The Defense Build-up Concept of JMSDF in the Post-Fourth Defense Build-up Plan—Modernization of the JMSDF's Aviation Component and "100 P-3C Patrol Aircrafts-Based Structure"—*

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Abstract

The Japan Maritime Self-Defense Force's (JMSDF) fixed-wing patrol aircraft force's structure comprised of "100 P-3C Patrol aircraft-based Structure" has been a symbol of modernization of Japan's maritime defense capabilities since the 1980s along with the escort flotilla's "Eight Destroyers with Eight Helicopters Concept". However, this concept has not been systematically researched in terms of the background and purpose of its formulation as well as its significance for Japan's maritime defense. I, the author, published research results related to the "Eight Destroyers with Eight Helicopters Concept", which utilizes oral history material and other data, in the National Institute for Defense Studies' (NIDS) Military History Studies Annual Report last fiscal year. Therefore, in this article here, I look back on the background and other aspects of the "100 P-3C Patrol aircraft-based Structure" from the same perspective and using the same methods as the ones used for the article on the "Eight Destroyers with Eight Helicopters Concept" and reviews its significance in Japan's defense force.

Introduction

The Japan Maritime Self-Defense Force's (JMSDF) fixed-wing patrol aircraft force's "100 P-3C Patrol aircraft-based Structure"[1] has been a symbol of modernization of Japan's maritime defense capabilities since the 1980s along with the escort flotilla's "Eight Destroyers with Eight Helicopters Concept".[2] However, this concept has not been systematically researched in terms of the background and purpose of its formulation as well as its significance for Japan's maritime defense, besides the overview provided in the "JMSDF 50-Year History";[3] hereinafter, the 50-Year

* Originally published in Japanese in *Bouei Kenkyuusho Kiyou* [NIDS Security Studies], vol.18, no.2, February 2016. Some parts have been updated.

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1 The initial procurement goal set for P-3C patrol aircraft was 100 aircraft in 10 squadrons, and this is known as the "100 P-3C Patrol aircraft-based Structure". These aircraft were originally called "anti-submarine patrol aircraft," but the term "patrol aircraft" started to be used in all references to these aircraft since the 1995 NDPG. Therefore, this article uses "patrol aircraft" to refer to these aircraft other than in quoted lines.

2 This term refers to the composition of the JMSDF's escort flotilla, the tactical unit of the escort flotilla consisted of eight destroyers and eight carrier-based helicopters.

3 Committee on the 50-Year History of the JMSDF, *Kaijoujieitai Gojuunenshi [JMSDF's 50-Year History]* (Tokyo: Maritime Staff Office, Japan Defense Agency: 2003).

History). I published research results[4] related to "modernization of maritime defense capabilities and the "Eight Destroyers with Eight Helicopters Concept"", which utilizes oral history material and other data, in the National Institute for Defense Studies' (NIDS) Military History Studies Annual report last year. In this article, I will look back on the background and other aspects of the "100 P-3C Patrol aircraft-based Structure" from the same perspective and using the same methods as the ones used for the article on the "Eight Destroyers with Eight Helicopters Concept", consider the significance of the Structure in Japan's defense. This article particularly focuses on the relationship between the Basic Defense Force concept and the "100 P-3C Patrol aircraft-based Structure". This focus is described below.

I believe that the JMSDF promoted the "Eight Destroyers with Eight Helicopters Concept" as a way of countering the shortfall in force power through improvement of quality (equipment modernization) because the Basic Defense Force concept featured in the "National Defense Program Guidelines" (hereinafter, 1976 NDPG;[5]) effectively aimed to "maintain the status quo" of defense capabilities scale. The JMSDF strongly resisted this stance because it had been given a low priority in building defense capabilities from the outset of its founding and as a result, had continuously experienced a large discrepancy between its targeted force scale and the actual capabilities, and moreover, had its long-time proposal for developing five escort flotilla turned down by the government.[6] An extensive body of research on the Basic Defense Force concept already exists, as is widely known, and in those, the concept is commonly regarded as a "Threat removal theory" rooted in a détente approach. A variety of interpretations have been proposed about the concept's significance.[7] Among these interpretations, my view regarding the reaction of the JMSDF described above relies, for example, on the following comments by Teiji Nakamura, who was JMSDF Chief of Staff at the time of formulation of the 1976 NDPG.

> "I have been consistently asserting that the JMSDF, which is way behind in development of its capabilities, will face serious issues if the decision sticks with the status quo."[8]
> "The phrase states (Japan's capabilities are) "largely completed" in line with a basic policy of not "making an increase." I argued that this "largely completed" should be revised to include "besides the JMSDF" or "besides a portion" only to be told "that is exactly the word "largely" was included here." However, Finance Minister Masayoshi Ohira ultimately decided to not make an increase on the basis that it says (they are) largely completed."[9]

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4 Teruaki Aizawa, "Posuto Yojibou ni Okeru Kaijoujieitai no Boueiryoku Seibi Kousou ni Kansuru Kenkyuu — Kaijou boueiryoku Kindaika to Hachikan Hachiki Taisei [The Defense Build-up Concept of JMSDF in the Post-Fourth Defense Program: The Modernization of Maritime Force and "Eight Destroyers with Eight Helicopters Concept"]," *Military History Studies Annual Report*, no.18, March 2015, pp.27-55.

5 "The National Defense Program Guidelines for FY1977 and Beyond (1976 NDPG)," National Defense Council decision, Cabinet decision, October 29, 1976.

6 Aizawa, "Posuto Yojibou ni Okeru Kaijoujieitai no Boueiryoku Seibi Kousou ni Kansuru Kenkyuu," p. 54. The "Eight Destroyers with Eight Helicopters Concept" had already been considered prior to the 1976 NDPG.

7 Akihiro Sadou, *Sengo Nihon no Bouei to Seiji [Postwar Japan's Defense and Politics]* (Tokyo: Yoshikawa Koubunkan, 2003), p.260.

8 NIDS, Defense Agency, ed., *Nakamura Teiji Ooraru Hisutorii [Oral History of Teiji Nakamura]*, vol. 2 (Tokyo: NIDS, Defense Agency: 2006), p.140.

9 Ibid., pp.232-233.

My focus in this article is to clarify how this issue was sorted out by the JMSDF, particularly with respect to the adoption of the "100 P-3C Patrol aircraft-based Structure" and how the Structure had turned into a reality. To achieve this end, I use the following approach in writing this article.

The article begins by reviewing trends in the build-up of fixed-wing patrol aircraft for the JMSDF and looking at the background to the modernization drive for these aircraft. And for the adoption of P-3C aircraft, the article clarifies matters including how the initial policy of developing the aircraft domestically was withdrawn, what kind of relationship existed between the decision to adopt them and the Lockheed incident, and what sort of impact the Japan-U.S. relationship of the time had on the decision. It then proceeds to answer questions such as how the JMSDF arrived at the necessity of introducing the "100 P-3C Patrol aircraft-based Structure" and how the 1976 NDPG (October 29, 1976) decision was related to the P-3C purchase decision (December 29, 1977) timing-wise, particularly how the JMSDF's "roughly 220 operational aircraft" listed in the attachment to the 1976 NDPG incorporated a scale of "100 aircraft" for the JMSDF's fixed-wing patrol component prior to the decision to introduce the P-3C as its aircraft.

1. Changes in the JMSDF Aviation Component and Trends in Development of Fixed-Wing Patrol Aircraft

I already presented an overview of trends in Japan's development of overall maritime defense capabilities and the surface escort fleet component in my article, "Modernization of Maritime Defense Capabilities and the "Eight Destroyers with Eight Helicopters Concept"."[10] Therefore, in this article here, I will provide an overview of defense capabilities development for the JMSDF's aviation component up until the P-3C rollout. The JMSDF's operation aircraft consist of fixed-wing patrol aircraft and rotating-wing patrol aircraft (helicopters) including carrier-based helicopters. There are also transport aircraft, mine-countermeasures aircraft, and other squadrons besides patrol aircraft, but this article focuses on changes in the JMSDF's fixed-wing patrol aircraft that led to the P-3C rollout.

(1) Defense concept and JMSDF's Aviation Component

The first point to review is what type of operation the JMSDF envisioned for use of these fixed-wing patrol aircraft. However, there is one thing I should note. Any defense concept only presents a general image in its pamphlets and other materials and does not provide details, and therefore, we can only figure out what each concept entails by inferring from the available materials including references in the 50-Year History, oral history content, and other such sources. I cited the following three characteristics of the JMSDF's defense concept based on inference from such sources in "Modernization of Maritime Defense Capabilities and the "Eight Destroyers with Eight Helicopters Concept"" as: (1) emphasizing cooperation with the U.S. Navy; (2) emphasizing anti-submarine warfare (ASW) and mine-countermeasures(MCM) operations; and (3) pursuing "protecting Sea Lines Of Communications(SLOCs)" and "defending the waters surrounding homeland" as core missions.[11] The "emphasizing cooperation with the U.S. Navy" aspect is described in the 50-Year History as "an outcome of the incompleteness in Japan's defense of not having dynamic strike

[10] Aizawa, "Posuto Yojibou ni Okeru Kaijoujieitai no Boueiryoku Seibi Kousou ni Kansuru Kenkyuu," pp.34-42.
[11] Ibid., pp.32-34.

capabilities or air superiority capabilities on its own (abridged) …something Japan is destined to pursue."[12] As these descriptions suggest, this aspect constitutes the very foundation and a major underlying assumption of Japan's maritime defense concept. For the "emphasizing anti-submarine and mine-countermeasures operations" aspect, it has been commonly understood that the focus satisfied the U.S. side's needs as well in terms of the division of roles between the JMSDF and the U.S. Navy.[13] I also noted in the article that "protecting SLOCs" had been positioned as the main mission of the JMSDF that needed to be accomplished by utilizing various force capabilities. As evidence for this point, I present the following quote from former JMSDF Chief of Staff Teiji Nakamura that seems to represent my view and comprehensively explain what this "protecting SLOCs" mission entails.

> "Speaking of what is to be done overall, first of all, use submarines for surveillance. Next, utilize fixed facilities or submarines to prevent passage through straits. Then, use patrol aircraft to patrol extensive (ocean) areas and have our surface component destroy those detected by patrols in the Pacific Ocean."[14]

In other words, patrolling extensive ocean areas as part of protecting SLOCs was a core mission required of the fixed-wing patrol aircraft force.

Related to this issue, some observers believe that the JMSDF was less enthusiastic about defending the waters surrounding homeland than protecting SLOCs.[15] While this was later attributed to dissension between the JMSDF that aimed to be an ocean navy and the internal bureaus of Defense Agency and the Self-Defense Forces that sought to keep the JMSDF's role at the level of Coast Guard,[16] the JMSDF did not necessarily prioritize between the two missions. I think it makes more sense to conclude that the JMSDF saw protecting SLOCs a mission which included defending the waters surrounding homeland as an indivisible component because, by protecting SLOCs, the JMSDF can contribute to defense of the homeland through ensuring assistance from the U.S. Navy, as explained by Youji Kouda, former Commander in Chief of the Self Defense Fleet, in his article, "A New Carrier Race?" in the Naval War College Review.[17] I emphasize this point here because this view played an important role in coming up with an estimated number of

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12 *Kaijoujieitai Gojuunenshi*, p.6.

13 i.e., Keigo Ishida, "Sengo Nihon no Kaijou boueiryoku Seibi (1948-52) – Kaijouboei ni Okeru Nichibei no Yakuwaribuntan no Kigen [Japan's Postwar Development of Maritime Defense Capabilities (1948-52) – Source of the Japan-U.S. Division of Roles in Maritime Defense]," *Military History Studies Annual Report*, no.9, March 2006, p.35, 42, etc.

14 *Nakamura Teiji Ooraru Hisutorii,* vol. 2, p.187.

15 For example, Akihiro Sadou quoted testimony from Sadayoshi Nakayama, former JMSDF Chief of Staff, to note that the JMSDF is not "a naval force dedicated to the defense of the homeland mainly through coastal guarding." Akihiro Sadou, *Sengo Nihon no Boei To Seiji*, pp.159-160. Additionally, Shingo Nakajima obtained a comment from Kazutomi Uchida, former JMSDF Chief of Staff, that "all activities ultimately boiled down to this mission (author's note: protecting SLOCs)." Shingo Nakajima, *Sengo nihon no boeiseisaku – Yoshida rosen o meguru seiji gaiko gunji [Postwar Japan's Defense Policy – Political, Diplomatic, and Military Environment Related to the "Yoshida Path"]* (Tokyo: Keio University Press Inc: 2006), p.153, etc.

16 Aizawa, "Posuto Yojibou ni Okeru Kaijoujieitai no Boueiryoku Seibi Kousou ni Kansuru Kenkyuu," p.32 and 34.

17 Youji Kouda "A New Carrier Race? Strategy, Force Planning, and JS Hyuga," *Naval War College Review*, vol.64, no.3, (Summer 2011), p.35.

aircraft, 100, required for the "100 P-3C Patrol aircraft-based Structure" as discussed in section three of this article.

(2) Changes in the JMSDF Aviation Component and trends in the development of fixed-wing patrol aircraft

Given these points, the development of the JMSDF's Aviation Component's fixed-wing patrol aircraft and force composition trends can be summed up as below:

The JMSDF's Aviation Component had not been formed yet at the launch of the Maritime Guard in April 1952, and preparations begin in December of the same year after the Safety Security Force's establish in August 1952. The JMSDF created the rotating-wing patrol aircraft component as the Tateyama Air Squadron in September 1953 and the fixed-wing patrol aircraft component as the Kanoya Air Squadron in December 1953. Fixed-wing aircraft, excluding training aircraft, at the time comprised the U.S.-made PV-2 and TBM. Receiving a total supply of 17 PV-2 aircraft and 20 TBM aircraft through FY1956, the JMSDF mainly used these aircraft to train core personnel. It started receiving supply of the P2V-7,[18] a cutting-edge patrol aircraft even in the U.S. at the time, in FY1955 and also separately obtained S2F-1 carrier-based Anti-Submarine Patrol Aircraft in FY1957. Since then, the JMSDF has operated fixed-wing operation aircraft comprised of large aircraft and compact aircraft groups.[19] With these changes, personnel steadily shifted from the PV-2s to the P2V-7s and from TBMs to the S2F-1s. It subsequently formed fixed-wing aircraft forces and assigned aircraft in the following manner – Hachinohe Air Squadron with TBM aircraft in March 1957 at the time of the wing's inauguration and Tokushima Air Squadron with S2F-1 aircraft in March 1958 also at the wing's inauguration. These air squadrons were placed under District-headquarters (Kanoya under Sasebo; Hachinohe under Ouminato; and Tokushima under Kure). The Fleet Air Force was thus formed under the Self Defense Fleet in September 1961, and the JMSDF moved the Kanoya, Hachinohe, and Tokushima Air Squadrons under the Fleet Air Force as the Fleet Air Wings 1, 2, and 3. The JMSDF used this opportunity to create the Air Training Command, which handles training of flight personnel, directly under the Minister of state for Defense. These moves made the structure of the JMSDF's Aviation Component similar to its current state.[20] The subsequent trends in the fixed-wing anti-submarine patrol aircraft force up until the Fourth Defense Build-Up Plan can be summed up as follows, including quotes from the 50-Year History:[21]

During the First Defense Build-Up period, the domestic production of P2V-7s that began in 1958 was going smoothly and the aircraft were steadily deployed to the force since December 1959. The air component had 34 P2V-7 aircraft, including those contributed by the United States,

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18 Fumio Okabe, the former Maritime Chief of Staff, explained that the P2V-7 was the cutting-edge anti-submarine patrol aircraft not yet deployed even by the U.S. Navy at the time, and it took efforts by Arleigh Albert Burke and other U.S. Navy Personnel to arrange the provision. NIDS, Defense Ministry, *Ooraru Hisutorii Reisenki no Boueiryokuseibi to Doumei Seisaku [Oral History – Cold War Defense Capabilities Development and Alliance Policy],* vol.6 (Tokyo: NIDS, 2016), pp.28-29.

19 *Kaijoujieitai Gojuunenshi,* pp.40-41. The S2F-1 was operated until 1984 and PS-1 flying boats until 1989 as anti-submarine aircraft, but all the aircraft were then switched to the P-3C, a type of large ground-based fixed wing patrol aircraft.

20 Ibid., p.41; Subsequently added Atsugi, Iwakuni, and Okinawa as major air bases for fixed-wing anti-submarine aircraft and revised Tokushima's role into an air training group headquarters after the retirement of the S2F-1s.

21 Ibid., pp.41-42.

at the end of fiscal 1961. The P2V-7 thus obtained a position as the main anti-submarine patrol aircraft in both quality and quantity. During the Second Defense Build-Up period, production of the 48 P2V-7 aircraft completed in fiscal 1963, and the JMSDF deployed fixed-wing anti-submarine patrol aircraft squadrons, mainly consisting of P2V-7 and S2F-1 aircraft that replaced the PV-2, TBM, and other older-type operational aircraft, along with progress in building air bases described above. These developments are believed to have greatly enhanced the JMSDF Air component's anti-submarine capabilities. In the Third Defense Build-Up period, the JMSDF started replacing its main operational aircraft with rollouts of the P-2J, the successor to the P2V-7 that the JMSDF started developing during the Second Defense Build-Up period, in September 1967 and the PS-1, an anti-submarine flying boat developed with a new concept, in October 1970. These two models obtained certification for real-world use and entered production. In the Fourth Defense Build-Up period, replacement activity with these models advanced further and the JMSDF was operating a fixed-wing patrol air squadron of about 130 aircraft at the end of fiscal 1971, comprised of comp70 P-2Js, 17 PS-1s, 20 P2V-7s, and 25 S2F-1s. However, weaponry on existing fixed-wing Anti-Submarine Patrol Aircraft was already becoming outdated at that time due to the improved submarine capabilities of counterpart countries, and force size was expected to shrink because of upcoming retirements of some aircraft due to the aging of their equipment. There was an urgent need to replace these retiring aircraft with new ones.

2) Modernization of the JMSDF's Aviation Component (fixed-wing patrol aircraft) and the PXL issue

Background to the P-3C rollout was often discussed in relation to the calling off of the plan to start domestic production of the next-generation anti-submarine patrol aircraft (PXL) that took place prior to the rollout and the Lockheed incident.[22] While it is known now that the two were not directly related to the rollout, these certainly constituted major factors in the PXL review process. This article looks back on the circumstances surrounding JMSDF's modernization of the fixed-wing patrol aircraft as well as the PXL issue, including the relationship between the Lockheed incident and the P-3C introduction. The *Boei Antenna* (meaning "Defense Antenna") magazine's volume 206 (Extra Edition – Selection of the Next-Generation Anti-Submarine Patrol Aircraft),[23] which was compiled by Kazuo Fujii, the Chief, Planning and Programming Section at the time, with the aim of broadly communicating to the general public that "selection of the next-generation Anti-Submarine Patrol Aircraft was unrelated to the Lockheed incident," provided an overview of the situation. While it might seem slightly redundant, I will explain the background below, using quotes from this volume of *Boei Antenna* magazine, oral history testimony, and relevant descriptions in the 50-Year History.

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[22] Straightforward description of this relationship can be found in: *Defense of Japan 1978* (Annual White Paper) (Tokyo: Defense Agency: 1978), pp.121-123. The detailed explanation of the background can be found in: Michita Sakata, *Chiisakutemo Ooukina Yakuwari [Small, But With a Large Role]* (Tokyo: Asagumo Shimbunsha, 1977), pp.107-115; Masamori Sase, *Mushiro Shirouto no hou ga Yoi Boueicho Choukan Sakata Michita ga Nashitogeta Seisaku no Daitenkan [An Amateur is Better; Major Policy Change Achieved by Ministar of State for Defense Michita Sakata]* (Tokyo: Shincho Sensho, 2014), pp.164-177.

[23] Public Information Division, Secretariat of the Minister for Defence, ed., *Bouei Antenna,* vol.206 (Special Edition–Selection of the Next-Generation Anti-Submarine Aircraft), September 1977. In oral history preparations, I received the above explanation after expressing interest in the background to the establishment of the "100 P-3C Patrol Aircraft-based Structure" (April 17, 2014).

(1) Decision against the domestic production of PXLs and the Lockheed incident

The 50-Year History has a section dedicated to explaining the circumstances surrounding the P-3C rollout. At the start of the "background of the P-3C rollout" part, it explains that "The Maritime Staff Office was internally researching various equipment for enhancing anti-submarine capabilities from around 1968. The Office went on to request budgets for fundamental design and other activities each year from fiscal 1970 on the basis that it was necessary to develop new, performance-enhanced Anti-Submarine Patrol Aircraft in order to address the improved capabilities of submarines from various countries. However, it was unable to secure a conclusion from the government as a whole due to fiscal reasons."[24] The *Boei Antenna* vol. 206 explains the importance of enhancing the submarine capabilities by saying, "Anti-Submarine Patrol Aircraft are particularly effective at quickly searching broad ocean areas. They have unique capabilities that are not offered by other weapons: rapidly heading out and conducting search and attack missions when information is obtained about the appearance of a submarine in distant waters (abridged) these aircraft are vital to conduct ASW."[25] It highlights the need to promptly modernize anti-submarine capabilities in light of the increasingly sophisticated capabilities of the submarines and growing demand to replenish the depletion of fixed-wing patrol aircraft.[26]

In regards to what the JMSDF was thinking about the PXL selection issue, Teiji Nakamura, who was the JMSDF Chief of Staff (through September 1977) until just before the decision on the P-3C rollout in December 1977, noted that emphasis was being placed on the relationship with the U.S. Navy's "A-NEW plan" (Anti-Submarine Patrol Aircraft' computerization plan) and whether this system would be released.

> "The JMSDF had spoken about "development" much earlier. It had requested a development budget from when I was Deputy Director General of Operations and Plans Department (author's note: December 1968 to July 1969). (Abridged) Everyone wanted to develop what could be developed (domestically). However, what changed the Maritime Staff Office's mind was a shift from thinking that Japan could develop the aircraft, mainly the aircraft's body, on its own. (Abridged) But, as we came to know more about the "A-NEW plan" , people on the operation side started saying Japan's technology was not advanced enough to deal with such system on its own, even though people on the technology side were insisting that they could handle that. (Abridged) We had been talking about developing the aircraft domestically. Yet the operator switched to adopting the new capabilities (from other countries) while technology firms were unable to change course. This is why views were split in the Maritime Staff Office."[27]

Simply put, opinions on the PXL national development were split within the JMSDF itself, and the question of whether the "A-NEW plan" , the computer system related to aerial anti-submarine warfare would be released was given more importance than the aircraft itself. Regarding the "A-NEW plan", in the meantime, the chronology of the "next-generation Anti-Submarine Patrol

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24 *Kaijoujieitai Gojuunenshi*, p.239.

25 *Bouei Antenna,* vol.206, p.1.

26 Ibid., pp.2-9.

27 *Teiji Nakamura Ooraru Hisutorii*, vol. 2, p.212. Fumio Okabe, a former Maritime Chief of Staff, provided similar comments in: *Ooraru Hisutorii Reisenki no Boueiryokuseibi to Doumei Seisaku*, vol.6, pp.44-54.

Aircraft issue" (Attachment no. 6) presented in the *Boei Antenna* vol. 206 indicates that "Japan asked the U.S. Military Advisory Group to provide materials about the system in March 1968, only to be told (by the U.S. side) in April 1969 that "it is not possible to give materials related to "A-NEW plan" to the Japanese government at this point."[28] Furthermore, the Defense Agency had already reviewed the possibility of making improvements to the P-2J, PS-1, and JASDF's C-1 transport aircraft or importing Anti-Submarine Patrol Aircraft from other countries, but concluded that only the P-3C aircraft satisfied the Agency's desired performance levels. It is conceivable that the JMSDF concluded that domestic development of the PXL was the most appropriate choice because technology materials related to the "A-NEW plan", the main feature of the P-3C, were not released.[29]

The Ministry of Finance, however, was against starting development work on the domestic development of a next-generation Anti-Submarine Patrol Aircraft due to concern that the project would require significant spending in future years and hence was not approving fundamental design costs in annual budgets.[30] While the two ministries continued to hold discussions during the formulation process of the Fourth Defense Build-Up Plan in this context, they did not reach agreement and the discussion group meeting between the Defense Council and Diet Members resolved on October 9, 1972 to "suspend national development planning for next-generation Anti-Submarine Patrol Aircraft, early warning aircraft, and other equipment and will conduct a careful review of issues requiring this type of high-level technology judgment, including imports, by forming a council of experts at the Defense Council's Secretariat and other measures."[31] This agreement was later questioned in relation to the Lockheed incident, and the background of how it happened is described below.

The Lockheed incident developed into a major scandal following the testimony that admitted to the use of massive bribes to sell Lockheed's TriStar aircraft to Japan and other foreign countries at the U.S. Senate Foreign Affairs Sub-Committee Public Hearings on U.S. Corporations Overseas Operations on February 4, 1976. Lockheed had a military aircraft division too, and the P-3C Anti-Submarine Patrol Aircraft was its main product. This fact drew the Defense Agency unwittingly into the scandal amid speculation that Lockheed took steps that contributed to the decision to call off the plan to develop the aircraft domestically. Under the circumstances, the explanation given by Takuya Kubo, the then Administrative Vice-Minister, about the above-mentioned Defense Council meeting at a press conference on February 9, 1976 led to further difficulties.

> "The decision to void the PXL domestic development policy occurred at a meeting held just before the Defense Council meeting at the Prime Minister's Office with Deputy Chief Cabinet Secretary Gotouda, Ministry of Finance Budget Bureau Director-General Aizawa, and Prime Minister Tanaka and the Defense Agency Secretariat know nothing about it until that time."[32]

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28 *Bouei Antenna,* vol.206, p.36.

29 Ibid., p.12.

30 Ibid.

31 "Ryoukai Jikou [Agreed Items]," (Discussion group meeting between the Defense Council and Diet Members on October 9, 1972); Published in *Bouei Antenna,* vol.206, p.37.

32 Sase, *Mushiro Shirouto no hou ga Yoi*, pp.165-166.

While Kubo had only wanted to communicate that "the Defense Agency was not involved in anything inappropriate," Gotoda protested strongly to Kubo's statement and Minister of State for Defense Michita Sakata also voiced criticism that "it is truly careless to make comments based on an uncertain impression." This resulted in Kubo holding another press conference late at night on the same day. Sakata requested an investigation of the agreement at the discussion group meeting between the Defense Council and Diet Members and of its background from the standpoint of "not wanting any suspicions about the handling of the next-generation Anti-Submarine Patrol Aircraft as vital equipment." On February 22, Sakata disclosed the investigation results in a document titled "The background to the next-generation Anti-Submarine Patrol Aircraft issue" and also made a personal comment.[33]

The Public Prosecutor's Office later concluded that it could not bring a case on suspicions related to the PXL selection, and the Defense Agency explained in the Defense of Japan 1978 (Annual White Paper) issued after the P-3C rollout decision that "The Agency sufficiently took into account the possible relationship with the Lockheed incident and confirmed in an investigation as presented below that no room existed for improper behavior in the procurement of this aircraft and also adopted various measures to prevent improper behavior and ensure fair procurement pricing in the future."[34]

(2) Review by the PXL experts council and P-3C

This section returns to the point of the agreed items regarding suspension of the PXL national development initiative from the discussion group meeting between the Defense Council and Diet Members held on October 9, 1972 and looks at subsequent review activities.

The Defense Council Secretariat formed the "council of experts on the next-generation Anti-Submarine Patrol Aircraft" in August 1973, in light of the agreed items from the discussion group meeting between the Defense Council and Diet Members, and it held 19 meetings of the experts council and seven working group meetings. These meetings reviewed various options such as domestic development, adoption of the P-3C, and improvements to existing aircraft and imports mentioned earlier. The final report submitted on December 27, 1974 presented the following conclusions.

> "We reviewed the question of whether to utilize aircraft developed in Japan or a foreign aircraft at the future timing of investing in new equipment, but did not find definitive factors to rule out either one of these options at this stage. (Abridged) While domestic development is preferred if circumstances permit, it is necessary to adopt foreign aircraft in the near term from a pragmatic point of view, while striving to pursue more advanced future R&D in the future."[35]

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33 Sakata, *Chiisakutemo Oookina Yakuwari*, pp.108-109 (plus the disclosed investigation results and Sakata's personal comment can be found on: Ibid., pp.111-115; *Bouei Antenna*, vol.206).

34 *Defense of Japan 1978* (Annual White Paper), p.122.

35 *Kaijoujieitai Gojuunenshi*, p.239; *Bouei Antenna*, vol.206, pp.12-13.

The discussion meeting between the Defense Council and Diet Members on the next day (December 28) agreed on the issue of PXL domestic development in the Fourth Defense Build-Up Plan that "relevant ministries and agencies should promptly study various requirements, including technologies and fiscal resources, in a review of the rollout." During the process of obtaining materials from various foreign countries in its review, the experts council received a reply from the U.S. that it would release P-3C in July 1973.[36] Given this stance, the review process prior to the report is believed to have included statements such as "(it is) doubtful if Japan could try to develop an aircraft with the same level of performance as the P-3C" and "it is necessary to adopt the P-3C in the near term."[37] These statements suggest that the P-3C was already effectively a leading candidate for the PXL at this stage.

An overview of the subsequent developments is as below.[38] The Defense Agency, which had been waiting for conclusions from the experts council, conducted an overseas survey of the P-3C, the candidate for a scenario of introducing foreign-made aircraft, so that it would be ready for fiscal 1976 budget preparations, made necessary revisions to the domestic development plan, and also created a compromise plan of developing the aircraft body in Japan and acquiring onboard equipment from overseas, based on the above-mentioned agreement of the discussion meeting between the Defense Council and Diet Members. However, the Defense Agency was unable to solidify an outlook for defense reinforcement measures the Post-Fourth Defense Build-Up Plan because of the rapid change in economic and fiscal conditions after the oil crisis occurring at the time and thus decided to handle the PXL issue as part of the post-Fourth Defense Build-Up Plan initiatives and delayed reaching a conclusion until preparation of the fiscal 1977 budget. Then the Lockheed incident surfaced in February 1976 as explained above. The Defense Agency continued its review of domestic development, foreign aircraft use, and a compromise proposal for the PXL selection with an approach of "aiming to obtain a conclusion as quickly as possible, but also needing to carefully manage the situation to avoid fostering suspicions among the general public and make a selection that provides necessary performance from a purely defense perspective and delivers an excellent cost-performance effect." It abandoned efforts to arrive at a conclusion in time for the fiscal 1977 budget preparations as well and changed its stance to that of pursuing a conclusion as quickly as possible, in view of the need to review new developments, such as the U.S. deployment of the S-3A carrier-based Anti-Submarine Patrol Aircraft outfitted with the latest equipment and Canada's decision to adopt the new CP-140 anti-submarine patrol aircraft. It was at this timing that the Defense Agency issued the *Boei Antenna* vol. 206 to broadly present these conclusions to the general public. The publication contained the following details under the "content of the analysis and review for selection of the next-generation Anti-Submarine Patrol Aircraft."[39]

The first stage involved a review of technological possibilities as well as compatibility and cost-performance of aircraft capabilities, followed by the selection of a few models for detailed review in the second stage which found five cases suitable from an overall perspective out of 13

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36 *Bouei Antenna*, vol.206, p.13.

37 Ibid., p.13; Though the final report used the "adopt a foreign aircraft" expression as noted above and avoided mentioning the specific model.

38 Ibid., pp.13-14; *Kaijoujieitai Gojuunenshi,* pp.239-240.

39 *Bouei Antenna*, vol.206, pp.15-27.

cases considered (including improvements to existing aircraft, an aircraft developed by Japan, a compromise aircraft, and a foreign aircraft) - aircraft developed by Japan, two compromise aircraft (outfitted with P-3C electronic information processing equipment or S-3A equipment), and two foreign aircraft (P-3C UPDATE II, CP-140). The second stage's detailed review, which addressed the five selected models, also considered a case of combining two models and, import and licensed local production scenarios for cases of using single model, and compared the models based on the criteria: (1) possibility of early modernization of anti-submarine functions; (2) possibility of maintaining stable capabilities; (3) certainty of provision; (4) cost-performance; (5) ease of force operation; and (6) impact on the operating levels of aircraft manufacturing industry. Based on the overall assessment results, the review concluded that licensed domestic production of the P-3C was the best choice. Bearing this conclusion in mind, the Defense Council decided at a meeting held on December 28, 1977 to "recommend acquiring 45 P-3C aircraft through domestic production (including some imports) beginning from fiscal 1978 as the next-generation Anti-Submarine Patrol Aircraft in order to replenish the depletion of existing Anti-Submarine Patrol Aircraft and modernize capabilities."[40] The Cabinet approved this decision on the following day (December 29), and this laid the groundwork for inclusion of eight P-3C aircraft in the fiscal 1978 budget.

By the way, since it might be difficult to specifically imagine P-3C advantages that have been mentioned multiple times, I would like to introduce some comments from an actual operational perspective to help understand this aspect at the end of this section. This is what Teiji Nakamura said about the aircraft:

> "The existing P-2J could find submarines once they breach the surface. But, for submarines submerged in water, we tried hard to find ways to detect them by, for example, using buoys, procuring and arming with Jezebel and DIFAR buoys, but nothing really worked. It was only when we used the P-3C that I gained confidence for the first time that we could acquire a certain degree of search capabilities for submerged submarines. (Abridged) I felt this was a significant anti-submarine capability."[41]

Additionally, former JMSDF Chief of Staff Fumio Okabe, who had been a fixed-wing patrol aircraft pilot himself, offered the following comment regarding the importance of not only the aircraft's electronic information processing equipment, but also of deploying an overall system, including a terrestrial assistance facility (Anti-Submarine Warfare Operation Center (ASWOC).[42]

> "Looking at the P-3C and patrol aircraft used by the naval forces of other countries, they are very advanced in systems that utilize computers, or electronic information processing systems, as I said earlier. About this kind of knowledge and technology (abridged) I felt they were insufficient. Japan had not put much attention on systems besides the aircraft itself such as a command assistance system to control the P-3C from the ground, logistical assistance

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40 "Jiki Taisenki no seibi ni tsuite [Regarding the next-generation anti-submarine aircraft]," (Defense Council decision on December 28, 1977; approved by the Cabinet on December 29).

41 *Nakamura Teiji Ooraru Hisutorii*, vol.2, p.215.

42 The JMSDF's fixed-wing patrol aircraft squadron provides command assistance for patrol aircraft in the ASWOC, which launched along with the P-3C rollout, working with the various air squadrons.

> operations such as supply and maintenance required to fly aircraft, and the communication system that connects the aircraft and ground. I concluded that the P-3C was a better choice for deploying these types of capabilities too."[43]

(3) Emphasis on Japan-US cooperation and the P-3C

Teiji Nakamura offered the following interesting comments about what the JMSDF was thinking about the various developments after the decision was made to void the domestic development effort. Nakamura visited the U.S. in June 1976 on an invitation to a U.S. bicentennial ceremony. On that occasion, he raised the issue of releasing "A-NEW" aircraft technology materials with Admiral (ADM) James Lemuel Holloway, the then-U.S. Chief of Naval Operations, based on Administrative Vice-Minister Kubo's interest in outfitting a domestic-made aircraft with the U.S. system for the PXL.

> "The next-generation Anti-Submarine Patrol Aircraft issue was a major topic in the Japan-US relationship at the time. (Abridged) The U.S. Navy had been holding to a stance of not releasing the A-NEW system employed in the P-3C except in an integrated format. (Abridged) Administrative Vice-Minister Kubo (Takuya) had told me to "directly ask ADM Holloway if the system can be released separately when you meet him." (Abridged) I raised the issue because this was the request from the Administrative Vice-Minister and the answer, as expected, was "that's not possible." This was the gist of the meeting."[44]

According to Nakamura, the PXL topic came up again in a discussion of strategy in dealing with the Soviet Union during a visit by ADM Holloway to Japan in October 1976, and ADM Holloway emphasized P-3C advantages.

> "ADM Holloway explained that the P-3C Update 3 offers the best choice militarily. Specifically, he noted at the time that the P-3C could provide the most robust capacity and was the most effective and inexpensive choice among any combination of airframe and avionics. The CP-140's data processor capacity cannot match the P-3C Update 3. This is a key point in ASW (anti-submarine warfare). It involves more than just radar."[45]

When asked about why ADM Holloway had recommended the P-3C so strongly, Nakamura responded that "The P-3C is actually an excellent aircraft. It was very important for the U.S. Navy to have the JMSDF improve its anti-submarine capabilities, and desire for "improvement" was the main driver."[46] This episode highlights the emphasis placed on bolstering cooperation with the U.S. Navy by the JMSDF in the P-3C selection. It also lends support to the consensus among researchers with interest in Japan's development of defense capabilities in the 1980s that priority was given to cooperation between Japan and the United States. This view as it pertains to the P-3C "takes into account the views that having same avionics with the U.S. Navy will boost

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43 *Ooraru Hisutorii Reisenki no Boueiryokuseibi to Doumei Seisaku,* vol.6, pp.54-55.
44 *Nakamura Teiji Ooraru Hisutorii*, vol.2, p.209.
45 Ibid., p.210.
46 Ibid., p.211.

interoperability and facilitate smoother tactical and operational cooperation between JMSDF and U.S. Navy."[47]

The Japanese government was still in the process of reviewing the PXL at this point and had not made a decision yet. However, Nakamura gave a frank assessment of what the JMSDF was thinking at the time:

> "It was simply not moving forward due to political reasons, and there was not enough time to begin development at that point. (Abridged) (If we were to develop the aircraft domestically,) we needed a decision in no time and start production right away. Our only choices were buying existing aircraft or conducting licensed production. Everyone had already resolved that we would set our sights on development for the next patrol aircraft and purchase aircraft this time."[48]
> "I listened to various views upon assuming my position and concluded that the P-3C was the only choice, at least for the time being."[49]

The following paragraph summarizes points from the previous section and this section regarding modernization of the JMSDF's Aviation Component (fixed-wing patrol aircraft) and PXL.

The JMSDF prepared various aircraft needed to effectively carry out its main mission of "protecting SLOCs" and put particular emphasis on ocean patrols using fixed-wing patrol aircraft from the outset of its formation. However, modernization of fixed-wing patrol aircraft became an urgent task due to the increasingly sophisticated capabilities of counterpart country submarines from the end of the 1960s. While Japan initially pursued domestic development of the aircraft and related electronic equipment, opinions subsequently split within the JMSDF between the domestic development advocates and those in favor of importing the P-3C or other foreign aircraft amid increasing use of computer technology in the patrol aircraft of various countries, including the U.S. Navy's "A-NEW plan". The Ministry of Finance, meanwhile, was strongly against PXL domestic development because of concerns over massive costs that may be incurred in the future, and the discussion group meeting between the Defense Council and Diet Members on October 9, 1972 decided to suspend the PXL domestic development initiative. The Defense Council's Secretariat established a panel of experts thereafter to review various options, including domestic development, imports, and a compromise plan. The Lockheed incident occurred while this process was taking place, and the controversial Kubo's comment and other factors prompted called for a more cautious review of the PXL issue. These circumstances resulted in a final decision taking even more time. The U.S. indicated during this phase that it could release the P-3C, including the

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47 Shingo Yoshida, *Nichibei Doumei no Seidoka Hatten to Shinka no Rekishikatei [Systemization of the Japan-US alliance – Historical process of advancement and deepening]* (Nagoya: The University of Nagoya Press, 2012), p.284; In the National Graduate Institute for Policy Studies' oral history, the Director General, Bureau of Defense Policy at that time, Keiichi Ito commented that "having the aircraft outfitted with the same detection equipment was a very important factor," National Graduate Institute for Policy Studies C.O.E. Oral Policy Research Project, *Ooraru Hisutorii Ito Keiichi [Oral History of Keiichi Ito]*, vol.2 (Tokyo: National Graduate Institute for Policy Studies, 2003), p.87.

48 *Nakamura Teiji Ooraru Hisutorii*, vol.2, p.212.

49 Ibid, p.215.

anti-submarine system, and the JMSDF decided that the P-3C was the optimal choice from the standpoints of system efficacy, difficulty of domestic development of a comparable system at the time, and emphasis on the Japan-U.S. cooperation.

3) Basic Defense Force concept and "100 P-3C Patrol aircraft-based Structure"

Previous sections reviewed background to the PXL issue that led to a retreat from domestic development originally envisioned to the selection of the P-3C. Given these points, this section looks at the relationship between the Basic Defense Force concept and the "100 P-3C Patrol aircraft-based Structure", the core theme of this article. Chronologically speaking, the PXL review began with the decision on the 1976 NDPG (October 29, 1976), and official selection of the P-3C took place after the NDPG December 29, 1977. A key point is how the JMSDF came up with "roughly 220 operational aircraft" shown in the table attached to the NDPG as the specific scale of fundamental defense capabilities factored in the PXL issue.[50] I frame this issue in the following manner in the context of the view described above that "the JMSDF decided to promote the "Eight Destroyers with Eight Helicopters Concept" and compensate for a shortage in equipment volume by improving quality in response to rejection of its five escort flotilla proposal amid the stance in the Basic Defense Force concept of effectively sustaining the status quo in defense capabilities scale." The "100 P-3C Patrol aircraft-based Structure" was a steep reduction in terms of volume in the trade-off with existing aircraft (though generally sustaining status quo for the mission of "defending the waters surrounding homeland" for large aircraft) and satisfied political requirements underlying the Basic Defense Force concept, but was able to modernize the air component and significantly improve quality with the P-3C rollout. This point is covered in more detail below.

(1) Basis for calculation of the "100 P-3C Patrol aircraft-based Structure"

The "100 P-3C Patrol aircraft-based Structure" is widely used as a term, but the 50-Year History does not discuss the basis for arriving at this scale. The *Boei Antenna* vol. 206, which has been quoted multiple times in this article, only states that "a force of 80 large ground-based Anti-Submarine Patrol Aircraft should be stably sustained over the next 10 years while promptly modernizing anti-submarine functionality at a reasonable pace"[51] partly because of the timing of the publication (original deployment volume was 45 aircraft as mentioned earlier), and does not offer a clear basis for why the structure should comprise 100 aircraft. Details of how they came up with this number hence are not generally known. The NIDS' oral history materials from fiscal 2014 contain some interesting and valuable testimony on this point. These comments are quoted and explained below.

Fumio Okabe provided the following testimony on the Structure's defense requirements.

> "The basis for 100 aircraft assumes "One patrol flight per day at the waters surrounding homeland" mainly using direct sighting and radar. Acoustic patrolling by dropping sonobuoys is conducted in waters with good acoustic conditions in order to detect submerged

[50] Teiji Nakamura explained that "it was already decided to acquire 100 P-3C class aircraft in the Basic Defense Force concept." This suggests that the structure comprised of 100 PXL aircraft had effectively been factored in. *Nakamura Teiji Ooraru Hisutorii*, vol.2, p.212.

[51] *Bouei Antenna*, vol.206, p.28.

submarines. This is also done once per day. It takes eight squadrons (80 aircraft) to handle these activities. We also assign one squadron each to southwestern and southeastern shipping lanes for protecting SLOCs. These aircraft are needed at 10 per squadron. This is basically how we came up with the basic concept of 100 patrol aircraft."[52]

Okabe also explained how he came up with the number of required aircraft in terms of the JMSDF's existing Air Component size and volume.

"The fixed-wing operational aircraft force at the end of fiscal 1975 consisted of about 90 P-2J and P-2V7 patrol aircraft in total, 25 S2F small Anti-Submarine Patrol Aircraft, and about 15 large four-engine PS-1 flying boats that could make the splashdown on the water surface, equipped with a sonar sensor to be dipped into the water to detect submarines. The total Air Component size and volume were about 130 aircraft. Given these levels, we thought that it would take about 100 P-3C aircraft to protect broad ocean areas, even with the P-3C's robust performance."[53]

This explanation suggests that Okabe considered not only the traditional requirements for "a force of 80 large ground-based Anti-Submarine Patrol Aircraft" cited above in the *Boei Antenna* vol. 206 for at least once-a-day patrol missions at the waters surrounding homeland required for defense but also new requirements of one squadron each for missions to protect southwestern and southeastern SLOCs.[54] The "defending the waters surrounding homeland" and "protecting SLOCs" categories are just used for convenience here to explain the missions, and the JMSDF believed that these were indivisible duties as explained earlier.

By the way, I believe that the "mainly using direct sighting and radar to patrol" portion of the comments is very important. This appears to have been a counterargument to assertions reviewed below that "the P-3C force size is excessive for Japan's defense." In other words, even though the P-3C's capabilities were significantly better than existing aircraft, it did not necessarily result in a dramatic improvement in surveillance by "direct sighting" and ""radar" and this meant that it remained vital to sustain a "force of 80 large ground-based Anti-Submarine Patrol Aircraft" to properly carry out the patrolling mission. Okabe explained the difficulties of surveillance by patrol aircraft, albeit using the P-2V7 aircraft in the force at the time, in response to another question.

"While on patrol, we checked the nationality of each ship. Commercial ships were manageable, but fishing boats were just too many to check. We didn't bother to check small fishing boats because foreign fishing boats were not around in those years. But we still needed to identify the nationality of many vessels, record them all, and submit the record when we returned. (Abridged) We identified ships by looking at the funnel mark (such as

52 *Ooraru Hisutorii Reisennki no Boueiryoku seibi to Doumei Seisaku*, vol.6, p.63.

53 Ibid.

54 "Strengthening sea lane defense capabilities" came to play a very important role in the early 1980s amid growing emphasis on maritime defense forces in the Japan-US relationship. Akihiko Tanaka, *Anzen hosyou Sengo Gojuunen no Mosaku [National Security – Postwar 50-Year Search]*, (Tokyo: The Yomiuri Shimbun, 1997), pp.286-293; Sadou, *Sengo Nihon no Bouei To Seiji*, pp.328-350.

"this is a Soviet Union's vessel"). National flags at the bow were small and difficult to identify so we relied on the funnel mark. Ordinary commercial vessels were fine because they had a funnel mark. The problem was fishing boats and small boats that didn't have funnel marks. The aircraft's move was much faster, so it was tough to confirm the identity of those boats even when circling at a low altitude."[55]

Kazuo Fujii, who was the Planning Officer for the Director, Defense Policy Division at the time of the P-3C rollout, meanwhile, offered the following comment from the standpoint of requirements in defense build-up planning and calculation of the amount for the budget request in the NID' oral history materials.

"Mr. Nishihiro (author's note: then-Director, Defense Policy Division, Seiki Nishihiro) told me "Handle the P-3C. It'll be a real challenge." This was in the midst of the Lockheed incident. He told me in whispers that "I think the P-3C is best, but in the current situation, it is impossible to introduce the P-3C from the beginning. My idea is to start with one or two lots of a domestic-made PXL (next-generation anti-submarine patrol aircraft) and then go with the P-3C. But I'll let you decide.""[56]
"After reviewing the situation again and again, I found other options inefficient and concluded that there was no choice but to go with the all P-3C option. I went to Mr. Nishihiro to discuss this conclusion. I told him, "Let me proceed with the all P-3C option." He said, "Understood. I'll let you do that. But that decision will draw a lot of criticism. So, gear up for a tough debate." I heeded this advice and prepared the document you have there ("Selection of the next-generation Anti-Submarine Patrol Aircraft" *Boei Antenna* vol. 206, September 1997). I decided two things. The one was to proceed with the all P-3C option. The other was the number of aircraft to purchase to be included in the budget request. Obviously, we would initially buy two or three aircraft but needed to have the number to set aside funds for purchase in the budget. So, Mr. Nishihiro told me to decide how many aircraft we will purchase for the time being. I didn't have a clear basis for making that decision, so I looked at the Gantt chart, underlined its tenth-year column, and calculated the number of aircraft down to that line, which came to 45. Based on that, I said that "I will go with 45 aircraft for the time being as the basis for the budget request." Mr. Nishihiro then asked how many aircraft would ultimately be purchased. I said to him, "100 aircraft would be necessary but some PS-1 aircraft remained active so the rest will be 90 aircraft. Yet the PS-1 aircraft will be decommissioned at some point, so it will be 100 aircraft." He said, "That's fine." Then, I began to prepare this material."[57]

Regarding the decision to go with "45 aircraft for the time being" as initial procurement volume, under the item in the *Boei Antenna* vol. 206 that says "a component of 80 large ground-based Anti-Submarine Patrol Aircraft should be stably sustained over the next 10 years," an

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55 *Ooraru Hisutorii Reisenki no Boueiryoku seibi to Domeiseisaku*, vol.6, p.33.
56 Ibid., p.241.
57 Ibid., p.242.

explanation follows that "It is necessary to suitably replenish the anticipated decommissioning through aging of 87 aircraft from completion of the Fourth Defense Build-Up through fiscal 1987 – 44 P-2J aircraft, nine P2V-7 aircraft, and 34 S2F-1 aircraft (including 10 aircraft currently in storage). We therefore intend to replace these aircraft with 45 P-3C aircraft (including one reserve aircraft for accident-related depletion during the period)."[58]

In other words, the "100 P-3C Patrol aircraft-based Structure" was determined by considering the requirements for maintaining the "component size of 80 large ground-based Anti-Submarine Patrol Aircraft" to "defending the waters surrounding homeland" and for missions to "protecting SLOCs" in southwestern and southeastern shipping lanes. It also uses the same basis as existing aircraft for calculating the basic required volume, because the P-3C did not dramatically raise monitoring capabilities for direct sighting and radar despite a major improvement in its performance. For actual procurement, initial purchase volume was set at "45 aircraft for the time being" (subsequent changes in procurement volume are described below) by factoring in the expected decommissioning of the existing aircraft (the number for the aircraft to be decommissioned and for new ones to be procured do not match up because of a difference in the useful lifespan of the new aircraft).

As explained in my article, "Maritime Defense Force Modernization and the "Eight Destroyers with Eight Helicopters Concept", calculation of required volume for defense force deployment and others are made using operations research (OR) methods, but their details are usually not disclosed to the public because of the matters' sensitivity. Thus, I want to reiterate that the basis for calculating the size of the "100 P-3C Patrol aircraft-based Structure" that I presented here is nothing but an image or estimation that I came up with based on oral history testimony.

(2) The "100 P-3C Patrol aircraft-based Structure" and subsequent deployment plan trend

Some observers asked whether the force size of the "100 P-3C Patrol aircraft-based Structure" was "excessive for the purpose of Japan's defense," as mentioned above, during the review process and even after the rollout. In fact, given that the P-3C's performance is far more sophisticated than the previous models, the point of whether 100 P-3Cs was an appropriate force size was a focus for discussions both inside and outside the Defense Agency. Keiichi Ito, who was the Director General, Defense Policy Bureau at the time of the decision on the P-3C rollout, commented that "While people are talking about the "100 P-3C Patrol aircraft-based Structure", this was not the level discussed during my years (author's note: initial procurement volume was 45 aircraft as mentioned earlier). They eventually decided on 100 aircraft. However, Australia, which is surrounded by ocean only has 13 aircraft."[59] Teiji Nakamura was asked "Why does JMSDF need so many aircraft while other countries have much less?" at the Defense Agency's councilors meeting, he argued against this point by saying that "The force size of 100 aircraft is not that large considering the size of the ocean area covered by the JMSDF."[60] He then added the following comment regarding how the JMSDF had explained and gained understanding concerning the scale of the force based on the above-mentioned OR results.

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58 *Bouei Antenna*, vol.206, p.28.
59 *Ooraru Hisutorii Ito Keiichi*, vol.2, p.86.
60 *Nakamura Teiji Ooraru Historii*, vol.2, p.217.

> "This was the outcome of the painstaking efforts staff members of the Maritime Staff Office, Plans and Programs Division have made to prepare a detailed plan that successfully demonstrated "How many aircraft would be needed to patrol this range out of such extensive ocean area with this much precision at this kind of operating rate." They made great efforts to convince Mr. Nishihiro (Seiki). Their analysis was so convincing that even the tough Director, Defense Policy division as Mr. Nishihiro gave his consent."[61]

Some critics insist that the Maritime Staff Office intentionally downplayed the P-3C's performance in this review and its explanations in order to secure the "100 P-3C Patrol aircraft-based Structure", as explained above. Yet this seems to be reading into the situation too much. The P-3C rollout did not necessarily sufficiently take into account a trade-off between equipment "quality and quantity" at that point, including in respect to direct sighting and radar search capabilities in surveillance activities, and I believe that there was genuinely not full recognition of the robustness of P-3C's capabilities as a patrol aircraft Squadron it was actually deployed. Fumio Okabe mentioned this point in the following way in his testimony.

> "At the planning stage, we did not think the force comprised of 100 P-3C aircraft was that large in light of the existing force size of 130 aircraft for the P-2J and other models, as I said earlier. Yet, over the course of the aircraft' deployment, we came to realize the potency of the 100-aircraft force and that it greatly improved our anti-submarine capabilities. The effects of having 100 P-3Cs that we expected during the planning phase were completely different from the actual effects experienced when we had them on hand. We did not think the capabilities of the 100-aircraft force would be that extensive at the planning stage."[62]

Subsequent trends in acquisition volume toward establishing the "100 P-3C Patrol aircraft-based Structure" in terms of the total number of the P-3C in JMSDF's possession were: 75 aircraft in July 1982; 100 aircraft in September 1985; 104 aircraft in December 1990; and 101 aircraft in December 1992.[63]

The National Defense Program Guidelines (1995 NDPG[64]) formulated in November 1995, which was about 20 years after the decision was made to introduce the P-3Cs that took into account various changes, such as the end of the Cold War and SDF involvement in international cooperation activities and large-scale disaster response reduced the number of squadrons for the JMSDF's ground-based patrol aircraft force (including rotating-wing patrol aircraft squadrons) in the NDPG's attachment table from 16 squadrons in the 1976 NDPG to 13 squadrons and also reduced the scale of the P-3C patrol aircraft component to that of 80 aircraft. This scale was explained as

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61 Ibid.

62 *Ooraru Hisutorii Reisenki no Boueiryokuseibi to Doumeiseisaku*, vol.6, p.66.

63 "P-3C no syutoku kisuu no henkou ni tsuite [Changes in P-3C acquisition volume]," (Defense Council decision and Cabinet approval on July 23, 1982), (Defense Council decision and Cabinet approval on September 18, 1985), (National Security Council decision and Cabinet approval on December 20, 1990), (National Security Council decision and Cabinet approval on December 18, 1992).

64 "The National Defense Program Guidelines 1996" (November 28, 1995; National Security Council decision, Cabinet approval).

the force size needed to "conduct at least once-a-day patrol of Japan's surrounding waters"[65] and was understood be based on the condition that the aircraft would be allocated on an as-needed basis to the two squadrons, one for southwestern and the other for southeastern shipping lanes, used in the calculation to come up with the 100 P-3C force as mentioned above. Additionally, the National Defense Program Guidelines updated in December 2004 (2004 NDPG[66]) called for possessing a fixed-wing patrol aircraft component of about 70 aircraft and, based on a plan to deploy the next-generation fixed-wing patrol aircraft (P-X) with better flying performance and patrol capabilities than the P-3C and by improving the patrol force's efficiency while retaining its efficacy, reduced the number of squadrons comprising the fixed-wing aircraft patrol aircraft squadrons from eight to four. Furthermore, the new National Defense Program Guidelines formulated in December 2013 (2013 NDPG[67]) describes that the component would comprise 65 aircraft[68] by factoring in the enhanced performance of P-1 patrol aircraft as successors to P-3C aircraft.

(3) Basis for calculation of the "roughly 220 operational aircraft" in the table attached to the 1976 NDPG

This section looks at the relationship between the Basic Defense Force concept and the "100 P-3C Patrol aircraft-based Structure" (the main topic of this article), or in other words, how the JMSDF came up with the scale of "roughly 220 operational aircraft" indicated in the attachment to the 1976 NDPG by taking into account requirements and other underlying aspects of the structure and its calculation basis explained above. The explanation thus far has already largely clarified the basis for coming up with the "100 P-3C Patrol aircraft-based Structure", the core element of this section. Regarding the overall composition, including other operational aircraft, Fumio Okabe, who was in charge of the JMSDF's Aviation Component's force development at the Maritime Staff Office's Plans and Programs Division during formulation of the 1976 NDPG, made the following comments after addressing the basis of the "100 P-3C Patrol aircraft-based Structure" quoted earlier. I have not seen any documents among the 50-Year History and other existing materials that overtly and comprehensively explain the premise of determining the scale of "roughly 220 operational aircraft" and believes this is an extremely valuable comment for academic research related to Japan's defense force development[69].

> "The 220 operational aircraft also includes about 120 helicopters (rotating-wing aircraft). These included carrier-based anti-submarine helicopters organized into four Escort Flotilla

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65 Ministry of Defense, ed., *Defense of Japan 2005* (Annual White Paper) (Tokyo: Ministry of Defense, 2005), Chapter 2, Section 2, Item 5 "Specific Defense Posture," http://www.clearing.mod.go.jp/hakusho_data/2005/2005/html/17225300.html (Accessed on September 28, 2015).

66 "The National Defense Program Guidelines 2005" (December 10, 2004; National Security Council decision, Cabinet approval).

67 "The National Defense Program Guideline for Fiscal 2014 and Beyond" (December 17, 2013; National Security Council decision, Cabinet approval).

68 Ministry of Defense, "The new National Defense Program Guidelines and Mid-term Defense Program: Toward Realizing a Dynamic Joint Defense Force," p.39. https://www.kantei.go.jp/jp/singi/kaiyou/ritou_yuusiki/dai10/siryou.pdf (Accessed on September 28, 2015).

69 However, it is possible to infer the underlying basis used at that time from data included in the materials section attached to *Kaijoujieitai Gojuunenshi* and other sources. I think Okabe's testimony partly came from his memories of the time and was partly based on these materials.

and deployed eight helicopters at a time in the "Eight Destroyers with Eight Helicopters Concept". The total number of carrier-based helicopters in the four escort flotilla came to 50-60 because of surplus helicopters being repaired or maintained at plants and by maintenance teams. We also had ground-based anti-submarine helicopters and needed to deploy them at five air bases in order to protect three straits of Tsushima, Tsugaru, and Soya, Tokyo Bay, Hanshin's Kii Channel, and important ports on the Sea of Japan side. We already had four bases at the time. (Abridged) I think this force comprised about 50-60 helicopters in total. We also needed mine-countermeasures helicopters and had about 10 helicopters in this category. I think that the entire line-up was made up of about 120-130 helicopters. This was the basis for coming up with the "100 P-3C Patrol aircraft-based Structure" and the 220 operational aircraft in the 1976 NDPG."[70]

Based on this testimony and points made in preceding sections, I present below my view regarding the relationship between the Basic Defense Force concept and the "100 P-3C Patrol aircraft-based Structure" mentioned at the start of this section.

As it has been mentioned in this article, the Basic Defense Force concept effectively aimed to maintain the status quo in defense force size, and the JMSDF, having been given a lower priority in defense force development since its inception and faced a large gap between its targeted force size and the actual capabilities, strongly resisted the concept's preference for the status quo and decided to promote the "Eight Destroyers with Eight Helicopters Concept" in an effort to compensate for a shortage in equipment volume by improving quality after having been rejected its five escort flotilla proposal. Given this context, I think it is reasonable to frame the relationship between the "100 P-3C Patrol aircraft-based Structure" and the Basic Defense Force concept in the following way. The "100 P-3C Patrol aircraft-based Structure" was a steep reduction in total equipment scale as a trade-off with the existing aircraft (the force of some 130 fixed wing patrol aircraft was reduced to some 100 aircraft) and sustaining the present capabilities to patrol at least once a day to defending the waters surrounding homeland would just require the roughly 80-aircraft assuming that the aircraft only included large patrol aircraft (P-2J and P-2VJ). It also fulfilled the political demand of effectively retaining the defense force scale, which was a driver of the Basic Defense Force concept, for the new requirements of "protecting SLOCs in southwestern and southeast Shipping lanes" because it was explained that, with this Structure, the force needed for such new requirements would be less than the number of existing compact patrol aircraft (S2F-1). I believe it was these assertions that made it easy for the Structure to gain acceptance without significant resistance. This was very symbolic of the "100 P-3C Patrol aircraft-based Structure" in light of the 1976 NDPG in which the five escort flotilla development was a focus of political debate, and Fumio Okabe acknowledged it in his comment that "The 100 P-3C patrol Aircraft-based Structure was somewhat overshadowed by the five escort flotilla issue that had been a focus in the 1976 NDPG."[71] However, simply reducing the force size was not enough to clear the political hurdle because the PXL issue, including its relationship to the Lockheed incident, had already become a major political affair as confirmed in section 2 of this article. Paradoxically speaking, it

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70 *Ooraru Hisutorii Reisenki no Boueiryoku seibi to Domeiseisaku*, vol.6, pp.63-64.

71 Ibid., p.69.

is reasonable to conclude that the P-3C initiative has proceeded without facing political resistance, including from a budgetary perspective, only because the detailed review by the council of experts was conducted prior to the Post-Fourth Defense Build-Up Plan that led to the formulation of the Basic Defense Force concept.

Although the *Boei Antenna* vol. 206 did not specifically mention a force size of 100 aircraft for the P-3C component in part because of the publication timing, as explained above, it is highly evident from the various testimony comments quoted thus far that the "100 P-3C Patrol aircraft-based Structure" was effectively factored into the basis for coming up with the scale of "roughly 220 operational aircraft" cited by the JMSDF in the attachment to the 1976 NDPG at least at the working level. Chronologically speaking, the government had not yet reached a final decision on the PXL choice at that point of time between the determination of the 1976 NDPG (October 29, 1976) and the decision to select the P-3C (December 29, 1977) as noted in the preface, but the size of "roughly 220 operational aircraft" cited by the JMSDF in the attachment to the 1976 NDPG had already assumed a force scale of 100 aircraft for the fixed-wing patrol aircraft as a working-level consensus.

Conclusion

This article looked at trends in the JMSDF's Aviation Component (fixed-wing patrol aircraft) since its formation, the background and developments related to the PXL issue, and how the positioning of the "100 P-3C Patrol Aircraft-based Structure" was determined in the Basic Defense Force concept in the 1976 NDPG, using oral history comments, various published materials, and other resources. The overall conclusion I have reached in writing this article is that the approach the JMSDF took for incorporating the "100 P-3C Patrol aircraft-based Structure" into the Basic Defense Force concept can be described as below, in conjunction with the "Eight Destroyers with Eight Helicopters Concept" issue.

The JMSDF decided to promote the "Eight Destroyers with Eight Helicopters Concept" and compensate for a shortage in equipment volume by improving quality in response to the rejection of its five escort flotilla proposal due to the stance in the Basic Defense Concept of effectively sustaining the status quo in defense force scale. For the Aviation Component of the JMSDF, the Structure successfully fulfilled political needs as well as military requirements and attained the goal of modernization of maritime defense capabilities because the Structure represented a steep reduction of the aircraft volume compared with the existing fixed-wing aircraft component and therefore satisfied the political demand while fulfilling operational requirements through significant performance improvement enabled by the introduction of the P-3Cs.

Keeping these in mind, I would like to conclude this article by expressing some personal views on the significance of the "100 P-3C Patrol aircraft-based Structure" to Japan's maritime defense.

The first point I want to make is that the "100 P-3C Patrol aircraft-based Structure", without a doubt, contributed substantially to strengthening Japan's maritime defense capability. Regarding this point, it is stated in my research results released last year on the "Eight Destroyers with Eight Helicopters Concept" that "materials overtly discussing "improved capabilities" do not exist due to the nature of the topic." In the P-3C's case, however, the 50-Year History covered the following symbolic episode that offers evidence that P-3C's capabilities exceeded expectations.

> "The transition from "the P-2J era in which detection involved luck" to the "P-3C era in which detection was expected" enhanced a sense of certainty and naturally lifted spirits (of the JMSDF's personnel). This adaptability was fully demonstrated by the Fleet Air Wing 4's P-3C Squadron that participated in this year's annual maritime exercise (author's note: "JMSDF exercise"), enabling detection completely unexpected by the submarine force."[72]

The P-3C force not only provided a potent counterforce (deterrent power) against activities by the submarines of counterpart countries during the Cold War period through ordinary surveillance efforts and other activities, but also participated in a broad range of situations including the suspicious boat incident off the Noto Peninsula in March 1999 and anti-piracy efforts off the coast of Somalia from May 2009.

The second point is that the "100 P-3C Patrol aircraft-based Structure" contributed significantly to "improved cooperation between the JMSDF and the U.S. Navy," which was made possible largely because of the enhancement in capabilities. Makoto Sakuma, a former Chairman of the Joint Staff Office, referred to this fact in the NIDS' oral history by saying that "The JMSDF's equipment and capabilities reached a level that the United States could respect to some extent in the 1980s."[73] While he did not specifically mention the "100 P-3C Patrol aircraft-based Structure" in this comment, I think it is reasonable to assume that, when Sakuma made this comment, he was thinking about the Structure because the Structure was one of the pillars of efforts to modernize the maritime defense force in the early 1980s along with the "Eight Destroyers with Eight Helicopters Concept" as another pillar. It can be said that the establishment of the "100 P-3C Patrol aircraft-based Structure" hence led to rapid improvement of capabilities of the JMSDF's Aviation component during the first half of the 1980s and this resulted in further strengthening of cooperation between the JMSDF and U.S. Navy.

The third point I want to make concerns the significance of the adoption of the "100 P-3C Patrol aircraft-based Structure". Its significance lies not only in that the Structure succeeded in "enhancing force capabilities" and "strengthening cooperation with the U.S. Navy," but also in the role it played as a symbol of modernization of Japan's maritime defense capability, similar to the "Eight Destroyers with Eight Helicopters Concept", or in other words, in its ability to represent and thus actively publicize the modernization efforts. The P-3C garnered strong interest both in Japan and in other countries as a major political issue from as early as the phase when the aircraft was reviewed as the PXL, as explained in section 2 and, as a result, the aircraft was featured extensively in the media from the rollout phase. The aircraft went on to exhibit its presence in various missions, including the above-mentioned suspicious ship incident and anti-piracy efforts, up to the present day, as is widely known. These facts indicate that the aircraft has successfully played a symbolic role in publicizing the modernization of defense capabilities of the Defense Agency (later, the Ministry of Defense) and the JMSDF. Another aspect to consider is the momentum in favor of strengthening Japan's maritime defense capability emerged after the "sea lane defense" comment by Prime Minister Zenko Suzuki in May 1981 during his visit to the United States.[74] The Aviation

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72 *Kaijoujieitai Gojuunenshi,* p.246.

73 NIDS, ed., *Sakuma Makoto Ooraru Hisutorii [Makoto Sakuma – Oral History]*, vol.1 (Tokyo: NIDS, 2007), p.133.

74 Tanaka, *Anzen hosyou*, pp.289-293.

Component of the JMSDF modernized by the "100 P-3C Patrol aircraft-based Structure" exactly matched with this trend of the time. At any rate, it is true that the media often cited the "100 P-3C Patrol aircraft-based Structure" as a symbol of Japan's maritime defense modernization, and the Defense Agency (Ministry) and JMSDF actively publicized the Structure, which, I believe, is the Structure's significance in Japan's national security and defense that is as great as the original intent imbued to the Structure of "enhancing capabilities".

Finally, while the "100 P-3C Patrol aircraft-based Structure" played a very important role in Japan's maritime defense as explained in this article, the JMSDF has already deployed the successor P-1 patrol aircraft to its squadrons and is ready to successively update its force with new generation models. I believe it is important precisely at this timing to accurately understand the background of the rollout and pass it along as part of history.