United Performance Metals

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UNITED PERFORMANCE METALS

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The UPM Market Informer

Qantas CEO Sees Opportunity for 737 Max to Join Qantas Fleet

The 737 MAX could be joining the Qantas fleet. That's according to remarks made last week by the airline's CEO, Alan Joyce. The Qantas chief sees the opportunity for a bargain with benefits for both Qantas and Boeing.

Qantas operates 75 Boeing 737-800 aircraft. These narrow bodies are the work-horse of the airline's domestic fleet. However, they are starting to age. Last year, several Qantas 737s were grounded when cracks were found in their pickle forks. The airline is looking to start replacing these 737-800 aircraft. On the airline's met-aphorical radar are aircraft from the A320 family and the 737 MAX. However, there's the obvious issue of the 737 MAX having been grounded for nearly a year following two crashes that killed 346 people.

While some people lack confidence in the 737 MAX and question whether it will ever take to the air again, Mr. Joyce is not one of the doubters. He made the following re-marks in speaking with the Sydney Morning Herald: "Qantas itself will put the MAX aircraft through its own lens to make sure we are comfortable with it. If you look at it from an opportunity point of view, given the aircraft is going to be very safe, what will Boeing do to get the safest airline in the world to buy the aircraft?"

Mr. Joyce's strategy appears to harness the credibility of being the world's safest airline to drive a hard bargain with Boeing. Assuming Boeing irons the bugs out with the 737 MAX and it gets the all-clear to fly again, a purchase by Qantas will be an endorsement worth its weight in gold. *Continued on page 3*

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Surcharge Totals December 2019 - May 2020

	Dec	Jan	Feb	Mar	Apr	May
15-5	0.4942	0.4561	0.4717	0.4414	*	*
15-7	0.7395	0.6608	0.6833	0.6682	*	*
17-4	0.4763	0.4443	0.4600	0.4314	*	*
17-7	0.6553	0.5711	0.5864	0.5414	*	*
201	0.4921	0.4374	0.4495	0.4215	*	*
301 7.0%	0.6449	0.5630	0.5783	0.5344	*	*
302/304/304L	0.7153	0.6214	0.6370	0.5875	*	*
304-8.5%	0.7467	0.6469	0.6628	0.6104	*	*
305	0.9703	0.8288	0.8467	0.7742	*	*
309	0.9970	0.8544	0.8719	0.7996	*	*
310	1.4518	1.2256	1.2472	1.1346	*	*
316/316L	0.9745	0.8537	0.8781	0.8429	*	*
316LS/316LVM	1.3100	1.1900	1.2000	*	*	*
317L	1.1269	0.9920	1.0204	0.9924	*	*
321	0.7704	0.6647	0.6811	0.6257	*	*
347	1.0803	0.9745	0.9909	0.9355	*	*
409/409 Mod	0.1577	0.1606	0.1722	0.1684	*	*
410/410S	0.1636	0.1663	0.1779	0.1740	*	*
430	0.1977	0.1993	0.2103	0.2066	*	*
434	0.2535	0.2538	0.2674	0.2735	*	*
439	0.2052	0.2064	0.2172	0.2136	*	*
440A	0.1977	0.1993	0.2103	0.2026	*	*
2205	0.8005	0.7317	0.7558	0.7612	*	*
263	5.7479	6.8100	6.6353	5.8912	5.1666	5.2228
276	6.2513	6.8100	6.4227	5.5170	5.1098	5.1574
A286	1.7724	2.0100	1.9110	1.6451	1.4517	1.4352
330	2.2659	2.6200	2.5054	2.1497	1.8705	1.8297
400	4.0981	4.7800	4.5835	3.9451	3.4856	3.3901
455	0.7900	0.7200	0.7300	*	*	*
465	0.9500	0.8700	0.8700	*	*	*
600	4.5129	5.2800	5.0575	4.3080	3.7388	3.6428
601	3.8529	4.4700	4.2918	3.6784	3.2082	3.1306
617	5.8546	6.7400	6.4867	5.6610	5.0440	5.0724
625	6.4882	7.0900	6.8049	6.0346	5.5965	5.5849
718	6.1274	6.6500	6.4507	5.8690	5.4781	5.4381
X-750	5.0473	5.7900	5.5760	4.8474	4.2933	4.2001
825	2.9598	3.3500	3.1856	2.7310	2.4350	2.4121
HX	4.1138	4.6000	4.3452	3.6989	3.3456	3.3542
188	7.7500	6.7800	6.8900	*	*	*
CCM	9.7000	8.3400	8.7800	*	*	*
L-605	8.8100	7.6700	7.8500	*	*	*

*Surcharge currently not available

One Million Panels: Duke Energy Florida Makes Rich Investment in Solar

Duke Energy Florida announced Monday that it installed its one millionth solar panel in the state. The landmark panel was placed in Duke's Columbia Solar Power Plant in Fort White.

"This is an exciting announcement as we increasingly deliver cleaner, more reliable energy to our customers," said Catherine Stempien, Duke Energy Florida state president. "By mid-year, our solar plants are expected to eliminate nearly 1.5 billion pounds of carbon dioxide emissions each year. That's the equivalent of taking 130,000 passenger cars off Florida roads."

Duke Energy Florida plans to add even more solar capacity over the next 10 years. It will reach close to 515 MW under construction or operational by midway this year, according to reports. The utility will have invested about $1 billion to build or buy 700 MW of solar power during the four-year period ending 2022. The longer term plan calls for more than 1,500 MW of new solar generation by 2028.

Among the Duke Energy Florida projects which helped it reach one million solar panels a 5-MW plant serving the Reedy Creek Improvement District and customers such as the Walt Disney World Resort; the 3.8-MW solar farm in Oseola County and 8.8 MW in Suwannee County, among others. Other, bigger projects include: The 74.9-MW Hamilton Solar Power Plant has 300,000 solar panels and came online in December 2018. It is located in Jasper, Hamilton County; The 45-MW Lake Placid Solar Power Plant in Highlands County began serving customers Dec. 9, 2019, with 180,000 solar panels; The Trenton Solar Power Plant in Gilchrist County began serving customers Dec. 18, 2019. The facility is 74.9 MW and has 280,000 solar panels. Source: *Power Engineering, Photo Duke Energy*

Qantas Continued:

The strategy is contingent on a few factors. Firstly, it's important that the wider market shares the same view of Qantas' safety record and its currency that Mr. Joyce does. Secondly, Qantas must be able to overcome some wider passenger concerns about the 737 MAX. It may take more than a slick marketing campaign to sway some folks to board a MAX flight again.

But the mere fact that the 737 MAX is still in the mix at Qantas will cheer Boeing. Qantas has been a good long term customer for the American aircraft manufacturer. But more and more Airbus aircraft are now sporting the red kangaroo livery. Most recently, Qantas selected the Airbus A350-1000 over the Boeing 777X for its Project Sunrise aircraft. Wholly-owned subsidiary Jetstar features an almost entirely A320 fleet.

Given the success of the A320 program and the fact that Qantas was already familiar with it, there has been speculation that the A320 is the natural choice to replace the Boeing 737-800s. Qantas had expressed interest in the proposed Boeing 797 aircraft, deeming it a good aircraft to use on the busy south-east triangle routes. But the 797 remains in the planning stages. In fact, Boeing is reported to be reconsidering the aircraft altogether.

Mr. Joyce's admission that he was thinking about the 737 MAX as a replacement aircraft may surprise some. But Qantas thinks that once the aircraft overcomes its problems, it will be a very reliable and safe plane. It is a very 'Joycian' move to seize an opportunity like this. Qantas takes its safety reputation very seriously. It offers the airline a gold plated competitive advantage. To offer to spread a little of that reputational fairy dust on a brand that is seriously tarnished will probably prove very expensive for Boeing. The question for Boeing will be: "is it worth it?" *Source: Andrew Curran, Simple Flying*

Turning Amphibious Ships Into 'Lightning' Aircraft Carriers

The U.S. Marines are touting the ability to quickly reconfigure an amphibious assault ship into a mini-aircraft carrier carrying up to 20 F-35B Lightning II fighters.

The Wasp and America-class ships, both 840 feet long, can carry a Marine landing force or two squadrons of the fifth-generation jets, alternating between the two in a matter of days. The result, the Marine Corps claims, is an unpredictable force that a wartime enemy will find difficult to counter.

The Marines, according to Business Insider, consider the "Lightning carrier" concept a game changer. The USS Wasp and USS America-class amphibious assault ships can both carry between 16 and 20 F-35Bs—the vertical takeoff and landing version of the F-35 Joint Strike Fighter used by the U.S. Marine Corps. The ships both have full-length flight decks, hangars, and stores for fuel and munitions that allow them to typically carry about half a dozen F-35Bs. If the ships delete their normal complement of helicopters and MV-22 Osprey tiltrotors, they can carry more than three times as many F-35Bs.

The Marines have tested the Lightning carrier concept several times. In November 2016, USS *America* conducted exercises off the coast of California with 12 F-35Bs embarked, twice as many as usual. In 2019 the Japan-based USS *Wasp* deployed into the South China Sea with at least 10 F-35Bs. China has issued warnings it considers up to 90 percent of the South China Sea a Chinese territory and has built numerous artificial islands bristling with missiles, fighter jets, and radars that would become targets for the Marines in the event of war. There are currently eight *Wasp*-class ships and one *America*-class, with more ships of the latter planned or under construction.

The "Lightning carrier" can create an ad hoc carrier during wartime while the U.S. Navy's *Nimitz* and *Ford*-class supercarriers are tied up elsewhere. Alternately a Lightning carrier could sail alongside such a supercarrier, adding up to 20 more fighter jets to the supercarrier's 44 jets. That's almost a 50 percent increase in fighter planes. Lightning carriers do have their disadvantages. The *Wasp* and *America*-class ships are built to normally carry helicopters, tiltrotors, and fighters, and deploying three times as many fighters as the ship was meant to carry could create supply problems, especially in terms of fuel and munitions. The *America*-class ships, built with expanded aviation services at the expense of the ability to land Marines by sea, would be considerably better in supporting a large number of F-35Bs.

Lightning carriers also lack catapults and arresting gear, meaning the ship can't embark Navy aircraft such as the E-2D Hawkeye airborne early warning plane, EA-18G Growler electronic attack jet, and the planned MQ-25A Stingray unmanned tanker. These aircraft extend the detection range of a carrier, escort strike fighters into enemy territory, and extend the range of embarked fighters. A Lightning carrier could benefit from such planes by sortieing alongside a supercarrier.

In strategic sense, the Lightning carrier ability complicates an adversary's ability to defend against a Marine force. If an adversary with a coastline knew a Wasp or America-class ship were in the area, they would need to prepare for the possibility of an amphibious attack. Thanks to the Lightning carrier concept, they would also have to array their forces to defend against the possibility of heavy air attack by F-35Bs.

Defending against one threat is different than defending against the other—and that's the point.

Source: Kyle Mizokimi, Popular Mechanics. Photo credit Lance Cpl. Dana Beesley, U.S. Marine Corps

SpaceX's Next Military Launch Cleared for Historic Rocket Landing Attempt

SpaceX officially has permission to perform a Falcon 9 booster recovery after its next launch for the US Air Force, now guaranteed to be the first time a rocket booster attempts to land during an operational launch for the US military.

Alongside their booster landing attempt confirmation, the USAF Space and Missile Systems Center (SMC) also posted the first official SpaceX video of a rocket acceptance test released in almost 2.5 years, a test it says was completed just days after the GPS satellite it's scheduled to launch arrived in Florida. The very same Falcon 9 booster was shown off in unprecedented detail just last month and now SMC says that SpaceX fired up the rocket at its McGregor, Texas development facilities for a routine static fire on February 13th. The company is currently scheduled to launch its second USAF GPS III satellite – Space Vehicle 03 (SV03) – no earlier than 7am EDT (11:00 UTC), April 29th, a target set just days ago.

With the spacecraft in Florida and factory-fresh Falcon 9 booster successfully proofed, all that remains is for SpaceX to test and deliver the mission's Falcon upper stage and payload fairing (if it hasn't already). After the booster – believed to be B1060 – is inspected and its tanks are cleaned, it can also be packaged and transported by road the rest of the way to SpaceX's Florida launch facilities, setting the company up for the critical mission and historic landing attempt.

While SpaceX has technically already landed Falcon 9 and Falcon Heavy boosters after its NROL-76 and STP-2 launches for the NRO and USAF, the company only officially began operational military launches once its Falcon 9 rocket was fully certified. STP-2, for example, was effectively high-stakes make-work designed to help the USAF fully certify SpaceX's brand new Falcon Heavy rocket to launch expensive – verging on irreplaceable – military satellites.

Its first truly operational US military launch occurred in December 2018, when Falcon 9 booster B1054 was intentionally expended in support the USAF's inaugural GPS III launch, successfully placing the first of 10 (or 32) planned upgraded navigation satellites into orbit. It's believed that the USAF required such extreme safety margins (extra propellant and performance) that SpaceX couldn't even attempt booster or fairing recovery. This made B1054 the first (and hopefully only) Falcon 9 Block 5 booster to launch without even the basic hardpoints needed to attach landing legs.

Effectively confirming that B1054's demise was a contrivance and by no means a technical necessity, the SMC announced on February 20th that SpaceX's GPS III SV03 mission is officially "the first time a booster is planned to land on a drone ship during a NSS [National Security Space] launch." Effectively identical to B1054 aside from the addition of grid fins and landing legs, this means that Falcon 9 booster B1060 will be able to attempt a landing aboard a SpaceX drone ship shortly after launch.

Just like GPS III SV01 satellite launched by SpaceX in December 2018 and the GPS III SV02 satellite launched United Launch Alliance (ULA) launched in August 2019, GPS III SV03 is a more than $500 million spacecraft designed to upgrade the US GPS navigation constellation. SpaceX has already won five (of five) competitively-awarded GPS III launch contracts thanks to its Falcon 9 rocket's exceptionally competitive pricing, meaning that there is an excellent chance the company will win many more in the near future.

GPS III SV03 is one of 10 "Block IIIA" satellites to be launched between 2018 and 2026 and will be followed by another 22 "Block IIIF" satellites to be built by Lockheed Martin for ~$330M apiece. All 26 unassigned spacecraft will need launches of their own between now and the mid-2030s, worth anywhere from $1-2.5B to SpaceX if the company performs well on all five of its first contracts and continues to crush competitor ULA on launch costs.

With the USAF already demonstrably interested in supporting Falcon booster reusability and now open to SpaceX recovering Falcon 9 boosters after moderately-challenging GPS III launches, it's safe to say that SpaceX's ultra-competitive pricing is here to stay. *Source: Eric Ralph, Teslarati, photo SpaceX*