gravity in flight, avoids the safety issues associated with jettisonable motors and allows the datalink antenna to be incorporated at the rear of the missile.

■ MBDA is developing a new IR-guided human-in-the-loop guided weapon to meet the combined needs of FASGW(H) and the French ANL programme.



MBDA: 1364306

■ One noticeable change to the aerostructure is a new low-set symmetric tailplane and upturned IR-suppressing exhausts.



AgustaWestland: 1364301

mission sensors; secure communications (using TALON radios); IFF; AIS; and a GE Aviation health and usage monitoring system combined with a cockpit voice and flight data recorder.

In terms of mission systems, the UK's Wildcat will receive the L-3 Wescam MX-15Di electro-optical (EO)/laser designator system to meet the combined needs of the battlefield and maritime variants. MX-15Di combines IR, TV and laser designator subsystems in a nose-mounted turret.

Key mission equipment also includes the defensive aids suite (DAS), for which Selex Galileo has been contracted to supply a variant of its Helicopter Integrated Defensive Aids System (HIDAS). This incorporates a radar warning receiver (RWR), a missile approach warning system, upward/downward-firing countermeasures dispensers and a defensive aids system controller. The intention is that the HIDAS 15 baseline will, in due course, be aligned to a UK fleetwide Common Defensive Aids System architecture.

The specific SCMR requirements account for the major differences in equipment fit for the Wildcat Mk 1 HMA. Its predominant deployment in the anti-surface warfare and force protection role demands a 360 degree surveillance radar (with a 100 n mile range), an electronic support measures (ESM) outfit and a tactical datalink.

Selex Galileo was brought under contract by AgustaWestland in early 2007 to supply its Seaspray 7400E multimode surveillance radar to the SCMR programme. Seaspray 7400E is a new generation of active electronically scanned radar, providing synthetic aperture radar (SAR), inverse SAR and overlaid mapping modes.

As regards the ESM function, an analysis of options concluded that the best value solution was to implement a 'back end' modification to the RWR subsystem intrinsic to HIDAS 15. "Essentially, it's a software upgrade," says Hillcoat, "that provides an additional scope of work to Selex Galileo. All aircraft will have the ESM function enabled as part of the wider DAS fit."

Work is ongoing to source a maritime tactical datalink, according to Hillcoat: "We are currently conducting a competition for what is termed the Tactical Data Link - Independ-

ent Message Set. At this stage the choice of link format remains to be decided."

When it comes to weaponry, there is a marked difference between the AH and HMA variants. The former, under current plans at least, will be only lightly armed with door-mounted 7.62 mm or .50 calibre machine guns.

The HMA variant, by contrast, will be cleared to carry a wide range of maritime weapons. These include the Sting Ray Mod 1 lightweight torpedo, the Mk 11 depth charge, the door-mounted M3M 0.5 inch heavy machine gun, and new light and heavy variants of the Future Anti-Surface Guided Weapon (see box).

## Development milestones

The programme is currently on time and on budget. Having successfully transitioned preliminary and interim critical design reviews in January and October 2007, the AW159/Lynx Wildcat passed its air vehicle critical design review in April 2008, and completed an interim phase review in November of that year.

Manufacture activities for the first of the three Trials Installation (TI) development airframes (TI01, TI02 and TI03) began in October 2007 when Oldland CNC in Bristol, as subcontractor to GKN Aerospace, began machining the first monolithic airframe components. GKN Aerospace delivered the first complete airframe to AgustaWestland's final assembly line ahead of schedule, in November 2008.

TI01, the first of the three AW159/Lynx Wildcat development aircraft, made its first flight at AgustaWestland's Yeovil plant on schedule, on 12 November 2009. Fully instrumented, it is being used for basic air vehicle testing and flight envelope characterisation and had flown more than 30 hours in flight-test as of mid-July 2010.

"So far, we've seen nothing out of the ordinary," says Hillcoat. "What we've been doing is confirming the aircraft system design with a series of trials to gather data in order to validate architecture and performance."

TI02 is due to make its first flight in September 2010, and will be used for avionics proving. In advance, it had been used to support MoD work card validation trials. This same airframe was put on static display

at the Farnborough International Airshow 2010 sporting a new two-tone grey camouflage, representative of the colour scheme that will adorn Wildcat in UK service.

The third aircraft, TI03, will be a fully instrumented aircraft to support detailed evaluation of air vehicle and mission system performance. (It will be outfitted with the full avionics and sensor package.) It is expected to be complete in August, with the first flight planned for October 2010.

In parallel with the flight-test programme, AgustaWestland is proceeding apace with avionics and mission system integration activities on a Full Scale Integration Rig (FSIR) at Yeovil. "We have already put the 'core' avionics through the FSIR," Hillcoat reports, "and will [throughout the remainder of 2010] progressively add more mission system equipment, such as radar, EO/IR and DAS."

"At the same time, we're taking delivery of tactical processor and development software loads. These are already running on the FSIR to enable us to build up functionality. It's a really important tool to iron out bugs in advance of flight testing."

## Pulse production

Hillcoat's principal focus today is the industrialisation of the AW159 'product': "Latterly, we've been building Super Lynx for export in small batches. The UK's Wildcat programme requires us to deliver 62 aircraft in a five-year time frame, and there are significant efficiencies to be gained from a volume production programme of this scale. "We're seeing a similar process [in Italy] with the AW139 build programme, where there's a real effort to get airframe hours down. Lessons learned from the AW139 'industrialisation' process read across to Wildcat."

A production readiness review was completed in mid-June 2010. "It's important that the aircraft is right as we transition into series manufacture," adds Hillcoat. "We need to capture flight trial information and get it into the production programme as quickly as possible so as to finalise the design of component parts."

In July 2010 AgustaWestland received the first AW159 production airframe (P1) structure from GKN Aerospace, launching a new 'pulsed' production line at Yeovil. "We've refurbished an existing building on-site, and are moving to a 'pulse line' philosophy aimed at increasing the efficiency of the aircraft final assembly process through reducing the time and man-hours required," says Hillcoat. "The line will be split into eight stages, with each airframe going through within a set number of hours."

"The advantage of this approach is that we gain significant efficiencies from the improved skilling and familiarity of the fitters at each stage of the line. Once fully established, a significant reduction in the final assembly process from receipt of the airframe to delivery of the completed aircraft for acceptance testing has been targeted.

"We will deliver at a rate of one Wildcat

per month for the UK order, with P62 out of the door by the end of 2016. However, the 'pulse line' will have the capacity to more than double that rate to meet potential AW159 export orders."

Alongside the production ramp-up, Agusta-Westland is now putting significant effort with the MoD into the development of support and training solutions. "It has already been decided that [Royal Naval Air Station] Yeovilton will be the single base for both army and navy," Hillcoat points out. "We've been developing how we'll work up both maintainers and aircrew to be ready for the training date."

"As for the support piece, we're building on work already done with the IOS [Integrated Operational Support] model. There is a very hard look going on at maintenance schedules – can we get more flexible arrangements to increase aircraft availability?"

He adds: "We'll be supporting Wildcat in an IOS-type environment from day one, and will be paid according to availability and flying hours. If our model doesn't stand up, then it'll be down to us to pick up the bill, not the MoD." Opportunities for the AW159 in the international arena are now being explored. AgustaWestland is initially looking to capitalise on the existing naval Lynx customer base, and believes that the six-tonne AW159 has no direct competitor in its class, falling neatly between lightweight types, such as the AS565 Panther, and the larger NH90, MH-60 and EC725.

**Export drive**

"We held a first export conference in conjunction with the MoD in late March [2010]," Hillcoat says. "We invited a number of existing Lynx users, plus some prospective new customers, to brief them on the aircraft and perform a flying demonstration. The event was also supported by our major subcontractors."

He adds: "Lynx and Super Lynx have been market leaders in the naval sector. But Lynx historically did not penetrate the land-based multirole market, with Oman being the honourable exception."

"Our plan is to be less niche-oriented when it comes to marketing the AW159. We think that the ability to 'swing' between



■ T101 in manufacture. Series production will adopt a 'pulse line' philosophy to improve skilling and reduce man-hours.

Richard Scott/NAVPIX: 1364303



Richard Scott/NAVPIX: 1364302

■ The L-3 Wescam MX-15Di electro-optical/laser designator system – combining IR, TV and laser designator subsystems in a nose-mounted turret – will meet the needs of the UK's battlefield and maritime variants.

land and maritime roles according to mission priorities will prove attractive."

One equipment option outside the scope of the UK's Wildcat variant is the incorpora-

tion of an active dipping sonar. Thales has already developed its lightweight FLASH Compact dipping sonar specifically for the Super Lynx 300, and it is expected that this same sensor will be offered to prospective AW159 customers requiring an anti-submarine detection/classification capability.

Another feature of the export AW159 will be a full digital automatic flight control system (AFCS). Hillcoat explains: "The digital AFCS originally incorporated in the Future Lynx proposal was traded out as a cost option, so Wildcat retains the analog AFCS from Lynx as a donor item. However, we are developing a digital AFCS in-house for AW159 in the export market." ■

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