

Japanese Space Policy - Where is she going?

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Abstract

Passing 26 years from 1970 when the first satellite was launched into the orbit, Japan developed and successfully launched H-II from Tanegashima Space Center in 1994. During those period, Japanese space policy has experienced a big shake from independent development to technology import from the US, and back again to independent development. In general, the H-II rocket which was manufactured by 100% domestic technology, brings Japan from the old era (experimental stage) to the new era (practical use stage).

Fundamental Policy of Japan's Space Activities, which decides such policy as mentioned, was revised in January, 1996 this year after an

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interval of 7 years. This revised outline confirms the result of Japanese space technology until present and identifies the future direction and framework of her space activities for a period of coming ten years on the basis of a long-term perspective towards the 21st century.

However, when comparing with the last Fundamental Policy in 1989, there seems no big change in it, and a long-term perspective is also not seen there. The description varies on some important points in international space law, like international cooperation, protection of environment, commercial use, etc. In addition, the immaturity as well as the necessity of broader discussion are felt because neither this Fundamental Policy nor The National Defense Program Outline treated any national and international security matters concerning outer space.

Considering the present time when Japan enters into the practical use of outer space, such as application, commercial use and launching service, etc, it is doubtful whether new Fundamental Policy was properly planned or not. It seems necessary to use several measures by which the public opinion, opinions from industry and debate on the security are reflected in the policy making.

1. New Fundamental Policy of Japan's Space Activities

The policy concerning the space development of Japan is decided by Fundamental Policy of Japan's Space Activities. This outline will be provided by Space Activities Commission. It is 1978 that Fundamental Policy of Japan's Space Activities was planned for the first time.

Afterwards, the revision was received two times on 1984 and 1989. It is to respond to the changes in the space development and use in Japan and abroad. Upon the same reasons, new Fundamental Policy which had received the third revision in January this year was written to identify the

future direction and framework of Japan's space activities for a period of coming ten years on the basis of a long-term perspective towards the 21st century.

This article will compare policies in the new Policy in 1996 with the old ones in the previous Policy in 1989 and clarify the changes between them.

2. Setting-up Chapters - The Structure

New Fundamental Policy consists of 6 chapters in it. They are Preface, Chapter 1. Basic Policy and Implementation of Space Development, Chapter 2. Development of Space Development Activities, Chapter 3. Institutional Structure of Space Development, Chapter 4. Promotion of International Cooperation, Chapter 5. Encouragement of Space Activities in Private Sector, Chapter 6. Preparation for Promotion of Space Activities.

When comparing title of each chapter with previous one, there is not a big difference. The same name is almost applied since Chapter 2. The setting up of previous Policy was Chapter 2. Space Development Activities, Chapter 3. Organizational Framework, Chapter 4. International Cooperation, Chapter 5. Private Sector, Chapter 6. Social Environment. Especially, those changes are small in Japanese compared with English.

Moreover, the Chapter 1. does not have a big change either (previous Policy: Fundamental Principles). It is thought that present Policy succeeded to overall when structurally seeing.

3. New Direction of Fundamental Policy

Though there is not so big change in its structure, some policy changes are seen in the present Policy. Being enumerated to the first is recognition of the change in an international environment. New fundamental Policy

thinks that The US and Russia are now turning their emphasis in space development from military projects and matters of national prestige to cost/benefit context and high technology development by converting space technology from military use to commercial application.

Those two countries as well as Europe and China are thought to put their resources to civilian use in future space activities. Further, considering the international projects like the space station, international cooperation is respected in it. Upon the above mentioned recognition, the Policy says that Japan has to play an active role in international space endeavours from a global standpoint

4. Policy Change in Each Field

Priority areas are presented in Paragraph 1 of Chapter 2, and afterwards a concrete content of the activity is described clearly in Paragraph 2. Following is the main points in each field. First of all, Section 1. Earth Observation and Earth Science, while developing a series of satellites, insists on establishing an information network for data use. This is a point that was not referred in the previous Policy which devoted attention only to satellite technology.

In addition, the Policy offers a global earth observation system in harmony with other countries, which is one area of international cooperation. Regarding the reason why the description of meteorological satellites decrease, this technology reaches completely at the practical use level.

Section 3. is devoted to the Moon Exploration. In this chapter, unmanned exploration and an international lunar observatory are planned. About Communication, Broadcasting and Navigation (Section 4.), much attention has been paid to the active development and use of personal satellite-based mobile communication, GPS, etc.

Section 6. Manned Space Activities newly enumerates acquiring experience and know-how through JEM (Japanese module of the space station) and the US space shuttle, and describes space medical science.

Section 7. Basic Technology for Satellite and Section 8. Space Infrastructure are planning development of satellites, transportation systems in the future. The new tendency in both sections is a declaration of cost reduction.

When a new satellite is built, cost reduction is essential, and a cost cutting is ordered in the transportation system. It is new that this Section 8. describes H-IIA launch vehicle, J-1 launch vehicle, HOPE-X (an experimental part of reusable type transportation system), HTV for supplying logistics to the space station and a space plane. In addition, new landing field for HOPE-X and a monitoring system of space debris are listed up as new items.

In Chapter 3. Institutional Structure of Space Development and Chapter 4. Promotion of International Cooperation, the enhancement of national and international cooperation is requested. Especially, the reinforcement of cooperation with Asia-Pacific regions in some fields is pointed out in Chapter 4.

Chapter 5. (Encouragement of Space Activities in Private Sector) newly refers providing the private sector the opportunities for verification and experiments, actively exchange personnel between NASDA and the private sector and commercial launch service. For the Preparation for Promotion of Space Activities (Chapter 6), it enumerates, as promotion measures, Internet, science museums, aero-space related centers, use of 'Space Day', etc.

In the field of manpower training, additional effort to foster personnel of humanities and social science such as space law and space psychology. Additionally, it is the first time that the space insurance is expressed in

the Policy. This might be a result of recognition of entering the practical use stage.

5. Evaluation of New Fundamental Policy

As mentioned above, while keeping the same structure as a previous one, New Fundamental Policy has some changes and additions in the detail. Those changes and additions are made based upon the history of space development in Japan and related international environment for recent 7 years.

However, whether it is a appropriate compass by which the direction of Japanese future space activities is indicated should be examined. That is only this Policy that clarifies the attitude of Japan responding the obligation of international space law, because there has been no fundamental law concerning the space development in Japan.

(1) Commercialization

Though the revised outline recognizes that the US and Russia are converting space technology from military use to commercial application. And further, there is growing emphasis among these major countries (* These are the US, Russia, Europe, China.) on civilian use in future space activities, the direction of Japanese effort for commercialization remains ambiguous. The Policy declares that in its Preface "We should renew the significance of space development and recognize a world wide trend to emphasize both civilian use and international cooperation in space activities.

We have to play an active role in international space endeavours by enhancing the current level of our space technology and know-how, and by pursuing real utilization of space from a global standpoint", however, the actual content of commercialization is not described. The definition of

civilian use and commercial application is assumed to be vagueness. It only points out the necessity of a cost reduction, active participation of private sector and introduction of space insurance.

The border line between two categories, one is left for the national responsibility and the other is commercialized for private sector, is not drawn though Chapter 5 newly introduced commercial launch service. Under such a situation, the enterprise which positively executes the space activity is not to appear easily while some are engaged in national space projects as subcontractors.

(2) Protection of Environment

Recently, the environmental issue has been important as a problem of pollution prevention by debris in outer space and a problem of the environmental protection of the earth by remote sensing from outer space. New Fundamental Policy spares 1 paragraph to conducting research on space debris monitoring systems. Moreover, the environment problem is referred in each part and it offers the global observation system with other nations. Those are descriptions consider the international contribution in this field.

(3) International Cooperation

Regarding cooperation, Chapter 4 as a whole provides its promotion. To compare with the previous Policy, joint establishment of observation system is newly proposed in this field. And the new Policy intends to expand cooperation especially with Asia-Pacific Regions.

(4) Peaceful Character

International space law has made an effort to prevent outer space from the military expansion. That spirit appears to the preface and Article 4 of outer

space treaty in 1967. Fundamental Policy, in only one sentence (Chapter 1, 1-1 Basic Policy), says that Japan promotes its space development within a scope of peaceful purposes. The description concerning peace and security is not seen in other parts at all. Japan interpreted 'peaceful' in outer space treaty as 'non-military' and does not change that interpretation at present.

After the private sector came to use some space technology generally, such space use is allowed to the military sector for the first time. However, it should be discussed whether to continue such an interpretation even after Japan herself develops enough technology for launching satellites by which enough data and information can be acquired from outer space. If 'peaceful' is interpreted as 'non-aggressive', information gathering from outer space can be done by Japanese military sector.

This new Fundamental Policy does not refer at all on this issue at the time when it is understood that the stability and security of the region is kept with satellite data and analyzed information from it. The National Defense Program Outline, which decides the defense policy in Japan, also does not describe the space utilization yet, though that use is insisted on in the advisory report "The Modality of the Security and Defense Capability of Japan" submitted to the Prime Minister by his Advisory Group of Defense Issues. The appropriate policy on this matter should be discussed inside and outside the Diet sufficiently and be reflected not only in the Fundamental Policy but also in the National Defense Program Outline.

Conclusion

The fundamental Policy of Japan's Space Activities in 1996 is thought to be the first Policy decided after Japan started practical use of outer space. This Policy successfully outlined continuous, mid-term targets for a period of coming 10 years, of which the term is intended by the planner,

Space Activities Commission, from the beginning. On the other hand, Japan's long-term vision and philosophy in her space activities is not clear though this Policy is a steady forecast based upon the present technical achievements.

It is rather difficult to see the policy and guidelines for the future legal structure which can appeal to the public domestically and internationally. In order to solve the problem, the system by which the public opinion is considered and entered into the Policy is needed. In this case, the Diet where the public opinion as well as the opinion from the industries are reflected should be involved more in the policy and law making process.

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