Centre for Air Power Studies

Centre for Air Power Studies ISSUE BRIEF

179/22

15 July 2022

DOOMSDAY PLANES - THE AIRBORNE COMMAND POST

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In early May 2022, a specially configured Ilyushin Il-80, also referred to as the "Flying Kremlin", was seen flying low over Moscow.[1] This "Doomsday" airborne command and control aircraft belongs to the Russian President. It was a rehearsal for the flypast of the Victory Day celebrations later on May 9. Two MiG-29s were seen escorting the Il-80 "Maxdome."[2] Also participating in the flypast were the strategic Tu-95MS and Tu-160, fifth-generation Su-57 fighters and Tu-22M3 long-range bombers. In view of the war in Ukraine and the fact that the 'N' word was used to give a tacit warning to NATO members to stay away, such a flight raised the tentacles of the strategic community. Earlier, Russian President, Vladimir Putin, had said that he "won't brag about nuclear weapons, but will use them" if necessary. This aircraft had last participated in such a flypast in 2010. Though the aircraft did not finally fly on Victory Day, interest in the airborne Presidential Command Post got rejuvenated.

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Il-80 Maxdome

Doomsday aircraft are essentially civil aircraft that are fitted with special very long-range communication equipment and act as a command post for the President during major hostilities, and especially during a nuclear war. The Il-80 Maxdome (Figure 1)[3] is a modified Ilyushin Il-86 airliner converted into a Russian airborne command and control aircraft. It will serve as the presidential office in the sky in the case of a nuclear assault. The aircraft reportedly made its first flight in 1985 and was inducted in 1987. Four were built, and three are still in service. Such aircraft are required for use if the

ground-based command infrastructure were to be destroyed in the event of nuclear war or a major disaster, and the aircraft's role is similar to that of the U.S. Air Force (USAF) Boeing E-4B.

Figure1. Ilyushin Il-80

Source: https://eurasiantimes.com/flying-kremlin-russias-aircraft-for-potential-nuclear-wa/, *Eurasian Times,* Accessed on July 10, 2022.

As can be seen in Figure 1, the Il-80 has no windows for the aircraft, except for the cockpit windscreens and direct-view side panels. This is meant to protect the sensitive electronic equipment and operational crew and the decision-makers from the nuclear radiation and the ensuing electromagnetic pulse. There is a single aircraft entry door. Aft cockpit windows can also be blocked by special protective sheets. The aircraft can be refuelled in flight. The aircraft has two podded external electrical generators to cater for additional onboard electronics, and a dorsal canoe that houses advanced SATCOM equipment. It also has a very low frequency (VLF) antenna for very long-range communications, including with submerged submarines. The aircraft is assigned to the 8th Special Purposes Aviation Division at the Chkalovsky airbase near Moscow (Figure 2), and three are still known to be in service. Russia's next doomsday plane would be the Il-96-400M. It will be an upgraded version of the four-engine civil airliner.[4] The work is reportedly underway in Voronezh. The flight range of the new aircraft will be double that of its predecessor and it will communicate effectively with strategic nuclear forces within roughly 6,000 kilometres.[5] The aircraft will have a very powerful self-defence system and will always be escorted by air-defence fighters.[6] The aircraft will have much better nuclear and thermal effects

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shielding, acoustic control, and an upgraded air-conditioning to cool the more powerful heat-generating electronics.[7] The aircraft is likely to be inducted around 2026. In 2020, one of the aircraft was infiltrated through the cargo hatch and robbed while undergoing maintenance. In this very embarrassing incident, 39 pieces of radio equipment, some with gold and platinum electric components, were stolen.[8]

Figure 2. Chkalovsky airbase near Moscow

Source: Wikipedia, https://en.wikipedia.org/wiki/Chkalovsky_Air_Base. Accessed on July 10, 2022.

The Tu-214 VIP is a presidential aircraft with a maximum range of 9,200km. Tu-214PU-SBUS is an airborne command-and-control (C2) variant. As of June 21, 2018, the Russian Ministry of Defence (MoD) received the second.

American Doomsday Aircraft

In the USA, the aircraft are officially called the National Airborne Operations Centres (NAOC). The aircraft is also equipped with a full set of traditional analogue flight and navigation instruments as they are less affected by cyberattacks. The U.S. airborne command posts has been operational since the early 1970s and can be termed a Cold War legacy. The planes are essentially flying war rooms and are manned by military strategists and communication aides. They would support presidential decision-making.

The Boeing E-4, also called the "Nightwatch" evolved from the Boeing 747-200B, and was part of the National Emergency Airborne Command Post (NEACP) program. The E-4B made its first flight on June 13, 1973, and was inducted into service in 1974 (Figure 3). The aircraft is meant to provide command and control connectivity as provided in Title 10.[9] At least one E-4B is reportedly always on alert at station, and satellite technology offers it worldwide communications using a wide range of frequencies covering from 14 kHz to 8.4 GHz. The

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aircraft's main deck has been configured into several operational areas. These include designated areas for command and communications, briefing and conferences, data analysis, and rest. The aircraft can accommodate up to 112 people.[10] The Joint Chiefs of Staff direct the E-4B operations, and the operational execution is by U.S. Strategic Command. Traditionally, one E-4B was always standing by at Andrews Air Force Base, in a Washington D.C. suburb, for quicker access to the President during a global crisis. When the U.S. President travels outside of North America, an E-4B is positioned at an airbase near the President's destination. The E-4B is normally used by the U.S. Secretary of Defence when travelling abroad on official visits. A more modern replacement for the E-4 is being developed. It is called the 'Survivable Airborne Operations Center'.

The Boeing E-6 Mercury is based on the Boeing 707-320. The latest variant, the E-6B (codenamed Looking Glass), entered service in 1998 and can communicate directly with fleet ballistic missile submarines and also remotely control Minuteman ICBMs using the Airborne Launch Control System. The E-6B has the capability to fly for 72 hours before refuelling. TACAMO (Take Charge and Move Out)[11] is a term used for survivable communications. These aircraft remain on alert near Offutt Air Force Base in Nebraska. At least one E-6 is on airborne duty at all times.

There was a proposal to have a single multi-task aircraft to replace the E-4B, RC-135 Rivet Joint, E-3 Sentry, and E-8 Joint STARS. Northrop Grumman had proposed a Boeing 767-400ER platform to be called the E-10 MC2A. It was to be built by a consortium between Northrop Grumman, Boeing, and Raytheon, as a central command authority for all air, land, and sea forces, including unmanned, in any combat theatre. The proposal was finally shelved because of funding constraints.[12]

Figure 3: USAF Boeing E-4B (747-200B).

Source: Stefan Schmitz, https://www.airfighters.com/photo/226705/M/USA-Air-Force/Boeing-E-4B-747-200B/73-1676/, *AIRFIGHTERS*. Accessed on July 10, 2022.

Conclusion

On the nuclear disarmament and stability front, the discussions on the newer versions of the Strategic Arms Reduction Treaty (START) and Strategic Offensive Reductions Treaty (SORT) cannot progress because of renewed frictions in Europe. The USA, China, and Russia are all modernising their nuclear weapons. Tacit threats to use nuclear weapons were made by Russia during the Ukraine conflict to prevent NATO's entry into the war in support of Ukraine. Amidst all this, Russia's plan to upgrade its Doomsday aircraft fleet is being watched by the West as upping the nuclear ante.

Even if ground-based command centres were destroyed by an enemy's first strike, the Doomsday aircraft would be able to manage the command and control of nuclear assets. Some have called the aircraft as the Swiss Army knife of military communications. The aircraft provides a high level of physical security and resilience. There are many specialised aircraft that are expensive to develop and maintain. No President has had the occasion to get into one for actual operations. Even after the 9/11 terror attacks, President George W. Bush preferred to be on board the VC-25A (Air Force One), instead of the E-4B.[13] To date, China does not have any equivalent aircraft. Similarly, India perhaps does not need one as the chain of command and "fog-of-war" decision matrix for most countries is in place.

Notes:

[1] Piotr Butowski, "Russia's Doomsday Aircraft To Get Successor In 2026", *Aviation Week*, May 31, 2022, https://aviationweek.com/defense-space/aircraft-propulsion/russias-doomsday-aircraft-get-successor-2026. Accessed on July 10, 2022.

[2] Ashish Dangwal, "'Flying Kremlin': Russia's Powerful Aircraft Designed For A Potential 'Nuclear War' Spotted Over Moscow", *The Eurasian Times*, May 4, 2022, https://eurasiantimes.com/flying-kremlin-russias-aircraft-for-potential-nuclear-wa/. Accessed on July 10, 2022.

[3] Ibid.

[4] Ricardo Meier, "Il-96-400M jet will be the new Russian 'doomsday' plane", *Air Data News*, October 14, 2020, https://www.airdatanews.com/il-96-400m-jet-will-be-the-new-russian-doomsday-plane/. Accessed on July 11, 2022.

[5] Ryan Pickrell, "Russia is reportedly working on a new 'Doomsday' plane, a flying command and control center for nuclear war", *Business Insider*, July 27, 2021. https://www.businessinsider.in/international/news/russia-is-reportedly-working-on-a-new-doomsday-plane-a-flying-command-and-control-center-for-nuclear-war/articleshow/84776946.cms. Accessed on July 11, 2022.

[6] Gastón Dubois, "Russia is working on two new Doomsday Planes", Aviacionline, July 27, 2021. https://www.*aviacionline.com*/2021/07/russia-is-working-on-two-new-doomsday-planes/. Accessed on July 11, 2022.

[7] Sam Elliott-Gibbs, "US 'doomsday' plane prepped for action 24 hours after Vladimir Putin's flew over Moscow", *The Mirror*, May 04, 2022. https://www.mirror.co.uk/news/world-news/doomsday-plane-prepped-action-24-26869393. Accessed on July 11, 2022.

[8] n2.

[9] Title 10 - ARMED FORCES, Subtitle A - General Military Law, United States Code, 2020 Edition, https://www.govinfo.gov/content/pkg/USCODE-2020-title10/html/USCODE-2020-title10-subtitleA-partIV-chap137-sec2302.htm. Accessed on July 12, 2022.

[10] E4B, 8th Air Force/J-GSOC. https://www.8af.af.mil/About-Us/Fact-Sheets/Display/Article/1085884/e-4b/. Accessed on July 12, 2022.

[11] Sebastien Roblin, America's Looking Glass: How The E-6 Mercury Could Destroy The World, *The National Interest*, May 7, 2020. https://nationalinterest.org/blog/buzz/americas-looking-glass-how-e-6-mercury-could-destroy-world-151576. Accessed on July 12, 2022.

[12] David Willis, "The story behind the USAF's failed E-10A MC2A programme", *Key Aero*, January 10, 2022. https://www.key.aero/article/story-behind-usafs-failed-e-10a-mc2a-programme. Accessed on July 11, 2022.

[13] Rachel S. Cohen, "Does America need its 'Doomsday plane'?", *Air Force Times,* May 11, 2022. https://www.airforcetimes.com/news/your-air-force/2022/05/10/does-america-need-its-doomsday-plane/. Accessed on July 12 2022.

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