Routledge Handbook of Space Law

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Publication details
https://www.routledgehandbooks.com/doi/10.4324/9781315750965.ch18
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Published online on: 21 Nov 2016

How to cite: Guoyu Wang. 21 Nov 2016, Regulation of navigational satellites in China from: Routledge Handbook of Space Law Routledge
Accessed on: 19 Jul 2023
https://www.routledgehandbooks.com/doi/10.4324/9781315750965.ch18

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Status

Up to 2015 the following developments concerning the Beidou System have taken place: the Beidou System provides stable services to the Asia-Pacific area; the first next-generation Beidou Satellite aimed at verifying new technologies has been successfully launched; the deployment of the Beidou augmentation system for all-round scale has been completed; the construction of the rest of the Beidou System progresses steadily. Meanwhile, China has issued a series of policies to support and guide the development of the Beidou System and industry. By contrast, the satellite navigation legislation lags behind. The specific regulations are expected and are under extensive discussion.

The Beidou System has been developing in line with the “three-step roadmap” and the thinking “from regional to global, and from active to passive”, and forms a development path as region-highlighted, world-oriented, with its own features. The first step, 1994–2000, was about the provision of regional active services; the second step, 2004–2012, concerned the provision of regional passive services; the third step, 2013–2020, deals with the provision of global passive services.1

The first next-generation Beidou Satellite was successfully launched on March 30, 2015 and the number of the constellation’s satellites in-orbit reached 17. The space segment, when completed, will consist of five GEO satellites, three IGSO satellites and 27 MEO satellites around 2020, which could offer worldwide services.2

The Beidou System is able to provide four types of services: open, authorized, wide area differential and short-message services. The positioning accuracy more accurate than 10 meters (the positioning accuracy is better than 5 meters in regions with low geographic latitude), the timing accuracy surpasses 20 nanoseconds and the velocity accuracy is faster than 0.2 meters per second.

1 www.beidou.gov.cn/2011/12/06/20111206e06b16a3bd8846459b969277a3317e5b.html.
The applications of the system focus on three aspects: industrialization of fundamental products, promoting industrial/regional demonstrative applications and mass market applications.3

Administration, organization and general policy framework

China Satellite Navigation Office is the authority responsible for the system administration. The objectives, fundamental policies and basic principles as to BeiDou System have been addressed by the China Satellite Navigation Office in many fora. As for the objectives, the BeiDou System is committed:4

- To provide continuous, stable and reliable positioning, navigation and timing services to global users;
- To meet the requirements derived from national security, economic and social development sectors, to accelerate IT applications and the transformation of economic development methods, and to improve both economic and social benefits;
- To serve the world and benefit mankind through joint efforts with other navigation satellite systems across the globe.

As addressed by the China Satellite Navigation Office, BeiDou’s fundamental policies include:

- Providing open services free of charge for users; maintaining and perfecting the system constantly, improving service performance continuously, and offering services with higher quality;
- Releasing open service performance specifications on schedule, bringing the function of government and market to full play, promoting innovation, popularization and internationalization of BeiDou/GNSS applications, and laying foundation for the national strategic emerging industries.
- Adhering to the concept of development and win-win cooperation, realizing compatibility and interoperability between BeiDou and other GNSS, fully exploiting the system efficiency and increasing users’ benefits.

The Basic Principles are formulated as:

- Openness: the BeiDou System will offer open services free of charge for global users.
- Independence: develop and operate BeiDou System independently.
- Compatibility: the BeiDou System is devoted to pursuing compatibility and interoperability with other navigation satellite systems, and enables users to obtain better services.
- Speed of implementation: the BeiDou System is established step by step in the light of current Chinese technical and economic conditions.

More specific policies relevant to the promotion of the satellite navigation industry are contained in several governmental documents at different levels, such as “Some opinions on promoting the development of the satellite application industry (2007)” 5 “The Twelfth Five-

The research and formulation of navigation policies on promoting the development of BeiDou Satellite Navigation Industry is being carried on by the China Satellite Navigation Office, together with the National Development and Reform Commission, the Ministry of Industry and Information Technology, the Ministry of Science and Technology and other institutions. The National Standard System for the BeiDou Satellite (Version 1.0) has been reviewed and formulated. Eight national standards have been applied for approval, while 18 standards of the BeiDou project are expected to be published.

International agreements

The BeiDou System has been the subject of several international agreements relating to bilateral and multilateral cooperation, cooperation on applications, international standardization and technical exchanges.

The Project Committee on China-Russia GNSS cooperation has been founded and the first bilateral round table meeting on GNSS cooperation has been held. The MOU on China-Russia cooperation in the field of satellite navigation has been signed. The on-site survey has been completed including GLONASS ground stations in China and BeiDou ground stations in Russia, and the Joint Statement on compatibility and interoperability has also been released.

The first bilateral meeting of the China-U.S. civil GNSS cooperation has been held. The cooperation mechanism between BeiDou and GPS has been established, and the Joint Statement between these two systems have been signed.

The frequency coordination towards navigation frequency channel between BeiDou and GALILEO has been completed, and the cooperation mechanism between these systems is under discussion.

As to multilateral cooperation, China actively undertakes international responsibility, to promote the compatibility and co-existence among navigation satellite systems. China actively participated in the 9th Meeting of the ICG, IWG, ITU and other GNSS activities organized by the United Nations and is deeply involved in the coordination of important subjects, such as the compatibility and interoperability among basic systems and satellite-bases augmentation systems, service performance parameter, GNSS monitoring and assessment, etc.

Meanwhile, the application cooperation has been conducted effectively. China advocates integrated applications of multiple systems, and is pushing forward the BeiDou services to spread abroad and benefit neighboring countries, including applying the BeiDou System to the national strategic planning of jointly building the Silk Road Economic Belt and the twenty-first-century Maritime Silk Road, namely “One Belt and One Road”. In this case, China had carried out cooperation with Korea, Australia, Indonesia, Pakistan, Thailand, Singapore, the

6 The Chinese version is available at: www.china.com.cn/policy/txt/2012-07/20/content_25968625.html. It is issued by the State Council.
7 The Chinese version of this plan is available at: www.beidou.gov.cn/2013/10/11/2013101108357d7dac88404c85f9bade990b49.html. It is issued by the State Council.
8 The Chinese version of this plan is available at: www.sbsm.gov.cn/article/chyw/201403/20140300008799.shtml.
United Arab States, Nigeria, and so on. Besides, China continues to hold the BeiDou ASEAN Tour and the BeiDou Asia-Pacific Tour, and promoting system applications.

At the level of international standardization, China actively promoted the recognition of the BeiDou System in international organizations, such as IMO, ICAO and 3GPP. The Ship-borne BeiDou-based Receivers Performance Standard has been approved by IMO, making the BeiDou System the third navigation satellite system worldwide recognized by IMO. China promoted the establishment of the BeiDou Working Group affiliated to the hundred and fourth professional committee of RTCM. Sixteen technical standards which support the positioning function of the BeiDou System have been approved by the third and fourth Generation Partnership Projects.

Regarding technical exchange, China encourages academic exchanges, hosts the China Satellite Navigation Conference, and continues to attend other international academic conferences in the field of satellite navigation. In the aspect of International Exchange and Training, the CSNO has organized three sessions of master’s program specializing in satellite navigation, while 44 trainees from eight countries in the Asia-Pacific and African areas have been recruited. Three sessions of the Summer School on Frontier Technology in the field of satellite navigation have been successfully organized, and more than 200 trainees have completed their studies.

**Spectrum protection**

The Radio Regulation of the People’s Republic of China (The Regulation) was promulgated by the State Council and the Central Military Commission in 1993. The Exposure Draft of this Regulation was issued in 2014, which was drafted by the Ministry of Industry and Information Technology and the Headquarters of the General Staff. The Regulation and the Exposure Draft offer a comprehensive framework and specific provisions for spectrum protection.

The state radio regulatory organ under the State Council is responsible for the nationwide management of the radio frequency spectrum, while the radio regulatory organ of the Chinese People’s Liberation Army is responsible for radio regulation in the military.

The administrative and criminal provisions are contained in greater detail in the Exposure Draft than in the Regulation, with regard to radio jamming, the establishment and operation of an unapproved radio station, the change of authorized characteristics the transmission and/or reception of signals that are not related to its operation without permission, and so on.

The relevant organs under the State Council assign frequency bands and frequencies allotted to them and notify the state radio regulatory organ or relevant local radio regulatory organs for the record.

Besides, the specific regulations and standards on protection of signals and frequencies of the BeiDou System are under discussion, as highlighted and required by “The Mid- and Long-Term Development Plan of National Satellite Navigation Industry” inaugurated in 2013.

12 Article 8, The Exposure Draft.
13 Article 9, The Exposure Draft.
14 See Articles 43, 44, 46 of The Regulation and Articles 68–78 of The Exposure Draft.
15 Articles 22 of The Regulation.
16 See Supra note 7.
Privacy protection

China has no specific rules about location privacy, use of personal data involving positioning by State authorities or private entities/natural persons.

At the substantive law level, the right to privacy is protected according to the Tort Liability Law of the People’s Republic of China (the Tort Law), which came into force in 2010. However, it remains unclear whether location privacy is protected under this law. It is suggested that the Tort Law should be modified to clarify the scope of the privacy right, in which location privacy should be included.

At the conflict-of-laws level, the characterization and compensation of tort regarding privacy is governed by the law of the State in which the injured party habitually resides.

17 Article 6, the Chinese version is available at: www.chinadmd.com/file/06uwstixcppswrstz6cz3zu_1.html (last accessed 9 January 2016).
19 “Infringement on the right of name, portrait, reputation or privacy or other rights of personality via the Internet or by other means shall be governed by laws of the habitual residence of the infringed party.” Article 46 of the law of the People’s Republic of China on Application of Laws to Foreign-Related Civil Relations, entered into force in 2011.