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F-35 Joint Strike Fighter: Singapore's Next-Generation Fighter?

By Kelvin Wong

Synopsis

Defence Minister Dr Ng Eng Hen expressed the desire to replace a number of ageing air force fighter aircraft during the latest parliamentary budget debate. The Lockheed Martin F-35 Joint Strike Fighter (JSF) seems to be in the leading position to be Singapore's next-generation fighter.

Commentary

SINGAPORE IS poised to make a decision on acquiring new fighter aircraft to replace an ageing segment of its fleet. At the 2013 Committee of Supply (COS) debate for the Ministry of Defence (MINDEF), Defence Minister Dr Ng Eng Hen expressed Singapore's desire to acquire new military platforms for the Singapore Armed Forces (SAF), particularly for the air force and navy.

Noting that two of the Republic of Singapore Air Force's (RSAF's) main air combat platforms are either approaching the mid-life or end of their operational life cycles, Dr Ng revealed that the defence ministry is close to completing its evaluation of the JSF as a potential replacement for its ageing fighters.

The JSF Programme: a troubled endeavour

According to the International Institute for Strategic Studies (IISS) Military Balance, the RSAF's current air combat fleet comprises 24 Boeing F-15SGs, 20 Lockheed Martin F-16Cs and 40 F-16Ds, as well as 28 Northrop F-5S and nine F-5T Tiger IIs. While the F-15SGs were recently acquired in 2008 as a replacement for its retired A-4SU Super Skyhawk fleet, the F-16C/Ds entered service in the late 1990s while the F-5S/Ts have been operational since the late 1970s.

The JSF programme, now costing a record US\$396 billion, is an ambitious international combat aircraft development and acquisition project involving the United States and ten foreign partners – Australia, Britain, Canada, Denmark, Italy, Japan, Norway, the Netherlands and could potentially include South Korea. Its key selling point is a relatively affordable yet stealthy 'fifth-generation' (characterised by highly advanced avionics and radar-evading features) air combat platform capable of replacing a variety of existing aircraft in air force inventories today.

In comparison, the F-22 Raptor, the only other fifth-generation Western aircraft currently in existence, cost around US\$74 billion to develop and build. However, the JSF programme is seven years behind schedule and

beset by technical complications and significant cost overruns. A recently released US Government Accountability Office (GAO) report noted that the average price per plane has already almost doubled from US\$69 million to nearly US\$137 million since the programme began in 2001.

Singapore's interest in the JSF: an assessment

Singapore's interest in the JSF can be traced back to 2003, when it joined the JSF programme as a Security Co-operation Participant (SCP) along with Israel which subsequently ordered 20 JSFs at a cost of US\$2.75 billion in October 2010. While Lockheed Martin has certainly spared no effort in marketing the JSF here over the past decade, Singapore defence officials have kept mum on any commitment to procure the aircraft, preferring to await additional information to become available as the programme developed.

The picture became slightly clearer in 2007 when the then Chief of Air Force, Major General Ng Chee Khern, revealed the JSF as a contender alongside the Boeing F-15SG to replace the RSAF's ageing F-5 fleet. The F-15 series of fighters are combat-proven aircraft with an unsurpassed record of over a hundred combat victories and no losses in air-to-air combat, and as a mature programme it presents considerably less risk of failure.

Moreover, the RSAF is already training on the customised Singapore F-15SG variant since 2009 and is already well into the process of operationalising its first squadron. These factors will no doubt feature prominently in the selection process of the F-5 replacement.

Given Singapore's characteristically cautious approach in major defence acquisition programmes – defence planners here have typically opted to minimise risk by acquiring tested and proven platforms such as the F-15 fighters, Leopard 2 tanks, and upgraded ex-Swedish Navy submarines – it will be surprising if they do commit to the JSF at this stage of development when the prospect of further technical glitches and/or cost hikes is still likely.

The prudence is certainly well-founded. The Australian experience with the JSF programme presents a stark lesson on the peril of taking on too much risk in defence acquisition. According to recently released documents attained by the media under a freedom of information inquiry, the former Liberal government and air force officials were revealed to have disregarded a warning from the defence ministry that an accurate assessment of the JSF was impossible with the information available in 2002, and advised that Australia widen its options.

Despite the counsel, the Liberal government plunged A\$300 million into the programme. As a consequence, the subsequent Labor government has had to plug the capability gap created by the delay in JSF deliveries and the retirement of some of its aircraft.

JSF as a long-term option

However, there is nevertheless still a strong case for the JSF as Singapore's next-generation fighter in a future acquisition programme. The fact remains that the JSF is the only (and probably last) fifth-generation western combat aircraft currently being developed. In addition to its much-touted stealth characteristics and sensor capabilities, this cutting-edge quality offers more room for further upgrades in contrast to the already mature F-15 design conceived in the 1960s.

This is unless Singapore is willing to consider Chinese or Russian fifth-generation options – a distinctly remote, if not altogether impossible prospect when considering Singapore's traditional preference for established US or western-made equipment – or even turn to unmanned combat platforms when those technologies mature. Given the circumstances, the JSF seems like the only viable option for maintaining the RSAF's role in Singapore's defence in the long-term.

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