



FWSAR: Analysis of the C295W Airbus Acquisition

by Blair Gilmore

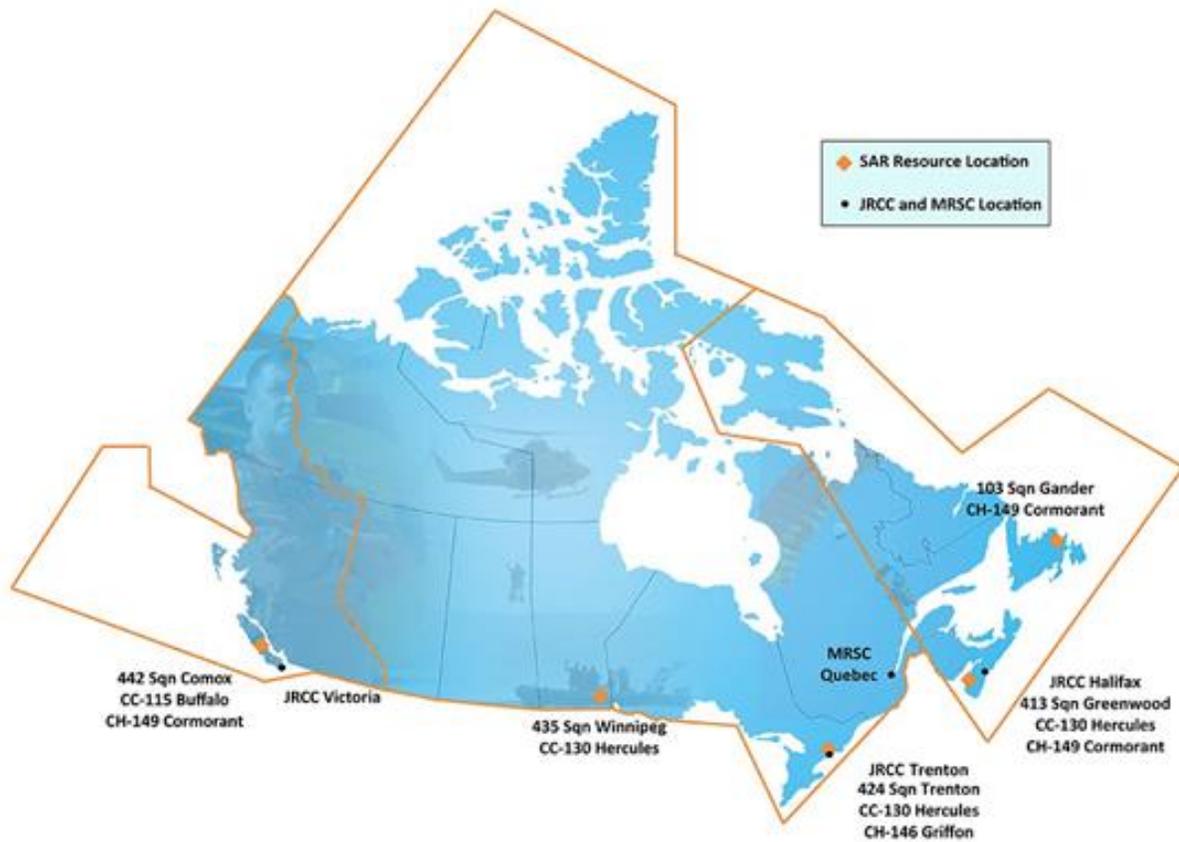


The Airbus Defence & Space C295W (photo: Canadian Armed Forces)

This past December, the Liberal government announced a \$2.4 billion contract to acquire sixteen Airbus C295W aircraft as the new Fixed Wing Search and Rescue (FWSAR) platform. The aircraft will replace the remaining six Buffalos of 442 Squadron in Comox, BC, and the twelve C-130H Legacy (i.e., old) Hercules flown from Winnipeg, Trenton and Greenwood Search and Rescue (SAR) squadrons. The four Twin Otters of 440 Squadron in Yellowknife will undergo a life extension in order to increase their operational life to 2025.

In a move reminiscent of the lobbying battles back in 2005, the aircraft builder Leonardo S.p.A. launched a lawsuit on 21 February 2017 to overturn the contract. Depending on the success of the court proceedings, the odyssey of replacing the Royal Canadian Air Force's (RCAF) FWSAR fleet may be substantially delayed once again.

Background of FWSAR Missions



Search and Rescue Regions of Canada (photo: Royal Canadian Air Force)

Canada's search and rescue area of responsibility covers over 18 million square kilometers of land and sea. The mandate of the Royal Canadian Air Force (RCAF) is to provide primary aeronautical SAR coverage, with secondary maritime and ground coverage coordinated through regional Joint Rescue Coordination Centres (JRCC).

Of the approximate 1000 annual aeronautical SAR taskings¹ the JRCC assign to the RCAF squadrons, FWSAR responds to 350 calls a year.² These numbers tie in with what I observed during my time with 442 Squadron in Comox in 2008-09 where the squadron was responding to about 250 incidents (flying Buffalo and Cormorant aircraft) each year.

Three main principles for a successful aerial SAR are:

- Speed to Last Known Position (LKP)
- Availability of time on station

¹ RCAF: Search and Rescue, September 15, 2015 - <http://www.rcaf-arc.forces.gc.ca/en/search-rescue.page>

² Public Services and Procurement Canada: Fixed-Wing Search and Rescue Aircraft Replacement Project, January 19, 2017 - <http://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/air/arsvf-fwsar/index-eng.html>

- SAR payload capacity

Once an aircraft has flown to the LKP, if they are lucky there will be obvious smoking wreckage or survivors waving at them. If not, the aircraft conducts search patterns at lower and lower altitudes. The mountainous terrain of the Rocky Mountains presents the most challenging search locations due to complex flying conditions plus the difficulty of spotting crash sites. I have seen pictures where the only evidence of a crash was a gash down the side of a tree. The Buffalo with attentive, trained spotters in the back is particularly suited for this type of flying and searching.

Captain (retired) Ray Jacobson, a former FWSAR Air Navigator, gave me his operator's point of view. He flew operationally in the SAR role in all three Search and Rescue Regions (SRR) in Canada and has an extensive navigating background flying both the Hercules and the Buffalo. He has a unique insight into the pros and cons of those aircraft (and similar ones) as well as a very good feel for what it is like flying and searching from coast to coast. He described to me how they use the Buffalo for 'valley shoots' to search terrain effectively in the mountains.

Sensor suites are fine in theory... but you cannot replace the human eye, therefore I'll argue to my grave that you'll always need a platform that can get low and slow enough to get a pair of eyes on the terrain. We had a procedure in the Buffalo called a valley shoot. When trying to contour a mountain you can't get low enough over every nook and cranny... the valley shoot allowed the aircraft to descend rapidly and safely over a cut-line and enable the aircraft to 'cover' that section of the mountain at the prescribed search altitude. So you'd crest a ridge line and then drop full flap and drop the gear and then 'shoot' the valley. Great roller-coaster ride... as you descend rapidly to the base of the mountain. This was a very effective search technique though and it was valley shoots that enabled spotters to get 'eyes on' crashed airplanes and resolve three of the last major air searches that I was involved with. I was on numerous searches and I've lost track of the number of times that aircraft were only spotted as 'something didn't look right' and caught the spotter's eye. Sensors, I'm afraid, are no match for the human eye and the associated interpretive abilities of the spotter. Only a human would notice that there were abnormalities in what he was seeing.

As he explained further, this was why Buffalos were kept in Comox instead of replacing them with Legacy Hercules.

Of course a Hercules would always be a preferable platform in Trenton and Halifax's SRR, but the Hercules is just too big to be operating safely in the Mountains. I have over 5,000 hrs on the Herc and flew SAR out of Namao (Edmonton) and Trenton. Flying even an H Model (the Es were slower by 15 knots) was a challenge and not very effective in mountainous (even hilly) terrain. As you have a stall speed of 110 knots to contend with, you were always dangerously close to it in the Herc as your search speed was 130 knots. Anything faster and the spotters only saw a blur! Often, though, you'd have to boost the speed to 160 knots to crest ridge lines, etc., so our search effectiveness was really compromised. No problem if you had a cooperative target, but targets were rarely that. Also a Herc needs a minimum of 5,000 feet of runway to land at... so that knocks out about 85% of the airfields we now go into in a Buffalo. The Herc was a good platform for most of the landmass east of the Canadian Rockies and it was perfect for the far North and calls out to the middle of the Atlantic.

Canadian SAR is particularly difficult and dangerous. RCAF aircrews and SAR Technicians have to be continuously on top of their game so that 'Others May Live.' Unfortunately, their aircraft

should have long ago been replaced, and even with the C295W announcement, the first aircraft is not due until 2019.

The Tortuous Road of FWSAR Replacement

Below is a brief timeline of the 20 plus years FWSAR replacement process:

- 2002 – The Air Force had long ago back in the 90s decided it was time to replace the aging fleets with a new FWSAR platform. They made another push in 2002 for a new aircraft.
- 2003 – Prime Minister Jean Chrétien made the project a priority and allocated funding for 15 aircraft with first delivery date of 2006.³
- 2004 – A FWSAR Project Office was stood up at DND and they began working on Statements of Requirements (SOR).⁴
- 2005 – Airbus, who was lobbying for their C295W to be chosen, was upset that the Air Force seemed to be leaning heavily towards the Leonardo Spartan C27J.⁵ The main point in favour of the C27J and against the C295W was the former's cruise speed of 315 knots was above the Air Force mark of a required 273 knots cruising speed, with the latter's pegged at 244 knots.⁶
- 2006 – SOR were developed but the FWSAR Project Office was dissolved in order to work on higher priority projects.⁷
- 2008 – After the release of the *Canada First Defence Strategy*, the FWSAR Project Office was resurrected.
- 2009 – The Minister of National Defence, Peter MacKay and the Steven Harper government propose to sole source contract the FWSAR, favouring the C27J. The aerospace industry was asked to submit their concerns with this plan.
- Fall 2009 - DND, Public Works and Government Services Canada (PWGSC) and Industry Canada (IC) reviewed industry concerns. After the consultation process, the Government engaged the National Research Council (NRC) to conduct an independent review of the FWSAR SOR.
- 2010 – The NRC released its Final Report on the FWSAR SOR. A main point which opened the door back up to competition was their conclusion that the process should switch to a capability SOR model vice a platform centric one.⁸
- March 2012 – The federal government approved funding once again for the FWSAR.
- January 2016 – Bidding closed on the project. Embraer from Brazil had their bid nullified in March, leaving only the Spartan and the C295W as contenders.⁹
- June 2016 – Bid evaluation completed
- 1 December, 2016 – C295W announcement made by the Liberal government.

³ Espritdecorps Canadian Military Magazine: FWSAR Replacement Winner Announced, January 26, 2017 -

<http://espritdecorps.ca/feature/fwsar-replacement-winner-announced>

⁴ National Defence: Audit of the Fixed Wing Search and Rescue (FWSAR) Project, May 2009, page iii/vi -

http://publications.gc.ca/collections/collection_2016/mdn-dnd/D58-200-2009-eng.pdf

⁵ Espritdecorps Canadian Military Magazine: FWSAR Replacement Winner Announced, January 26, 2017

⁶ National Defence and the Canadian Armed Forces: Fixed-wing search and rescue procurement project, February 22, 2017 - <http://www.forces.gc.ca/en/business-equipment/fixed-wing-snr.page>

⁷ National Defence: Audit of the Fixed Wing Search and Rescue (FWSAR) Project, May 2009, page iii/vi

⁸ NRC: Review of the Statement of Operational Requirement for the Fixed Wing Search and Rescue Aircraft – FINAL Report, March 12, 2010 - http://www.forces.gc.ca/assets/FORCES_Internet/docs/en/about-reports-pubs/FWSAR_EN.pdf

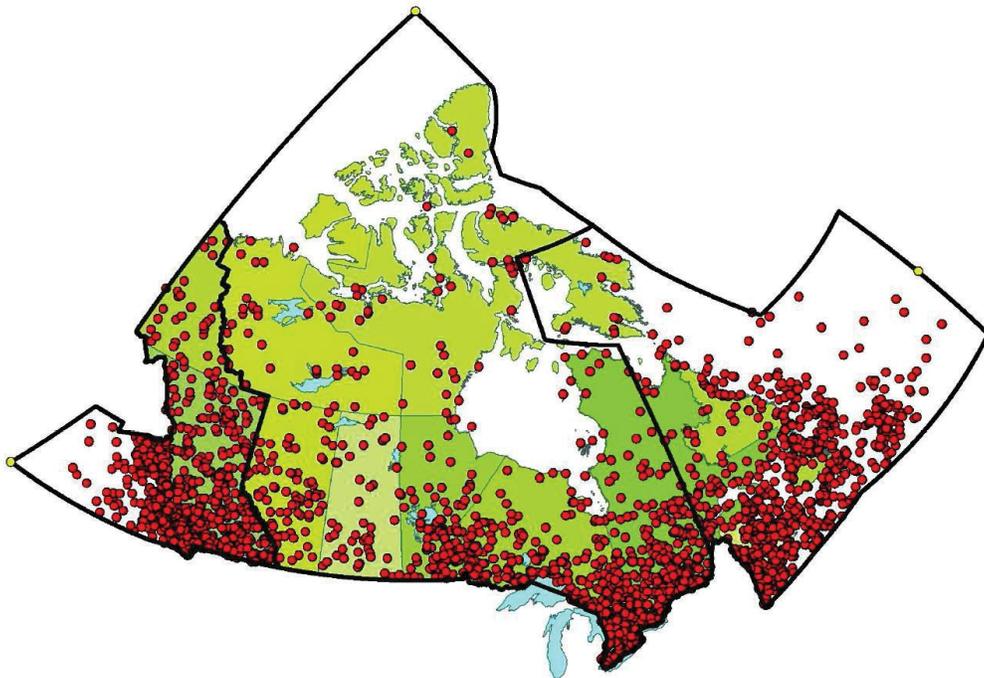
⁹ Espritdecorps Canadian Military Magazine: FWSAR Replacement Winner Announced

- 2019 – Expected delivery of first aircraft.¹⁰ This is an approximate date with the effect of Leonardo’s court challenge yet to be determined.
- 2022 – Expected delivery of last aircraft

273 Knot Threshold

As early as 2005, Airbus was accusing the Air Force of writing their SOR too stringently. The perception was the Spartan had already been picked and the game was rigged in favour of a sole source aircraft. A main failing of the C295W is its cruise speed of 244 knots which was below a stated original SOR minimum of 273 knots. The 2010 NRC evaluation came to the following determination: *It is not clear why the 273 knots cruise speed was chosen to be the target over the other calculated cruise speeds and the effect on crews that are on duty (30-minute standby) is not addressed in the SOR or the operational research paper used to derive the cruise speed requirement. As the selected cruise speed of 273 knots does not allow the aircraft to meet with many of the stated requirements of the program, it is difficult to defend this speed as a mandatory minimum requirement. Cruise speed is a key discriminator in this program. But when you read further into the report, Furthermore, the stipulated minimum cruise speed of 273 knots would not satisfy the level of service assumption, nor maintain the current level of service that includes the CC-130 Hercules aircraft which cruise at 300 knots.* The idea was to choose a platform that would be an improvement on the existing FWSAR fleets.

In a Defence R&D Canada paper,¹¹ the authors attempted to determine the ideal cruising speed required of a FWSAR platform using historical SAR incidents from 1996-2004.



Locations of historical (1996-2004) SAR incidents responded to by FWSAR aircraft – Image courtesy of Defence R&D Canada

¹⁰ Public Services and Procurement Canada: Procurement timeline: Fixed-wing search and rescue aircraft, December 8, 2016 - <http://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/air/arsvf-fwsar/chronologie-chronologie-eng.html>

¹¹ Defence R&D Canada: Development of a Capability-Based Bidder Evaluation Tool for the Fixed-Wing Search and Rescue Replacement Project, October 2013 - http://cradpdf.drdc-rddc.gc.ca/PDFS/unc160/p800640_A1b.pdf

The researchers used a response performance model coined Basing, Endurance, and Speed Tool (BEST) to run a series of simulations to determine the outcomes of several proposal scenarios to determine if there was an ideal cruise speed/endurance ratio. They used a variety of proposals summarized in the following table:

Table 3: Example FWSAR solutions.

	Cruise Speed	Endurance	Basing
Proposal A	320 kts	10 hrs	Comox, Winnipeg, Trenton, Greenwood
Proposal B	235 kts	7 hrs	Comox, Winnipeg, Trenton, Greenwood, Yellowknife, Gander
Proposal C	315 kts	8 hrs	Comox, Winnipeg, Greenwood
Proposal D	315 kts	13 hrs	Trenton
Proposal E	315 kts 235 kts	13 hrs 7 hrs	Greenwood Comox

Note: Proposal A is very close to the cruise speed and endurance of the C27J

Below are the results after their comparison runs which indicate Proposal A is the optimum combination of cruise speed and endurance:

Table 4: Comparison of example FWSAR solution performance.
Historical Incidents SRR Extremes

	Better	Same	Trade-off	Worse	Western	Northern	Eastern
Proposal A	90%	0%	1%	9%	Better	Worse	Worse
Proposal B	43%	0%	45%	12%	Trade-off	Worse	No Service
Proposal C	69%	0%	22%	9%	Better	Trade-off	Worse
Proposal D	24%	0%	66%	10%	Worse	Worse	Worse
Proposal E	65%	0%	29%	5%	Better	Worse	Better

This 2013 Defence study clearly shows that speeds for the new FWSAR platform needed to be at a minimum of 315 knots, an improvement on the Legacy Hercules. In the paper's conclusion, they state that the research tools developed at Defence Research and Development Canada (DRDC) would be part of *the first-ever, capability-based procurement of an aircraft fleet by the Government of Canada, according to the PMO.*

The premise of speedy FWSAR aircraft had even gained traction within the Royal Military College Aeronautical Engineering Department. The 2015 class was asked to develop the CV-151 Oracle,

a replacement aircraft for the Twin Otter.¹² From the original design specifications given to the engineering class, they were expected to produce an aircraft that cruised well above 300 knots.

Requirement	CDR Values	Target
Maximum cargo weight	4500 lbf	4500 lbf
STOL range (with maximum cargo)	668 nmi	≥ 850 nmi
VTOL range (with maximum cargo)	293 nmi	≥ 250 nmi
Ferry range	1489 nmi	≥ 1900 nmi
Maximum airspeed (SSL)	340 KTAS	≥ 300 KTAS
Maximum airspeed (FL100)	345 KTAS	≥ 360 KTAS
Cruise airspeed (FL250)	327 KTAS	≥ 300 KTAS
Stall airspeed (SSL)	98 KTAS (clean) 69 KTAS (dirty)	Optimal
Maneuvering airspeed (SSL)	105 KTAS	≤ 100 KTAS
Rate of climb (SSL)	4769 ft/min	≥ 4000 ft/min
Absolute ceiling	31249 ft	≥ 28000 ft
Operational ceiling	29500 ft	≥ 28000 ft

CV-151 Oracle Design Iteration Scorecard

So how did the C295W with its low cruise speed of 244 knots make it through the process? The research and military thinking stipulated an aircraft faster than 300 knots was the sought ideal.

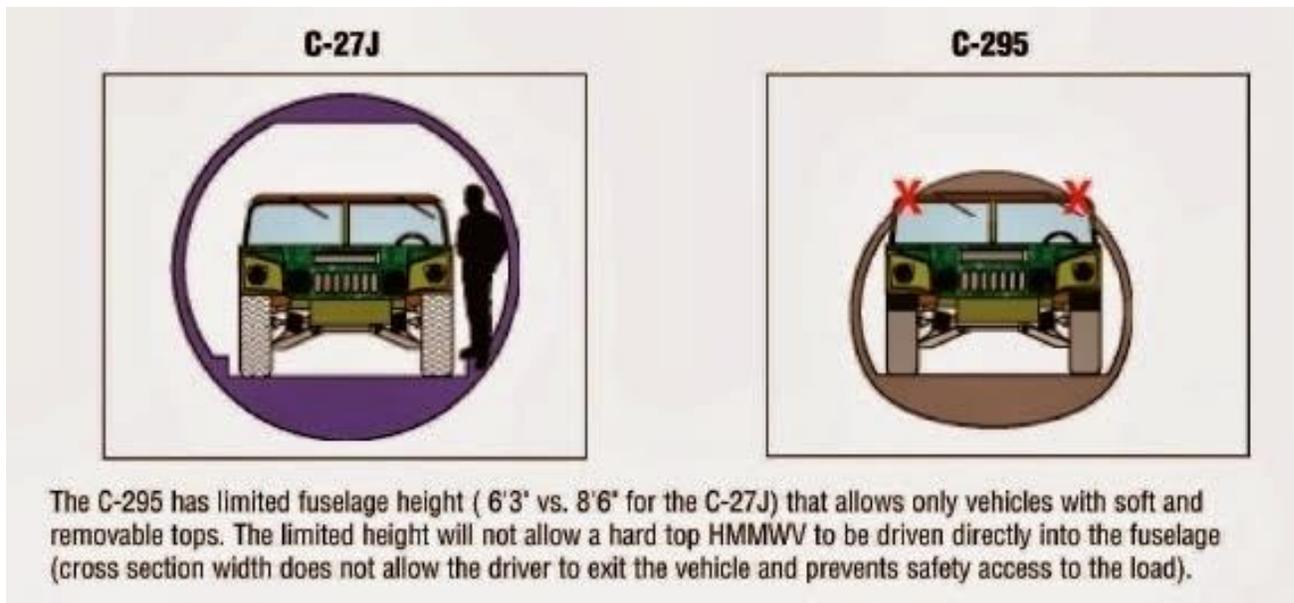
SAR Navigator Capt Jacobson is also disturbed by the C295J's slower speed. *Since Canada has elected a single platform solution for FWSAR then it was imperative that the platform selected be able to launch from southern Canada and be able to reach the Far North in no more than 12hrs. The Hercules was just able to do that... the Herc's speed is 315 Kts. So you don't have to be a mathematical genius to understand that any claims that the CASA 295 could fulfill that requirement were obviously 'cooked'. The Buffalo's speed of 220Kts was always a handicap in this SRR... fortunately people operating in the Yukon knew that we were a minimum of 4 to 5 hrs away and they were prepared for it. Of concern in Trenton's and Halifax's regions is all the commercial airliner's transiting our Far North and in addition for Halifax is all the oceanic traffic, both commercial air and marine. I flew the Buffalo out of Summerside years ago and the speed was very much a handicap in servicing that SRR. The CASA's speed simply does not cut it... this country and its areas of responsibility are simply too vast. There is a solution to this 'lack of speed', (ergo 'longer response time), but it's an expensive one. The solution would be to base additional aircraft in the Far North (Whitehorse, Yellowknife, Churchill, Iqaluit, etc)... but imagine the extra cost!*

RCAF aircrew, military thinking and DRDC research confirmed the original Air Force stipulation that an aircraft with a cruising speed over 300 knots was required but this requirement was ignored.

FWSAR Ergonomics

Another major drawback of the C295W is the relatively low cabin height for the SAR Techs. The diagram below illustrates the height differences between the Spartan and the Airbus products:

¹² Royal Military College: CV-151 Oracle Preliminary Design Report, April 1, 2015 - <https://drive.google.com/file/d/0B4pge2E2itZhZ0ZGTjc4VkvzSUK/view>



The 2010 NRC SOR document concluded the inclusion of minimum cabin height and width requirements in the SOR was appropriate. *The stated requirement for a minimum cabin height of 83 inches in height (210.8 cm) is not supported. Given the importance of minimum cabin dimensions in discriminating between candidate aircraft, it is important that the definition of minimum requirements be based on a sound and comprehensive analysis of accommodation requirements. It is recommended that DND conduct an analysis of the work envelope of SAR Technicians across a complete range of tasks and roles.* The NRC spoke with SAR Techs who were happy with the Buffalo's height range of 78-82". But the C295J only has a height of 75".

Capt Jacobson also agrees that the SAR Techs are going to be inconvenienced. *The height/diameter of the fuselage of the CASA is way too short!! Have you ever been in the back of the Buffalo when 3 SARTECHs are trying to maneuver around one another once they have all their jump kit on? Each guy is carrying 265 lbs of extra kit and they have to be able to step around one another when they're preparing to jump. There's barely enough room in the Buffalo and its ceiling is a good 8 to 9'. The CASA only has about 6', therefore any SARTECH trying to work back there will be forced to be permanently bent at the waist... this will undoubtedly lead to long-term back ailments for anyone who's 5'10" and taller. Most of the SARTECHs are near the 6' mark, so I really feel for them. To me, this small fuselage should've ruled out this aircraft as a contender, period.*

SAR Techs have enough physical concerns during their career. They don't need to be needlessly crammed into a small area for hours at a time or worrying about space issues before jumping.

C295W Power Concerns

One other important issue with the Airbus C295 that raises concerns with former SAR Buffalo pilot Scott Goebel is the aircraft's power plant. The plane uses two Pratt & Whitney Canada PW 127G turboprop engines with a stated engine power (each) of 1972 kW / 2645 SHP. He believes that the aircraft may be under-powered for safe and effective flight in mountainous terrain. Moreover, he worries that the seemingly under-powered aircraft will not allow crews to use published air routes during instrument meteorological conditions that require it to maintain high minimum obstruction clearance altitudes, common for the Victoria region, in the event of the loss of an engine. In these

situations crews must plan alternate routes that often lead to extended periods of time before reaching an area to deliver necessary aid.

For comparison, the C27J's maximum engine power is 4637 SHP per engine and the Buffalo uses a General Electric CT64-820-4 turboprop, generating 3,133 hp (2,336 kW) per engine.

Overall, between the slow speed, ergonomics and power plants, there appears to be significant reasons against purchasing the C295W. Capt Jacobson summed up his opinion of the purchase as, *in a nutshell, the Government bought a fancy SUV when they really needed a Mack Truck!*

Leonardo's Court Battle

Lieutenant-General (retired) Steve Lucas¹³, a spokesman for Leonardo S.p.A., laid out the company's position for disputing the contract. As a former Chief of the Air Staff and then special advisor to the consortium that put together the bid for the FWSAR, LGen Lucas had a unique insight to the twists and turns of the process. He has substantial experience from an Air Force Air Navigator and staff officer point of view. He put in numerous hours with the Spartan Team to ensure a strong technical bid that would provide the Air Force with a superior aircraft, on time and on budget. He was confused as to why the C295W was chosen when it appeared to be clearly non-compliant in a few key areas.

LGen Lucas already had several reservations about the capability of the Airbus product. He agreed that the C295W was slow compared to the C27J which puts victims in jeopardy due to higher wait times especially when a search area is at a significant distance. He doesn't like the fact that the C295W was based on a passenger aircraft thus limiting the usable height in the cargo area where the SAR Technicians will be working. He did concede that Airbus was planning on producing their aircraft with more powerful engines in order to marginally increase its two engine speed and mitigate issues with one engine operations.

But the main basis for the lawsuit rests on two points where the Airbus aircraft literally did not meet the Request For Proposal (RFP) criteria.

- Point One – It was specified that the winning aircraft must be able to complete all SAR missions in a single crew day. In the case of a high Arctic rescue mission, the C295W does not have the speed to accomplish this scenario. The 'out' for Airbus was to add a fifth Main Operating Base which was allowed for in the RFP but this would add significant cost to the bid. It would make more sense just to have an aircraft that can accomplish these extreme missions without the extra resources.
- Point Two – The current C295W, unlike most other aircraft of its type, is not built with an auxiliary power unit (APU). An APU is handy for self-starting the aircraft, especially in out of the way airports where start carts and qualified personnel might be an issue. An APU becomes more critical during emergencies where an engine is down and where it can be used to power extra systems instead of relying on your good engine to do all the work. This would be of great concern to an aircrew on a search over the Atlantic with an engine out and a significant distance from a suitable airfield. The lack of APU and lower airspeed hurts the C295W's unofficial extended operations (ETOPS) performance which is approximately 140 minutes. If this aircraft flew to the extreme Atlantic edge of Canada's SAR zone of 30° W, it would require an ETOPS

¹³ Announcement of appointment of LGen Lucas as Commander of Air Command and Chief of the Air Staff, May 16, 2005 - <http://www.forces.gc.ca/en/news/article.page?doc=new-commander-for-canada-s-air-force/hnocfoav>
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rating of 330. The C27J has an unofficial ETOPS 240 rating, which with its speed would allow it to accomplish missions safely to the far ocean edges of the SAR zones. SAR crews flying the 295W would be unnecessarily placed into harm's way whereas they wouldn't have those concerns flying the Spartan.

During my research, LGen Lucas and others shared their thoughts on possible ways in which doors were opened for competition against the C27J which eventually led to the awarding of the bid to Airbus. Originally, it was alleged that the Air Force tilted the SOR so much in favour of the Spartan that it ended up being the only aircraft qualified. The government wanted to show they could hold an open and fair procurement process, so they appear to have re-jigged the competition so other companies could engage in bidding. Even with this re-jigging, it appeared that the Spartan was still going to win. The public probably would not have been happy with an expensive 10 year wheel-spinning process that just returned the government back to the original choice of the C27J. But if you fiddle with the points awarded for items like lifetime in-service support and decrease points awarded for capability, then you can skew the numbers in a pre-determined direction. For example, the lack of APU in the C295W and associated inherent weaknesses did not seem to factor against the aircraft in the bidding scoring matrix. Viola! SOR manipulation that appears open, fair and just. Ironically, this was exactly what Airbus had accused the RCAF of doing back in 2005.

The federal government and Airbus had until 10 April 2017 to respond to the points brought up in the Leonardo lawsuit. It is expected that the courts will start looking at the claims and responses in June.

Fifth Estate did an interview with the retired LGen in 2012 about his thoughts on the proposed Air Force purchase of the F-35¹⁴. At the end of the interview, he makes a statement, '*Nobody wants to put their friends, their colleagues into a situation where they are going to come out second best.*' This would seem to hold true for the FWSAR purchase. The RCAF SAR aircrews and ex-Air Force personnel supporting and putting in the Spartan bid all want what is best for the men and women out on those austere SAR missions. To borrow a few more of the LGen's words, you don't get any prizes for finishing second.

Bad Timing for the Spartan C27J

Unfortunately when the FWSAR project office closed in 2006 for higher purchase priorities, the Air Force missed their chance for a replacement aircraft. Subsequently, key events conspired against the timely awarding of the contract.

The Air Force had been on a roll, acquiring new aircraft quickly due to the efforts of the CDS, General Rick Hillier to push through acquisitions in a timely manner. There was an anecdote that Hillier flew in a Dutch Chinook in Afghanistan where he could still see the old Canadian Air Force sticker under the new paint. This galled him to shove through a new Chinook procurement bid in 2006. He wanted a heavy lift capability, and C177 Globemasters were ordered February 2007 - the first one flew for Canada later that year. New CC130J Hercules were ordered December 2007 and 17 Hercs were delivered between 2010 and 2012. In 2009, the government and Air Force were flying high and were all set to sole source order the obvious choice for the new FWSAR. What happened?

Here's a list of events that conspired to delay the new FWSAR for at least another 10 years:

¹⁴ Fifth Estate interview with LGen Lucas on F-35 purchase for RCAF, September 28, 2012 - <http://www.cbc.ca/fifth/blog/extended-interview-steve-lucas>

- Gen Rick Hillier retired as CDS 1 July, 2008. Hillier was a rare CDS and instrumental at pushing programs and projects through.
- The FWSAR Project Office had been stood down in 2006 and was not reopened until mid-2008. Valuable time to work on the replacement aircraft was lost.
- Airbus had been putting up a stink since 2005 about the favouring of the C27J over their product.
- There was waning public support for the war in Afghanistan. The Captain Semrau incident, Afghan detainee issues and the cost of the war in blood and gold was wearing on the public's acceptance of more high priced Defence department acquisitions.
- The Great Global Recession! Starting in mid-2008 with the nadir occurring in spring 2009, the recession was probably the principal reason for pushing back another expensive contract for the Air Force. Sending the SOR to Industry Canada and the NRC gave the Conservative government at the time a way to stall and push off a costly purchase. Politically, they could show that they were not going to play favourites and clean up the procurement process at the same time.
- A new Liberal government was elected in 2015. Their natural inclination would be to thoroughly dissect and discard any Conservative programs in favour of their own ideology.

The time to strike had passed. Policy changes, switching of government and unforeseen circumstances caused a FWSAR decision to be kicked down the road.

Conclusion

So what was the reasoning for Liberals picking the Airbus C295W when DRDC research, the RCAF and members of the SAR community clearly do not see it as an adequate platform? Perhaps it was partly politics and the optics of picking an aircraft that the opposition party was planning on purchasing. Prime Minister Chrétien refused to purchase the EH-101 helicopter, and the Sea Kings helicopters have still not been replaced after the contract cancellation in 1993. The government is going to great lengths to sole source Super Hornets fighter aircraft in order to distance themselves from the Conservative's F-35 choice.

Cost and who was going to benefit from the in-service contracts probably factored high in the decision. Considering each year of delay was estimated to cost an extra \$40M¹⁵ due to operating older aircraft, the ten year hiatus will cost \$400M on its own. Even the Canadian bidder, Viking Air Limited, could have built their proposed Super Buffalo, worked out the kinks and might have had it in the air by now. It seems important to build ships for the Navy in Canada, so how about considering that 'Made in Canada' approach for the Air Force?

Regrettably, the RCAF and the SAR aircrews seem to be destined to end up saddled with a substandard aircraft. This has happened before, when fighter pilots were asked to operate the CF-104 Starfighter (a.k.a. 'The Widowmaker' or 'The Lawndart'), a high altitude interceptor, as a ground attack aircraft, resulting in 110 crashes and 37 pilot fatalities. Another example of a poor purchase was the relatively useless CF-5 Freedom Fighter, a product of Canadair, later the core company of Bombardier Aerospace. Pratt and Whitney, headquartered in Quebec, will receive more engine orders from this Airbus purchase.

¹⁵National Defence: Audit of the Fixed Wing Search and Rescue (FWSAR) Project, page 5/13

It is unfortunate when politics and bureaucratic policy vice operator preference and experience seem to play such a crucial role when selecting the correct equipment for the job. SAR crews gain their knowledge through thousands of flight hours on thousands of missions in typically the worst of conditions and circumstances. Occasionally, this hard won know-how is paid with the ultimate sacrifice as with the recent death of SAR Technician, Master Corporal Alfred Barr. Maybe the bean counters and politicians should pay more attention to the recommendations of the people risking their lives.

Blair Gilmore is a former naval officer of the Canadian Armed Forces. This work is the sole opinion of the author and does not necessarily represent the views of the Canadian Department of National Defence, the Canadian Armed Forces, the Royal Canadian Mounted Police or the Royal United Services Institute of Nova Scotia. The author may be contacted by email at: RUSINovaScotia@gmail.com.

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