

LEGAL ISSUES IN CHINA'S POSSIBLE PARTICIPATION IN THE INTERNATIONAL SPACE STATION (ISS)

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Abstract

China has made great achievements in space activities in recent years. While emphasizing the principle of self-independence, China also acknowledges the importance of space cooperation. As early as 2001, China indicated its interest in joining the International Space Station (ISS). While technologically ready for participation, China should start seriously considering the possible legal issues that may arise from participation. This article takes up the challenging task of identifying possible legal issues in China's participation in the ISS and offering suggestions for future cooperative legal framework of the ISS.

1. INTRODUCTION

The International Space Station (ISS), one excellent example of multilateral space cooperation, is actually the largest and most complex manned space cooperative project in the human history.¹ It is a permanently manned multi-use facility in low Earth orbit (LEO) for scientific and technological research.² The Partner States contribute to the construction of the ISS and share equally the benefits arising out of activities in the ISS. Various researchers have indicated the importance of the ISS in contributing to scientific and technological development, and also furthering the development of space laws.³

China has made great achievements in space activities in recent years. As the third nation in the world with ability to send astronauts to outer space, China has developed a concrete plan for space exploration, with one goal being the

establishment of national space station by 2020.⁴ While emphasizing the principle of self-independence, China also acknowledges the importance of space cooperation.⁵ Bilaterally, China has reached cooperation agreements with many countries;⁶ multilaterally, China hosts the Asia-Pacific Space Cooperation Organization (APSCO), which was set up in October 2005.⁷

As early as of 2001, China indicated its interest in joining the ISS.⁸ While the United States (US) vetoed China's participation early on, China's rapid technological development and international cooperation in outer space has led to signs of increasing cooperation between the two countries. President Barak Obama's visit to China in 2009 has resulted in a press release announcing Chinese-American Rapprochement in the space field.⁹ Recently the European Space Agency (ESA) also

¹ The ISS Project Promoted through International Cooperation,

<http://www.jaxa.jp/projects/iss_human/kibo/index_e.html> (last visited 20 June 2011).

² Lynne C. Myers, The International Space Station: Canada's Involvement, Revised 5 September 2001, available at <<http://dsp-psd.pwgsc.gc.ca/Collection-R/LoPBdP/CIR/875-e.htm>> (last visited 11 July 2011).

³ The Intergovernmental Agreement for the International Space Station was considered the latest space law treaties to enter into force. See Christopher M. Petras, "Space Force Alpha": Military Use of the International Space Station and the Concept of "Peaceful Purposes", 53 *The Air Force Law Review* 160 (2002).

⁴ China Planning Space Station Launch in 2010, available at <http://www.redorbit.com/news/space/1938804/china_planning_space_station_launch_in_2020> (last visited 11 July 2011).

⁵ White Paper: China's Space Activities, Information Office of the State Council, October 2006, Beijing, <<http://www.china.org.cn/english/features/book/183672.htm>> (last visited 20 June 2011).

⁶ *Id.* China has bilateral space cooperation agreements with Argentina, Brazil, Canada, France, Malaysia, Pakistan, Russia, Ukraine, the European Space Agency (ESA) and the European Union Committee.

⁷ <http://www.apsco.int>.

⁸ <http://www.spacedaily.com/news/china-01zd.html>; C. Covault, China Seeks ISS Role, *Chinese Space Power*, Vol. 155, No. 20, at 52.

⁹ <http://www.enjoyspace.com/en/news/a-china-usa-space-co-operation-programme>.

indicated its supports for China's inclusion in the ISS.¹⁰ All these positive signs show that China has great chance to become part of the ISS. As such, not only the ISS Partner States, but also China should prepare for China's future possible participation in the ISS.

While technologically ready for possible participation, China should start seriously considering legal issues involved with such participation. This article takes up this challenging task by identifying possible legal issues in China's participation in the ISS and offering suggestions for future cooperative legal framework of the ISS.

Part 2 of the article examines the current legal framework for the ISS and key issues defined in the legal documents. Part 3 offers a historical account of China's efforts in participation in the ISS and the concerns from the partner states of the ISS. As far as the issue of participation in the ISS is concerned, China and Russia share similarities. Both have advanced space technologies and Russia joined the ISS only after the original framework had been in existence for several years. Examinations of Russia's participation process can offer a useful lesson for China. Part 4 accordingly looks into Russia's participation in the ISS and the changes brought to the legal regime for the ISS at that time. Part 5 elaborates on general principles, guidelines and legal issues to be resolved for China's participation in the ISS. Part 6 concludes that China is well qualified to be included in the ISS and that China's participation in the ISS will bring benefits to both China and the ISS Partner States.

2. LEGAL FRAMEWORK FOR THE INTERNATIONAL SPACE STATION (ISS)

With sixteen states involved in the program, an appropriate legal framework is vital to the sustainable development of space cooperative projects. The long-term nature of the ISS has called for a legal framework that can work for all the Partner States. Generally speaking, the basic legal framework of the ISS can be divided into three layers.

First, the Inter-Governmental Agreement (IGA) sets up the fundamental principles and structure for

the ISS.¹¹ The first version of the IGA was completed in 1988, with the US taking the leading role. The current version was reached in 1998 after Russia's participation in the ISS. Several amendments were made to the 1988 IGA due to Russia's participation, which will be further discussed in Part 3. The 1998 IGA deals with key legal issues that may arise because of the ISS, such as intellectual property rights,¹² criminal jurisdiction,¹³ and property rights¹⁴.

The IGA only establishes "a framework of principles and procedures, with the details to be continually addressed and adjusted."¹⁵ The Memoranda of Understandings (MOUs), the second layer of rules, were thus concluded between NASA and each of the other cooperating agencies of the ISS partners to further address unresolved matters for the operation of the ISS. The MOUs sets out in detail the ISS partners' roles and responsibilities in the design, development, operation, and utilization of the ISS. It also stipulates the management structure and interfaces necessary to ensure the ISS's effective operation and utilization.

The Partner States reached various implementing arrangement to carry out the MOUs, which define the contractual obligations and trading of partners' rights and duties.¹⁶ These Arrangements constitute the third layer of agreements for the ISS. As such, the above three layers of documents create contractual obligations on issues such as management, operation, utilization and development of the ISS.¹⁷ They work as a whole to provide legal guidance to Partner States and astronauts in the ISS.

Additionally, internal rules have been drafted to deal with astronauts' acts and general operational

¹¹ For detailed discussions on the IGA provisions, see A. Yakovenko, *The Intergovernmental Agreement on the International Space Station*, 15 *Space Policy* 82-84 (1999).

¹² The 1998 IGA, Article 21.

¹³ The 1998 IGA, Article 22.

¹⁴ The 1998 IGA, Article 6.

¹⁵ Lynn F.H. Cline & Graham Gibbs, *Re-Negotiation of the International Space Station Agreements—1993-1997*, 53 *Acta Astronautica*, No. 11, 917-925 (December 2003).

¹⁶ The 1998 IGA, Article 4.

¹⁷ The IGA and its respective MOUs can be downloaded at <http://www.space-law.olemiss.edu/ISL_34_2.html>. For further discussions on the Legal Framework of the ISS, see A. Yakovendo, *The Intergovernmental Agreement on the ISS*, 15 *Space Policy*, 79-86 (1999).

¹⁰ http://www.space-travel.com/reports/China_May_Become_Space_Station_Partner_999.html.

matters within the ISS. While technically speaking these internal rules are not implementing agreements, they are most urgently needed and can have important legal implications for the smooth operation of the ISS. For example, the Code of Conduct provides clear guidelines for astronauts in carrying out their duties and maintaining good order in the ISS.

Aside from the above three layers of documents specifically designed for the ISS, the existing space treaties and general principles of space law are equally applicable to the ISS. The IGA confirms this point by recalling the four space treaties in the Preamble¹⁸ and stating that the cooperation shall be carried out in accordance with international law¹⁹.

The domestic rules and regulations of Partner States have also influenced the implementation of the above documents. Each Partner retains jurisdiction and control over the elements it registers and over personnel in or on the ISS who are its nationals and each Partner has the opportunity to extend the application of domestic laws to the above elements and personnel.²⁰ Consequently, while putting forward a general legal framework for the ISS, the IGA fails to provide a set of homogeneous rules for specific activities carried out in the ISS; instead, the IGA leaves matters, such as the protection of intellectual property rights and the exchange of data and goods, to national legal regimes.

3. CHINA'S PARTICIPATION IN THE ISS

As claimed by some analysts, the US has in mind three possible options for China: 1) continue the non-cooperative attitude; 2) cooperative efforts step-by-step 3) propose a "grand bargain", an overall cooperative framework, including military, civil and commercial use of outer space.²¹ When it comes to the participation in the ISS, various options at different cooperative levels exist. The Partner States can invite an astronaut of a non-Partner State to visit the ISS; or they can allow a

spacecraft of a non-Partner State to dock to the ISS on a regular basis; or they can go further and allow a full partnership for a non-Partner State.²² An invitation to a Chinese astronaut to visit the ISS is relatively easy; however, full-fledged participation entails complicated consideration. The discussion of this article is carried out on the premise of full participation, if no particular reference is made.

China has shown great interest in participating in the ISS and expressed such interests to the ISS Partner States as early as 2001.²³ The US has so far vetoed China's participation, which it believes may pose "technical and safety challenges, as well as questions of technology transfer."²⁴ Other reasons may include China's state political system, its lack of transparency and claimed poor human rights record. Closely related to the issue of transparency, the US is also suspicious of China's policies and rules in technology transfer and threats of weaponization in outer space.²⁵ All these concerns account for China's failure to join the Missile Technology Control Regime (MTCR).

Political system and human rights are often barriers to space technological cooperation. However, a regular dialogue platform has been set up and the leaders of the US, EU and China have been able to exchange views on human rights. Thus, the key issue rests on the concerns over technological transfer.

As a result, political and economic, rather than legal and technical, considerations take up a more important role in the resolution of the situation. As far as the MTCR membership is concerned, under the current situation, another scholar correctly observes, "[R]ather than the more standardized criteria of the past, admission of new members to the MTCR today has become a bargaining process involving political and commercial tradeoffs and side payments. So, whether or not China joins the organization is going to depend largely on what demands the current members and Beijing bring to

¹⁸ The four treaties refer to the 1967 Outer Space Treaty, 1968 Rescue Agreement, 1972 Liability Convention and 1975 Registration Agreement.

¹⁹ The IGA, Article 1.

²⁰ The IGA, Article 5.

²¹ Theresa Hitchens & David Chen, Forging a Sino-US "Grand Bargain" in Space, 24 *Space Policy* 128-131 (2008); Joan Johnson-Freese, A New US-Sino Space Relationship, 4 *Astropolitics*, No. 2, 155 (2006).

²² David A. Mindell, Scott A. Uebelhart, Asif A. Siddiqi & Slava Gerovitch, The Future of Human Spaceflight: Objectives and Policy Implications in a Global Context 65 (American Academy of Arts and Sciences, 2009), <http://carnegie.org/fileadmin/Media/Publications/PDF/spaceFuture.pdf> (last visited 29 June 2011).

²³ <http://www.spacedaily.com/news/china-01zd.html>.

²⁴ Mindell, supra note 22, at 65.

²⁵ <http://chinaperspectives.revues.org/document577.html> ; <http://www.international-relations.com/CM7-1WB/ChinasSpaceWB.htm>.

any accession negotiation and the prospects that they can be realized or surrendered.”²⁶

Obviously, members are taking a more pragmatic approach in admitting a new member. Possible technical or commercial benefits or any foreseeable interests from a potential membership can rule over political or human rights considerations. In this respect, China’s participation in the ISS appears all the more realistic. China, as the third country to have sent human being to outer space, holds high technologies necessary for space activities; China’s indigenous space technologies have the potential to bring new revolutionary developments, commercial or technical, to the operation and management of the ISS. The concerns over transfer of technologies can be alleviated by the fact that China has developed the complete legal framework for export control and China’s reiteration of firm compliance with the international export control regime. Total exclusion of China is not beneficial to any party. Previous experience shows excluding China from high-tech areas will not prevent China from developing high technologies on its own. Cooperation, instead of confrontation, will bring more real and immediate benefits to all parties. Consequently, we shall hold optimistic attitudes towards China’s participation in the ISS.

4. EXPERIENCE FROM RUSSIA’S PARTICIPATION IN THE ISS

China’s possible participation in the ISS is likely to create legal issues that have not been directly dealt with in the legal papers so far. As a reference, it might be useful to consider briefly the legal issues that arose when Russia joined the ISS in the 1990s. The dissolution of the former Soviet Union represented the end of the Cold-War era. The drastic changes in the international political situation brought with it the opportunity for space cooperation. Russia had highly advanced space technologies and space facilities, which were vitally important to further development of the ISS; the sufficient financial support from the ISS Partner States is what Russia lacked for further developing space activities. The complementary needs of the two sides provided sufficient justification for including Russia in the ISS. The

two sides reached consensus after several rounds of negotiations.

Before Russia’s partnership, the ISS was largely reliant on the US’s technologies and financial contributions; the other Partner States were only joining the American base station with their own important space elements. It is thus natural that the original IGA signed in 1988 emphasized the controlling role of the US and ultimate authority lay with the US. Russia was in a strong position to raise many issues for negotiations because of its highly advanced and needed technologies. In view of the many concerns raised, it became apparent that the 1988 IGA had to be replaced by a new legal framework. Compared to the 1988 IGA which gave the US precedence in decision-making, the 1998 IGA attaches more emphasis on the principle of equal partnership. Adjustments were made to achieve mutually acceptable solutions in areas such as command and control of the station. The Partner States are guaranteed that their roles would commensurate their contribution to the development and implementation of the ISS. A separate MOU with the Russia Space Agency (RSA) contains a provision that in the event there is no consensus, the final decision would be made by the NASA; however, should RSA disagree, the decision would not apply to its part of the station.²⁷ Consequently, the revised regime, while taking into consideration the investments from the all the Partner States, provides a comparatively more important role for Russia and the US in the jurisdiction and control over the ISS. This is commensurate with the contributions from these two Partners and the size of their crews on board the ISS. In view of US’s ground control over the ISS, it is understandable that the US still retains a primary role in command and control of the ISS.²⁸

Criminal jurisdiction was one major area for negotiation. Generally there are four theories for international criminal jurisdiction: subjective/objective territorial jurisdiction; nationality jurisdiction; protective jurisdiction; universal jurisdiction.²⁹ The 1988 IGA provided territorial and nationality jurisdictions, with the territorial jurisdiction taking a more important role. The Partner States shall have criminal jurisdiction

²⁷ See for example, Article 8.1 of the MOU.

²⁸ Mary Catherine Devlin & William G. Schmidt, Legal Issues Continue to Surround the International Space Station, 8 *US Air Force Academy Journal of Legal Studies* 247 (1997-1998).

²⁹ Covey T. Oliver et al., *The International Legal System* 132 (4th ed., Foundation Press, 1995).

²⁶ Victor Zaborsky, Does China Belong in the Missile Technology Control Regime?, <<http://www.armscontrol.org/act/2004_10/Zaborsky>> (last visited 3 November 2010).

over their own flight elements and their own nationals.³⁰ However, the US enjoyed a secondary exclusive right to exercise criminal jurisdiction over “misconduct committed by a non-US national in or on a non-US element of the manned base or attached to the manned base which endangers the safety of the manned base or the crew members thereon.”³¹ Such a special status in the criminal jurisdiction again strengthens the US’ controlling role in the old regime.

Russia’s participation led to discussions over how to balance the rights and obligations of Partner States. Furthermore, Russia needed the guarantee of jurisdiction over its own nationals. As a result, nationality jurisdiction took the priority with the Partners exercising jurisdiction over their own nationals. The US under the new regime can still exercise criminal jurisdiction over nationals of another Partner State, but only when the concerned Partner State failed to provide assurances of prosecution.³² This is drastically different from the old regime when the US may exercise such jurisdiction by merely claiming that it fails to receive assurances of prosecution.³³ As such, the burden of proof lies on the provider of assurances, instead of receiver; such a shift “therefore continues the move towards fairness and equality”.³⁴

The nationality jurisdiction is complemented by a protective principle, namely, the passive personality jurisdiction in which the Partner States shall carry out consultation and try to resolve conflicts, if any, in a friendly manner.³⁵ So, a

³⁰ The 1988 IGA, Article 22.1.

³¹ The 1988 IGA, Article 22.2.

³² The 1998 IGA, Article 22.

³³ The 1988 IGA, Article 22.

³⁴ Stacy J. Ratner, *Establishing the Extraterrestrial: Criminal Jurisdiction and the International Space Station*, 22 *Boston College International & Comparative Law Review* 337 (1999).

³⁵ The 1998 IGA, Article 22.2 provides, “In a case involving misconduct on orbit that: a) affects the life or safety of a national of another Partner State or b) occurs in or on or causes damage to the flight element of another Partner State, the Partner State whose national is the alleged perpetrator shall, at the request of any affected Partner State, consult with such State concerning their respective prosecutorial interests. An affected Partner State may, following such consultation, exercise criminal jurisdiction over the alleged perpetrator provided that, within 90 days of the date of such consultation or within such other period as may be mutually agreed, the Partner State whose national is the alleged perpetrator either: a) concurs in such exercise of

Partner State may request consultation with another Partner State, seeking to exercise territorial jurisdiction over a national of the other Partner State who perpetrated a crime in its territory. This represents the cooperative efforts in exercising criminal jurisdiction as the 1998 IGA further provides that “each Partner State shall, subject to its national laws and regulations, afford the other Partners assistance in connection with alleged misconduct on orbit.”³⁶

Extradition, never an important issue before Russia’s participation, became a sensitive issue for negotiation. However, under the new regime, the Partner States successfully included the extradition provision under the section of criminal jurisdiction, which provides the possibility of the 1998 IGA to serve as the legal basis for extradition for crimes outside the scope of universal jurisdiction.³⁷ No separate extradition agreement is needed for extradition of criminals onboard the ISS.

This arrangement is especially meaningful to China since extradition has always been a difficult and sensitive area for China to reach any bilateral or multilateral agreements with other States. This extradition provision under the IGA, while limiting to issues related to the ISS, can work as a testing bed for China’s future negotiations on extradition arrangements with other States.

Intellectual property protection arose as another important area, but no changes were made to this area, and the Partner States still retain the right to obtain intellectual property rights in all those produced in any part of the ISS.³⁸ This provision is not to be confused with the provision on exchange of data and goods. The negotiations successfully led to the provision that all the Partner States shall make efforts to share the data and goods, but special consideration shall be made to the profits of the investors and the interests of the investing State.³⁹ This provision, largely representing the request from Russia, on the one hand, sticks to the principle of information sharing; on the other hand, it balances the interests and benefits of the investing states and other Partner States. The arrangement is understandable since the Partners

criminal jurisdiction, or b) fails to provide assurances that it will submit the case to its competent authorities for the purpose of prosecution.”

³⁶ The 1998 IGA, Article 22.4.

³⁷ The 1998 IGA, Article 22.3.

³⁸ The 1998 IGA, Article 21.

³⁹ The 1998 IGA, Article 19.

and private entities in those Partner States should be able to obtain sufficient return on their investments, instead of freely sharing their discoveries. This issue is closely connected with the proper design of space commercial framework to effectively apply the term “common heritage of mankind” inscribed in the Moon Agreement.

The IGA put down for the first time a provision on the liability issue. The 1998 IGA keeps the provision on the application of the Liability Convention in possible liability scenarios. However, the 1998 IGA partly modifies the provision on cross-waiver of liability. Cross-waiver of liability by the Partner States is defined to be the general rule for the purpose of encouraging participation of Partner States in the exploration, exploitation, and use of outer space through the ISS.⁴⁰ Each Partner State shall waive all claims against “1) another Partner State, 2) a related entity of another Partner State, and 3) the employees of either, when damage arises out of Protected Space Operations.”⁴¹ As such, some related entities are included in this cross-waiver regime. The definition of the term “related entities” was expanded in the 1998 IGA. This term is defined to include: 1) a contractor or subcontractor of a Partner State at any tier; 2) a user or customer of a Partner State at any tier; 3) a contractor or subcontractor of a user or customer of a Partner State at any tier. It may also apply to a State, or an agency or institution of a State.⁴² That means, the cross-waiver regime can be extended to non-Partner sovereign states under certain circumstances. This expanded definition satisfies Russia’s expectation. Since Russia sometimes carries out its launching activities in Ukraine, it is possible to extend the cross-waiver of liability to Ukraine, a non-Partner State. Lastly, the Liability Convention shall apply in any other situations, i.e., when the liability involves any third party, not belonging to Partner States and related entities. The liability issue under such circumstance shall be decided on a case-by-case basis.

5. CHINA’S FUTURE PARTICIPATION IN THE ISS: TECHNICAL AND LEGAL CONSIDERATIONS

Russia joined the ISS at a time when it was facing economic difficulties after the end of the Cold War, which may have minimized their negotiation

power leaving the leadership of the US as still integral. By contrast, China has now grasped advanced space technologies and is developing its own space programs and the participation of China in the ISS shall exert substantial influence on the operating pattern of the ISS. The dominant role of the US, and Russia in some aspects, in the management and operation of the ISS, may need to be reconsidered with a possibly more cooperative framework among the Partner States. Optimistically, the current framework of the ISS can be more open than the 1998 framework. Consequently, China’s possible participation offers an excellent opportunity to reexamine the 1998 framework and clarify or improve certain provisions that exist in the current regime. As far as China is concerned, it will need to start seriously studying the 1998 IGA and to see if there are any necessary changes or improvements; at the same time, China should also study its current situation and examine whether any preparations on its part are needed for participation in the ISS.

Participation in the ISS is a costly venture and generally the costs should not outweigh the benefits.⁴³ In view of the huge operating and maintaining costs, and given the fact that China already has its own control network capabilities, China will be in a position to negotiate for a better result in order to justify the costs. Rights and obligations should be proportionate and the benefits should be closely related to the investment, or there is no point in becoming the ISS Partner State. Thus, China shall hold highly the principle of balance of rights and obligations during the negotiations of the participation in the ISS. While China does not aspire to be a leader or outdo the US and Russia, its contribution should be fully reflected in the management and operation of the ISS.

As defined in the IGA, utilization rights of the ISS come from the contribution of user elements, infrastructure elements, or both; any Partner shall retain use of user elements it provides; any provider of infrastructure elements shall receive in exchange of a fixed share of the use of certain user elements.⁴⁴ When it comes to Russia’s infrastructure elements, it would be illustrative to note that Russia keeps 100 percent of the utilization rights in these elements; correspondingly, other Partners, vis-à-vis Russia, shall also keep 100 percent of their own elements.

⁴⁰ The 1998 IGA, Article 16.1.

⁴¹ The 1998 IGA, Article 16.

⁴² The 1998 IGA, Article 16.2.

⁴³ <http://bjyouth.ynet.com/article.jsp?oid=65807264>

⁴⁴ The IGA, Article 9.1.

The MOUs provide the precise percentages of other Partners' utilization rights in Russia's elements. This approach has effectively avoided the divergent views on evaluating Russia's infrastructure elements upon its participation. China may adopt the same approach when China attaches its infrastructure elements to the ISS.

Similarly, China shall "be responsible for the share of the common system operations costs or activities corresponding to the operation of the elements it provides"⁴⁵, and bear financial responsibilities for costs or activities from the operation and maintenance of its own elements. The existing financial contributions are closely linked to "agreement among all the Partners on the setting-up of a fleet of spacecraft supplied by four of the five Partners to meet all of the Station's transport requirements."⁴⁶ With the final flight of Space Shuttle Atlantis in July 2011,⁴⁷ the retirement of the space shuttle will no doubt have some influence on the maintenance of the ISS. In this regard, China's mature launching facilities and services could provide an impetus to the advancement of the ISS' transportation system. Consequently, China's possible partnership in the ISS will significantly affect the existing share of financial contributions: China's deployment of its own space shuttle may offset China's share of common system operations responsibilities.

Another matter needing urgent consideration is the technical standards. Partner States provide elements, materials, and technologies for the operation of the ISS and different states might have different standards. In the participation of the ISS, China will need to consult other Partner States on mutually acceptable criteria for the safety and control of relevant programs.

Crews are essential to the daily operation of the ISS. China will need to consider the active participation of its own crew on board the ISS. It would largely depend on the accommodating capability of the ISS and the availability of the rescue vehicle. Furthermore, once China attaches its own infrastructure elements to the ISS, it will also need to consider the number of crews needed

for the operations and maintenance of this extra part.

When it comes to possible legal issues, the following issues must be taken into account. Firstly, there is a need for a more effective ISS legal regime, which can further democratize the US-dominated ISS. This touches on the various administrative provisions related to management, operation and utilization of the ISS. While the ISS is co-led by the US and Russia under the current framework, the US still takes up the leading role and the decisive power rests with the US. For example, the MOUs generally provides that the Multilateral Coordination Board (MCB) which is the highest-level cooperative body responsible for coordinating activities and formulating guidelines comprises representatives from each of the Partners with NASA as the chair.⁴⁸ This arrangement also partly explains the reason why the US has been able to exclude China from participating in the ISS.

China must decide if this management arrangement will work for China. The satisfactory result lies in how to posit China in the whole management and operational framework of the ISS. The ISS is essentially a cooperative venture, Chinese crew onboard the ISS shall have the opportunity to visit freely any part of the ISS and use the facilities of any other Partner States for scientific research. China's role should be commensurate with the contributions it could make to the ISS. Thus, a democratic system should be amenable to all the Partner States, including China. The current provisions on criminal jurisdiction, command, and control have already largely democratized the cooperative framework for the ISS Partners, and thus can continue to apply once China becomes an ISS Partner. As such, China will have guaranteed criminal jurisdiction over its own national and retain jurisdiction and control over its own elements and personnel in or on board the ISS. While the US retains the overall control over the ISS because of its ground activities, China shall similarly keep control over activities carried out within its territorial jurisdiction, subject to overall coordination for the ISS operations.

As mentioned above, the extradition provision is meaningful to China. However, one simple paragraph on the issue is obviously too vague and

⁴⁵ The IGA, Article 9.3(a).

⁴⁶ A. Farand, *The Space Station Cooperation Framework*, ESA Bulletin 94 (May 1998).

⁴⁷ Denise Chow, *Shuttle Atlantis Docks at Space Station for Last Time*, available at <<http://www.space.com/12230-shuttle-atlantis-space-station-final-docking.html>> (last visited 11 July 2011).

⁴⁸ See for example, the Russia Space Agency-ANSA MOU, Article 8.1.b.

general when real problems come up. In this aspect, it would be advisable to refer to the Code of Conduct for ISS Crews concerning the understanding of misconduct or crimes in specific circumstance of outer space.⁴⁹ Unfortunately, even under the Code of Conduct, the Partner States had difficulties in reaching consensus on certain terms. For example, the States failed to define the legal concept of “harassment” and a general statement was inserted in the Code of Conduct in the end,⁵⁰ which merely says, “ISS Crew Members’ conduct shall be such as to maintain a harmonious and cohesive relationship among the ISS Crew Members and an appropriate level of mutual confidence and respect through an interactive, participative and relationship-oriented approach which duly takes into account the international and multicultural nature of the crew and mission.” It would thus necessary to continue the work trying to come up with clear applicable scope for the extradition provision.

Secondly, while the IGA defines well the liability issue, it fails to provide rules on state responsibility. The Partner States are expected to properly carry out their functions under the IGA. While good faith is important in the cooperative project, such as the ISS, there is a need for clear provisions on state responsibilities for failing to implement the IGA properly. It is possible, according to the IGA, for a non-complying state to voluntarily withdraw from the cooperative framework.⁵¹ However, questions remain about what can be done if the non-complying state does not withdraw. With no other binding measures in place, restrictions over the utilization rights could be one possible way out.

Thirdly, closely connected with issue of vague languages in the IGA, we may need to think of a possible body to serve as a neutral party to resolve disagreements or disputes, if they arise. Ensuring continued cooperation among Partner States should be the guiding principle of the first importance for the dispute settlement mechanism. As such, a committee could be set up comprising of senior representatives or officials designated by the Partner States. Besides trying to resolve

disputes and making decisions by consensus, the Committee can also be delegated to carry out the functions such as supervising the implementation of the IGA provisions; interpreting the IGA provisions; drafting proposals to amend the IGA.

A corollary from the above is that there should be a binding dispute settlement mechanism, possibly with granted authority to a third neutral party. While friendly consultation provides an amicable way to resolve possible disputes and helps maintain good relationship among the Partner States, the possibility of larger disputes cannot be ignored. Thus, specific rules and dispute resolution mechanisms are needed to determine how to resolve such disputes. At the moment, a binding arbitration mechanism would be useful to the ultimate resolution of disputes. While allowing some flexibility in the dispute resolution process, the disputing parties will be obliged to comply with any decision made by the arbitral body. This shall be helpful to the sustainable development for the cooperation among Partner States.

6. CONCLUSION

The ISS is the first permanently inhabited outpost in outer space; a team of rotating international crew carries out commercial, scientific and technological research onboard the ISS in the major fields of life sciences, Earth science, Space science, microgravity science and engineering science.⁵² China’s participation in the ISS provides an excellent opportunity for both China and the ISS Partner States to carry out international space cooperation at a large scale and a higher level. However, before China’s participation, China should prepare for all possible technical and legal problems, especially when the current Partner States still hold suspicions over China’s participation. China should start seriously considering why these states hold suspicions and how China can dissipate these suspicions. Moreover, China should more proactively examine the existing ISS documents and study how to further improve the current IGA and improve the ISS cooperative framework. As a result, China shall move ahead in two-stage processes: first on the possibility of participation; then on the modification and improvement of the current ISS regime. These two-stage processes are inter-

⁴⁹ <http://download.esa.int/docs/ECSL/ISS_Crew_Code_of_Conduct.pdf> (last visited 24 August 2011).

⁵⁰ A. Farand, The Code of Conduct for International Space Station Crews, ESA Bulletin 105, 66 (February 2011), available at <http://www.esa.int/esapub/bulletin/bullet105/bul105_6.pdf> (last visited 24 August 2011).

⁵¹ The IGA, Article 28.

⁵² International Space Station, http://www.ogletorpe.edu/faculty/~m_rulison/Astronomy/Group/Fall%2099/international_space_station.htm (last visited 22 August 2011)

related: China's participation shall largely rely on how the future ISS regime can benefit China and fit in China's further development in space technologies and programs and in turn, China's participation shall unavoidably lead to work on revising and improving the current regime. Thus, these two-stage processes should be considered concurrently and China must prepare for both processes and move forward for possible negotiations with the Partner States.

The ISS provides an ideal example for space commercialization. The ESA has already had the mandate of commercial utilization of the ISS European module since 1999.⁵³ While no clear rules are now in place to regulate space commercial activities. China participation in the ISS shall hopefully provide an impetus for in-depth study of legal issues involved in space commercialization. This is a much broader project than the current study on legal issues in China's participation in the ISS, and thus goes beyond the scope of the current paper.

On the one hand, China's participation shall contribute the sustainable development of the ISS. The ISS can make use of "the expertise and potential of the China's space program and Chinese financial support".⁵⁴ As one of the major space powers in the world, China's participation will take the ISS one step further towards a real multi-national cooperative projects in the peaceful and commercial use of outer space. China, on the other hand, shall grasp the best opportunity to start negotiations and learn the rich experience from the ISS Partner States. By expanding the scope and deepening the level of international space cooperation, China shall establish solid foundation for future its own Space Station and realizing more colorful dreams towards outer space.

⁵³ Resolution 1 on Shaping the Future of Europe in Space, ESA/C-M/CXLI/Res.1 (final); Resolution 2 on the Agency's Evolution and Programs, ESA/C-M/CXLI/Res.2 (final); Declaration on the European Participation in the International Space Station Program, ESA/PB-MS/XXIX/Dec.1(final).

⁵⁴ Victor Zaborsky, China's Bid to Join the MTCR: Cost and Benefits, *Asian Export Control Observer*, Issue 2, 13 (June 2004), available at <http://cns.miis.edu/observer/pdfs/aeco_0406.pdf> (last visited 11 July 2011).