

Commitment and Compliance in the Evolution of the ISS Program

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Introduction

This paper considers to what extent and under what conditions ISS Partners re-evaluate or modify their notions of *commitment* and *compliance*. Explanations of these terms are offered based on the understanding that patterns of human reactions to legal instruments vary over time, according to domestic and international priorities. Constitutional frameworks of each sovereign State then determine the degree to which international law is applied as part of State municipal laws.²

Definitions

The terms *commitment* and *compliance* reflect that laws determine political interactions as much as these interactions can affect the perception of domestic laws and legal institutions.³

For this paper, ISS commitments are defined as collectively agreed statements of intent that can have implicit undertones. ISS commitments are explained in the quantifiable means and efforts defined in legal instruments. The statements of intent are explained in ISS instruments by individuals at different levels of authority: e.g., ISS Partner States, Cooperating Agencies and/or professional teams,⁴ who interpret commitment and compliance with regard to three types of agreements.

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ISS Intergovernmental Agreement (IGA)

The ISS IGA is the highest-level ISS legal regime, comprised of rules grounded in jurisdictions (areas under power and control) of ISS Partner States. Fifteen ISS Partner States⁵ signed a treaty on January 29, 1998 to formalize the ISS IGA:

“a long term international co-operative framework on the basis of genuine partnership, for the detailed design, development, operation, and utilization of a permanently inhabited civil Space Station for peaceful purposes, in accordance with international law” (ISS IGA Article 1).⁶

Respective National laws of ISS Partners can then be applied to issues concerning liability,⁷ jurisdiction,⁸ the protection of intellectual property rights,⁹ the exchange of goods and data, criminal matters¹⁰ and other subjects.

ISS IGA goals even outline processes for how Cooperative ISS Partners should identify and achieve “evolutionary capability” (Id., Article 14.1) while engaging in “cooperation reviews” (Id., Article 24) and “exert best efforts” (Id., Article 23) to resolve matters and meet commitments.

A trend towards non-binding instruments influences the interpretation of binding commitment.¹¹ Progress has been made in managing international disagreements, but approaches could still be improved.¹² Where problems do arise, rarely is there agreement that international law is being violated.¹³

ISS Memorandum of Understanding (MOU)

A second level of ISS legal instruments involves the Cooperating Agencies of the ISS Partner States. They delegated program responsibilities to their respective space agencies.

More specifically, the National Aeronautics and Space Administration (NASA) signed bilateral MOUs with each Co-operating Agency (European Space Agency for Europe, Canadian Space Agency, Russian Space Agency, and Japanese Space Agency). Those instruments detail the roles and responsibilities of the agencies in the design, development, operation and utilization of ISS. They also define the management structure and professional interfaces. The space agencies also agreed to favor Bartering Arrangements which “seek to minimize the exchange of funds while carrying out their respective responsibilities,” (MOU Article 16.4).

ISS Implementing Arrangements (IAs)

The third level of ISS instruments is defined by IAs between the space agencies. They have been created to implement and further clarify the ISS MOUs and as such, to delegate some authority to professional teams. They distribute concrete guidelines and tasks among the national agencies.

Compliance at the ISS Partner Level

At the ISS Partner State level, compliance to ISS instruments is achieved when Partner governments alter their behavior and policies, and

impose rules and regulations in their societies for the purpose of meeting their collective commitments. This could include references to the ISS Program in media, policy debates, and when forming scientific and policy task forces, allocating budgets, exploring options for research, commercial and other development discussions on national agendas, and in diplomatic exchanges.¹⁴

Admittedly, with multiple interests to satisfy in different ISS Partner States, specific issues should be addressed rather than aiming to evaluate the success of commitment and compliance of the entire ISS Program. Issues of compliance to ISS-related commitments are based on the context of specific legal and political relationships among actors.¹⁵

Hypothetical Views of ISS Compliance

An analysis of compliance¹⁶ in the ISS Program should be approached from several perspectives and on the basis of several causal factors. To learn to recognize the different reasons why and how individuals seek compliance leads to gaining a better grasp of the major differences in the kinds of compliance sought and obtained by ISS Partners.

For instance, compliance is reflected when members of ISS Partner governments, Cooperating Agencies and professional teams have approved, discussed or changed their commitments and have further developed a consensus about how these commitments will be implemented. In such cases, compliance may be higher when bureaucratic structures are organized and facilitate the implementation of activities outlined in legal provisions.

The meaning of compliance is further defined in the case where there is a disagreement among parties concerning the meanings of ISS instruments. Here, actors involved in different levels of legal agreements could clarify 'compliance' as the consequence of alleged non-compliance between signatories. Where alleged non-compliance is the consequence of a disagreement, different views or commitments also arise.

In this regard, compliance with ISS instruments as an objective needs to be clarified in terms of first-order compliance (causing respect for standing rules) and second-order compliance (causing respect for authoritative decisions). Interdisciplinary team reviews may determine what level of compliance is necessary. What compliance is expected of governments, Cooperating Agencies or other parties by different levels of authority and the general public, is often seen as a potential problem. Consensus is needed to determine when a violation or breach of an ISS Instrument has occurred, and also to determine an appropriate course of action to react to induce compliance, re-define the commitment and/or facilitate future continued cooperation.

Specific ISS IA Example

Consider a hypothetical scenario related to the ISS IA Crew Code of Conduct (CCOC)¹⁷ where one Partner accuses another Partner of breaching a part of the agreement. Before one can attempt to define commitment and compliance, one must first recognize that this ISS instrument has different legal status and thus different legal meanings for different ISS Partners.¹⁸ The nature of a disagreement could relate to an

alleged violation that has already occurred or it could concern anticipated conduct of a State with regard to a planned timeline or another commitment (i.e., an anticipated breach). Much is based on the interpreted compatibility of ISS Partner and Agency regulations.

Possible Reasons for Seeking Compliance

Consider some of the potential reasons for ISS Partners wanting compliance by the other ISS Partners regarding ISS instruments:

- a) To protect political, economic, socio-cultural and other interests (why instruments are designed).
- b) To uphold a moral principle, whether or not a violation would cause harm.
- c) To impact more interactions than they were designed to protect.
- d) To avoid the problem of setting precedents for future breaches.

Compliance can also be defined by objectives of parties external to those parties involved in a disagreement. For instance, a non-ISS Partner State with a contractual agreement to provide technical parts to an ISS Partner disagrees with the way it is compensated due to unforeseen economic difficulties of that ISS Partner. The external party could raise questions of ISS Partner compliance. However, perceived legal rights and duties of each party could make such a situation hard to resolve.

Also, the perception of legal status of an MOU varies.¹⁹ When ISS Partners and/or external parties have different views of MOU obligations and their implications, difficulties are likely to arise in attempting to reach

consensus about what conduct constitutes compliance.²⁰

Consider that ISS Partners on friendly terms with regard to agricultural trade policy may support claims made by these allies in the ISS Partnership.²¹ Yet, this standard is not easily accepted as reasonable compliance without the States involved having reasons to support each other that are more directly related to space arrangements.²²

A broader suggestion is that United Nations (UN) members could examine disagreements concerning commitment and compliance among ISS Partners and then offer independent judgment of the facts with regard to international law. Yet, this approach would be very time-consuming, could offer options based on political alliances and could generally lead to diverse views that would not realistically be heeded by the ISS State Partners.²³

As it happens, ISS Partners have developed guidelines in the event of the need for dispute resolution.²⁴ Suggestions can lead to recommendations and possibly even more binding decisions. Ultimately, a point of reference is needed to determine what constitutes compliance.

One should recall that each ISS Partner State has domestic interests while also being a member of the international community with multinational interests to reconcile. If a specific ISS program timeline changes or technical procedures are changed in the short term, this reality has repercussions on the livelihoods and activities of many people in different countries, companies and entities who are increasingly interdependent.

Also, there is a tendency for government to focus on short-term interest when handling issues of

commitment and compliance.²⁵ Consider that a disagreement amongst some ISS Program actors about what constitutes acceptable and unacceptable conduct or interpretation of terms could be perceived as ISS Program compliance by another Partner.

For instance, timelines for the construction of core infrastructure may be met according to ISS Instrument deadlines, but that restrictions in program management and astronaut flights may make the evolution of the program as previously envisaged unrealistic or inappropriate in the long-term.²⁶ The final sections leading to the conclusion will present perspectives of commitment and compliance from each of the five ISS Partners.

The ISS European (ESA) Partner²⁷

Consider some examples of commitment and compliance concerning the ISS European (ESA) Partner:

The 1998 ISS IGA has not yet entered into force for the European Partner. This reality suggests different levels of political commitment by European ISS Partner States.²⁸

For example, the 1998 NASA-ESA MOU Article 3.3 (Space Station Elements) states that “ESA will design, develop and provide on orbit the following flight elements, including subsystems, flight software and spares, as required: one ESA pressurized module [...] logistics carriers which provide systems operations support, user logistics and on-orbit supply and orbital transfer vehicles [...]” Article 5 (Major Program Milestones) of the MOU lays out “major targets” and schedules for the completion of specific infrastructure and operations.

Although the ESA-provided European pressurized Columbus module was originally to have been launched by NASA in October 2002, this event has been postponed to October 2004. As a result, the first ESA operational mission utilizing the module, planned to take place in March 2003, is now projected to take place in September 2005. The "Assembly Complete"²⁹, once foreseen to be December 2003, is now projected for 2005-2006.³⁰

Therefore, ESA's notion of commitment and compliance to the ISS Program evolved, in part, according to the delay in the launch of the Russian Zarya module. This event resulted in schedule delays for other ISS Partners. ESA will still complete the Columbus module on schedule. ESA has also enhanced its commitment by taking advantage of the launch delay to release calls for utilization-related experiments earlier than had been planned. ESA's scientific and commercial potential use of the ISS is thus further developed as the result of the delay.³¹

Another ESA perspective on the issue of commitment and compliance in the ISS Program involves the abrupt cancellation earlier this year (2002) of the NASA X-38 Program.³² The German Space Agency (DLR) had an agreement (MOU) with NASA to develop and contribute heat resistant technology.³³ This was considered a preliminary phase in the U.S.-ESA cooperation to build the ISS crew return vehicle (CRV) intended for eventual ISS crew cargo delivery and return.³⁴ For budgetary reasons, NASA has pulled out of the CRV program.³⁵ NASA also apparently proposed an alternative, smaller vehicle. Yet, no formal mention of budget, detailed infrastructure or construction schedule has followed.³⁶ At

the same time, not only is NASA proceeding with technical tests for the contributed German X-30-related technology, but this technology has not yet been returned to Germany which was part of the agreement.³⁷ This situation paints a confusing picture of commitment and compliance when one compares what has previously been said.

As such, a flexible understanding of commitment and compliance in the ISS Program has evolved based on a process of negotiations subsequent to those of the initial ISS IGA and MOUs, as opposed to an understanding based on what was initially agreed upon. The result of canceling one part of one element of the Program can have a dangerous trigger effect for other Partners who are also in the process of completing interdependent Program elements on coinciding timelines.

Further, it is imperative to recognize the potential for inconsistent objectives of ISS Program participants. Reference to U.S. Public Law 106-391 Section 201(d) pertaining to the issue of "Equitable Utilization" admonishes NASA that in the event any other ISS Partner "willfully violates any of its commitments or agreements for the provision of agreed-upon Space Station-related hardware or related goods or services, the Administrator should, in a manner consistent with relevant agreements, seek a commensurate reduction in the utilization rights of that Partner until such time as the violated commitments or agreements have been fulfilled."

This precatory language "should" reveals a curious situation. In essence, this law demonstrates an attempt to define good faith³⁸ in the performance of implementing ISS Program instruments. However, if NASA breaches, there is no

comparable sanction in section 201 (d), in the federal laws of ISS Partner States or even internal regulations in Cooperating Agencies, that my research has revealed. The failure of mutuality is demonstrated in part by the U.S. Partner in instituting this law without the other Partners doing something similar.

The failure of mutuality is also demonstrated by the other ISS Partners and Cooperating Agencies that do not have a comparable provision. To apply the good faith principle in International Treaty Law, all ISS Partners should adhere. If NASA is to impose this effect as the result of another ISS Partner's breach, shouldn't there be similar effects where there is a NASA violation? It is not very clear whether this is the case.

One of the major concerns of the European Partner is whether or not the US Partner, in view of its recent ISS budget related problems, has already entered into an exercise falling within the scope of Article 23.3 of the IGA pursuant to which: "any Partner which intends to proceed with significant flight element design changes which may have an impact on the other Partners shall notify the other Partners accordingly at the earliest opportunity". These provisions were added to the IGA in 1998 to allow the Partners to assess whether the intended changes are compatible with the ISS Agreements or if these changes entail modification of a Partner's rights and obligations.³⁹

The ISS Japanese Partner⁴⁰

Consider some examples of commitment and compliance concerning the ISS Japanese Partner:

Japan is one of two ISS Partners for which the ISS IGA has entered into force.⁴¹

Another point for reflection is the 1998 NASA-GOJ MOU. Article 3 (Space Station Elements) states that "the GOJ will design, develop and provide on orbit the following flight elements including subsystems, flight software and spares as required: one Japanese Experiment Module (JEM) [...] and logistics carriers which provide system operations support, user logistics and on-orbit supply."

Although the JEM Module hardware was completed on schedule according to ISS Implementing Arrangements, this hardware now sits in the Japanese Tsukuba Center. NASDA requested to postpone the launch of the JEM module because of national economic difficulties.⁴² Uncertainty with regard to the eventual launch date affects the lives and enthusiasm of scientists and other space professionals, as well as the general public. Utilization and projected crew numbers and experiments are affected and this impact is difficult to measure quantitatively.⁴³

In a separate ISS Program-related bilateral agreement, NASDA committed to provide ESA with racks for its Columbus module in exchange for a special freezer. This transaction occurred as planned and demonstrates a level of commitment and compliance with regard to the "no exchange of funds" clause.⁴⁴

Accordingly, there exist provisions to facilitate new kinds of compliance when circumstances evolve. Compliance thus benefits where different ISS Partners adapt to changing circumstances and make efforts to promote mutual understanding. Frank, relaxed discussion is needed such that the facts are clarified and the interpretation of rules or regulations is not placed in doubt.

In addition, NASDA continues to work on completion of the centrifuge it committed to provide to NASA as part of exchange for the JEM Module launch.⁴⁵ Upon encountering a variety of obstacles, a NASDA task force recently requested NASA's help to develop facets of the centrifuge. This illustrates a continuing desire to comply with previously agreed upon ISS commitments, albeit in light of changing national circumstances.⁴⁶

The ISS U.S. Partner⁴⁷

Consider some examples of commitment and compliance concerning the ISS U.S. Partner.

The U.S. Partner deposited its notice of acceptance of the ISS IGA on November 17, 1998.⁴⁸ This ISS instrument cannot enter into force until Japan, Russia and the U.S. have followed all necessary internal procedures and deposited their instruments defined by international law and protocol for multilateral treaties.⁴⁹

The NASA-ESA MOU Article 3.2 (Space Station Elements) lists flight elements and subsystems that NASA "will provide."⁵⁰ For example, NASA agreed to provide "one permanently attached Habitation Module with complete basic functional outfitting to support habitation for four crew members, including primary storage of crew provisions and the health maintenance system." The Habitation Module has been completed and launched, but there are only three astronauts permanently on-board ISS.

The NASA-ESA MOU Article 11.1 states that "Each Partner has the right to provide personnel to serve as Space Station crew from the time the Partner begins to share common

operations responsibilities. During the period of the three-person crew, NASA and RSA will be allocated 50% of the crew flight opportunities [...] Following outfitting of the NASA-provided Habitation Module and initial operational verification of the NASA-provided crew return vehicle, when the Space Station has a crew of seven, RSA will be allocated three crew flight opportunities."

For instance, the *Core Complete* term introduced by NASA in particular and the repercussions on the ISS Partner crew issues will be addressed.⁵¹ In terms of clarifying issues of commitment and compliance of the U.S. Partner, it is difficult at this time to see how the agreed upon ISS crew of seven can be realized in the short term.⁵² The domino effect is that where sufficient crew and infrastructure remain unavailable, ISS utilization potential cannot grow. Until such time as ISS utilization can increase, initial international plans for scientific research are in jeopardy.⁵³

NASA's reactions to commitments to provide infrastructure and personnel are grounded in the NASA institutional view of the character of international agreements.⁵⁴ As such, it is important to recognize that, "a NASA MOU is an executive agreement that is bilateral or multilateral in nature, is for activities which are significant in scope [...] and is intended by the parties to be legally binding in accordance with international law."⁵⁵

Nonetheless, the U.S. and foreign nations have not always agreed on the legal status of an MOU in practice. Consider that representatives of Commonwealth governments have not always favored MOUs as a legally-binding arrangement.

More often, in international arenas, the general MOU document has been considered as a 'gentleman's agreement' because of issues of "confidentiality and technical complexity, although representing political commitments of a significant nature."⁵⁶ Binding instruments have been used to encourage commitment and compliance where prudence of individual state and agency representatives dictates the perception of State power, characterizes classified technology, identifies ownership of property and clarifies other controversial issues where competition and ideology are then at stake.⁵⁷

The ISS Canadian Partner⁵⁸

Consider some examples of commitment and compliance concerning the ISS Canadian Partner:

The Canadian Partner deposited the ISS IGA for ratification July 24, 2000.⁵⁹ It is one of the ISS Partners that has made this IGA national legislation.⁶⁰

According to the 1998 NASA-CSA MOU Article 3.3.a, "CSA will design, develop, and provide the following flight elements of the Mobile Servicing System, including subsystems, flight software and spares, as required: Space Station Remote Manipulator System (SSRMS), Mobile Remote Service Base System (MBS) and One Special Purpose Dexterous Manipulator (SPDM). SSRMS, MBS and the NASA-provided Mobile Transporter comprise the Mobile Servicing Center (MSC)." Article 5 of the same MOU (Major Program Milestones) outlines the timeframe for the completion of this infrastructure as well as the launches.

To recall, Canada provided the SSRMS in April 2001 and the MBS in

April 2002. The SPDM is planned to be ready soon. In order to complete necessary tests and integration, it is currently projected that this element will tentatively be launched in 2005. In essence, Canada will soon have provided the infrastructure that meet its infrastructure commitments outlined in the ISS IGA and MOUs.⁶¹

It is interesting to note that Canada engages in bilateral cooperation agreements with ESA⁶² and other ISS Partners in the context of space science projects related and unrelated to ISS. Hence, the completion of ISS infrastructure by the Canadian Partner does not mean other commitments and compliance will not evolve.

The Russian Federation Partner

Consider some examples of commitment and compliance concerning the ISS Russian Federation Partner:

The Russian Federation Partner deposited its ratification (executed national legal procedures) necessary for entry into force of the 1998 ISS IGA.

According to the 1998 NASA-RSA MOU Article 3, the Russian Partner plans to provide a considerable amount of infrastructure. To date, it has provided the Service Module and has begun to provide other program elements. Article 8.3.c.1. (Allocation of Crew Time) states that "During the period of a three-person crew...50% of the crew time will be allocated to NASA and 50% to RSA. The above allocations will be adjusted through implementing arrangements as allocations to other partners."

Recognize that most recently, the Russian re-supply space vehicle arrived at the ISS but that Russian officials stated that their contributions to ISS

might have to be temporarily suspended in 2003. This would impact timelines and programs of all other Partners

A significant obstacle to Russia's ISS IGA and MOU commitments is apparent in a letter from Valery Ryumin, head of international space station program office at Energia to William Gerstenmaier, NASA's Space Station program manager. Essentially, Energia lacks the funds needed to build two more Progress vehicles in 2003. The crux is that Energia needs at least 4.5 billion rubles annually (142\$ million U.S.) to fulfill its technical commitments to ISS. Yet, Energia received 1.2 billion rubles from the Russian government. This forced the company to take out loans and go into debt of 1 billion rubles. Nonetheless, NASA has "not received any indication from the Russian Aviation and Space Agency that they are not going to meet their commitments."⁶³

Conclusion

The issue of how well each ISS Partner lives up to its IGA commitments,

as well as to what degree decision-making authorities at other levels comply, is crucial to the overall perception of success of the international cooperation. To compare and contrast how previous ISS commitments have been respected or re-defined, points to issues that require new action. The credibility of respective decision-making levels of the ISS Program can be assessed, in part, based on the politics of international relations. A systematic analysis of compliance with ISS Program commitments is helpful in identifying national priorities, as well as revealing a variety of understandings of identified binding and soft law commitments. As time and a variety of national and international circumstances evolve, there is opportunity for all ISS Partners to challenge, confirm, modify or supplement their previously outlined commitments.⁶⁴

International Relations Can Offer International Law", from *International Law and International Relations*, Academie de Droit International, Recueil des Cours, Volume 285, p. 26-30.

⁴ Covert (2002), Doctoral Thesis, *International Space Station (ISS) Negotiations and Manned Space Strategy (MSS): Towards the Consideration of a Multinational Astronaut Corps (MAC)*, Introduction; (thesis 650 pgs).

⁵ The 1998 ISS IGA treaty was signed by the governments of the United States, Canada, Japan, the Russian Federation, and eleven Member States of the European Space Agency (Belgium, Denmark, France, Germany, Italy, The Netherlands, Norway, Spain, Sweden, Switzerland, and the United Kingdom of Great Britain and Northern Ireland), see 1998 ISS IGA.

⁶ See also 18 UST 2410, TIAS 6347, 610 UNTS 205 (1967)-- (The Outer Space Treaty). The other four space treaties are: *Convention on International Liability for Damages Caused By*

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² Kindred Hugh M., Mickelson Karin, McDorman Ted L., Provost Rene, de Mestral Armand L.C., Reif Linda C., and Williams Sharon A. (2000), *International Law Chiefly as Interpreted and Applied in Canada*, Sixth Edition, Emond Montgomery Publications Limited, pp. 165.

³ Slaughter Anne Marie (2000), "What

Space Objects, 24 UST 2389, TIAS 2262, 961 UNTS 187 (1971); *Convention on the Registration of Objects Launched into Outer Space*, 28 UST 695, TIAS 8480, 1023 UNTS 15 (1976); *Agreement on the Rescue of Astronauts, the Return of Astronauts, and the Return of Objects Launched into Outer Space*, 19 UST 7570, TIAS 6599, 672 UNTS 119 (1968); and *the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies*, 1363 UNTS 3, 18 ILM 1434 (1984).

⁷ Especially 1998 ISS IGA Article 16 (Cross Waiver of Liability).

⁸ *Id.*, Article 5 (Registration; Jurisdiction and Control); Article 6 (Ownership and Equipment), Article 25 (Entry into Force); and Article 27 (Amendments), note here “Amendments to this Agreement, except for those made exclusively to the Annex, shall be subject to ratification, acceptance, approval, or accession by those States in accordance with their respective constitutional processes.”

⁹ *Id.*, Article 17 (Liability Convention) and Article 21 (Intellectual Property).

¹⁰ *Id.*, Article 22 Criminal Jurisdiction.

¹¹ “Given the growing use of soft law, it is important to understand the extent to which states and non-state actors comply with non-binding legal instruments, the factors that affect compliance, and the strategies available to increase compliance,” Brown-Weiss Edith (2000), “Conclusions: Understanding Compliance with Soft Law”, Chapter 9 in *Commitment and Compliance- The Role of Non-binding Norms in the International Legal System*, Edited by Dinah Shelton, Oxford University Press, pp.535; see also concept as apparent in the execution of the 1988 and 1998 ISS IGA, MOUs and between NASA and each of the other ISS Partners (NASDA, CSA, RSA and ESA); Covert (2002, Introduction), *supra*. note. 4.

¹² “The term ‘international agreement’ was intended to embrace unilateral engagements of an international character made by one state in favor of another.” (Aust, 2000, ICLQ 276); Since the 1998 ISS IGA has only entered into force for only some and not all ISS Partners, this reinforces that views of commitment and compliance to this space program differ.

¹³ Black’s Law Dictionary describes law as the regime that orders human activities and foreign relations through systematic application of the force of politically-organized society or social pressure (2nd Edition, p. 400); “a rule will be

legally-binding if it meets the requirements of a custom, which is a formal source of international law, and its substance will be indicated by state practice, which is the material source of custom. The term *evidence* is then used in the sense that diplomatic correspondence, for example, is evidence of state practice,” Harris, D.J. (1998, 23)—*Cases and Materials on International Law*, Fifth Edition, Sweet & Maxwell, London.

¹⁴ See for example, U.S. Public Law 106-391 (106th Congress) which authorizes NASA appropriations for fiscal years 2000, 2001, and 2002 and for other purposes; see Canadian the Civil International Space Station Agreement Implementation Act, S.C., 1999, c.35 Statute No. 999, Article 13-28 and Annexe; ESA Ministerial Meeting 2001 summary and respective ESA Member State Science and Technology Policies.

¹⁵ Henkin Louis (1968), “How Nations Behave: Law and Foreign Policy 253, pp. 256-257.

¹⁶ The Oxford English Dictionary (1996, 285) offers several definitions, from “obedience to a request” and “yielding” to “unworthy acquiescence”; Benedict Kingsbury suggests that, “there is a shared understanding that compliance is adequately defined as conformity of behavior with legal rules, and agreement that the real problems are about such matters as measuring, monitoring and improving compliance,” taken from pp. 49, “The Concept of Compliance as a Function of Competing Conceptions of International Law” in *International Compliance with Non-Binding Accords*, Edited by Edith Brown Weiss, Studies in Transnational Legal Policy, No. 29, American Society of International Law, Washington, D.C. 1997; Alternatively, Peter M. Haas states that compliance is explained by “well-established patterns or expectations for patterns [of behavior]” in international relations and ultimately, “compliance is a matter of state choice,” taken from “Choosing to Comply: Theorizing from International Relations and Comparative Politics,” Chapter 2, *Compliance Theories*, pp. 43-64, in Shelton, *Id.* 11.

¹⁷ See 14 U.S. CFR 1214.403 (January 2002). The ISS CCOC an enforceable U.S. federal law yet other ISS Partners do not have such a law.

¹⁸ See *supra*. note 17 part IV: “the disciplinary policy does not limit a Cooperating Agency’s right to apply relevant laws, regulations, policies and procedures to ISS crewmembers, consistent with the IGA and MOUs” and 1214.404 Violations- “subpart within the meaning of 18 USC 799, and whoever willfully violates,

attempts to violate, or conspires to violate any provision of this subpart or any order or direction issued under this subpart may be cited for violating title 18 of the U.S. Code and could be fined or imprisoned not more than 1 year or both” (misdemeanor). In contrast, the ISS CCOC is not an IGO regulation for the European (ESA) Partner, but rather, is perceived as an internal ‘soft law’ rule. The legal status of this space agency document remains an internal CSA rule because the Executive Committee (President of the Agency and High-level Directors determined that rules external to this government department were unnecessary. There was however, mention of this debate in the study of whether it should be made a national law).

¹⁹ For instance, all governments do not agree that [MOUs] “use treaty language” and “are necessarily “governed by international law”, Aust (1986, ICLQ, 795); The United States implemented the Case Zablocki Act which requires that the negotiation and conclusion of international instruments to be notified to Congress and the consultation by agencies with the Secretary of State with respect to proposed agreements. The Department of State publishes them.-- 22 Code of Federal Regulations, Part 181 ; see 46 Federal Register 35917 of 13 July 1981); Canada, Japan, and Russia have different processes of evaluation of these documents.

²⁰ See ISS IGA Article 7 (Management)---“Management of the Space Station will be established on a multilateral basis and the Partners, acting through their Cooperating Agencies, will participate and discharge responsibilities in management bodies established in accordance with the MOUs and implementing arrangements [...] In these management bodies, decision-making by consensus shall be the goal.”

²¹ The jury is still out as to whether international cooperation on ISS Programs is more broadly transferable to non-space issues and vice versa. More examples are needed to establish whether obligations met concerning one treaty has any direct links to commitment and compliance to other treaties with the same/similar signatories..

²² For instance, where two ISS Partner nations are on friendly terms where they agree to reduce specific agricultural subsidies, this in itself does not mean they will support each other in an ISS-related dispute involving other State Partners.

²³ Note that drafters of ISS Instruments recognized the necessity to respect existing international law such as is demonstrated in ISS

IGA Article 2.1 (International Rights and Obligations)---“The Space Station shall be developed, operated and utilized in accordance with international law, including the Outer Space Treaty, the Rescue Agreement, the Liability Convention, and the Registration Convention.” Recognizing existing International Law in the ISS Program does not imply asking current UN members to offer opinions on ISS Partner issues. ²⁴ See ISS IGA Article 23 (Consultations)-- offers four avenues to discuss and determine issues of commitment and compliance: 1. At the level of Cooperating Agencies, in accordance with procedures provided in the MOUs (and also following respective Agency internal reviews and procedures) ; 2. At the level of government, [and if] appropriate for consideration by all the Partners, the United States shall convene multilateral consultations; 3. At the technical level with regard to the two levels mentioned above; and 4. If an issue not resolved through consultations still needs to be resolved, the concerned Partners may submit the issue to an agreed form of dispute resolution such as conciliation, mediation, or arbitration. ; see also differences in ISS MOU Article 18 Settlement of Disputes between NASA and each of the other respective ISS Partners.

²⁵ “The more that the legal system decides for, and thus, becomes identified with, one side of a major conflict, the less it becomes able to act as an impartial arbiter whose decisions are readily respected.” (Fisher, 1981, 25-26); Fisher Roger (1981). *Improving Compliance with International Law*. Procedural Aspects of International Law Series. Volume 14. University Press of Virginia Charlottesville. 370pgs.

²⁶ Consider that if specific timelines agreed upon by all ISS Partners for programmatic-related launches are willfully ignored or simply not respected by the launching States for diplomatic reasons, then Partners would be forced to devise alternative ways of meeting their commitments; see also Lucid (2002), Pellis (2002) and Gerstenmaier (2002), as well as ESA research experiment projects for ISS, *infra*. note 38.

²⁷ See ISS IGA Article 6 (Ownership of Elements and Equipment)---“The European Partner shall entrust ESA, acting in its name and on its behalf, with ownership over the elements it provides, as well as any other equipment developed and funded under an ESA programme as a contribution to the Space Station, its operation or utilization.”

²⁸ According to Andre Farand of the ESA Legal Department in October 2002, eight of the eleven participating ESA Member States have ratified, but of the three big contributing nations necessary for ESA entry into force (e.g., France, Germany, Italy), France has not yet ratified. Thus, the ESA Council has not yet passed a motion to enter the ISS IGA into force for the European Partner. Among the ESA States that began this process earlier, the Kingdom of Spain deposited the ISS IGA for ratification October 1, 1999, the Kingdom of Norway did so and approved the document on May 13, 1999, the Federal Republic of Germany deposited the ISS IGA for ratification January 19, 2000, the Kingdom of the Netherlands deposited and approved the ISS IGA February 11, 2000; See also *Space News* (September 30, 2002, 6) "European Officials Brace for Negotiations with CNES" by Peter B. deSelding where a 2.6% drop in the space budget (1.28 in 2003 versus 1.307) for France will impact its contributions to ESA programs.

²⁹ Term "Assembly Complete" mentioned ISS MOU Article 5 in the context of finished infrastructure. Compare this term with the definition of "Core Complete" introduced by NASA.

³⁰ Based on interview with Frederic Nordlund, ESA Washington, D.C. Office, September 27, 2002.

³¹ *Supra.* note 20.

³² See NASA website (e.g., www.dfrc.nasa.gov/PAO/PAIS/HTML/FS-038-DFRC.html); also MAN Technologie.

³³ See Dogigli M. et al (2001) "Qualification of CMC Body Flaps for X-38" IAF Toulouse presentation. MAN Technologie. Germany.

³⁴ See ISS NASA-ESA MOU Art. 12.1b, 12.1d (Transportation, Communications and Other Non-Space Station Facilities) and also set forth in implementing arrangements.

³⁵ There is question as to whether NASA has used "best" or "reasonable" efforts to meet the commitments related to the X-38 Program which was to be a developmental stage for the ISS CRV. Consider IGA Article 12.2---

"Those Partners providing launch and return transportation services to other Partners and their respective users on a reimbursable or other basis shall provide such services consistent with the conditions specified in the relevant MOUs and implementing arrangements."; Although ISS IGA Article 15.2 states,

"Financial obligations of each Partner pursuant

to this Agreement are subject to its funding procedures and the availability of appropriated funds," "best efforts" in this case might only be truly demonstrated where the U.S. President requests the appropriations from Congress. This was not done; also Gaede Heather (1999).

"What Does Best Efforts Really Mean?" See FindLaw for Legal Professionals, Subject: Contracts: General 1. Gray Cary Ware & Freidenrich, LLP. pp. 1-3

<http://frof.com/articles/artDetail.asp?id=107> ;

³⁶ Based on interview with Richard Obermann, U.S. House Science Committee, Washington, D.C., September 13, 2002; also consulted Ralf Huber at DLR Washington, D.C. Office.

³⁷ Based on Communications with Ralf Huber, DLR Representative, Washington, D.C. (October 2002).

³⁸ See "Definition of the Principle of Good Faith in International Law", Chapter 8 in JK.F. O'Connor (1991) *Good Faith in International Law*, Ashgate Publishers, pp. 117-125, and especially the principles of "honesty, fairness and reasonableness" which require clarification in the context of a given arrangement.

³⁹ See diplomatic letter from Dr. Hebert Diehl, Chairman of the European Partner's IGA Coordinating Committee and Spokesman for the ISS European Partner to Ralf Braibanti, Director, Space and Advanced Technology Staff, Bureau of Oceans and International Environmental and Scientific Affairs, November 2, 2001.

⁴⁰ See ISS IGA Article 4 (Cooperating Agencies) --- "Where a provision of an MOU sets forth rights or obligations accepted by a Cooperating Agency (or, in the case of Japan, the Government of Japan) [...]."

⁴¹ Date of Deposit of ISS IGA for ratification and acceptance, November 17, 1998; according to Robert Lefebvre detailing dates of signing and entering into force of ISS Agreements; confirmed by Mick Schlabs in the NASA Legal Office, Washington, D.C. and Masato Koyama of the NASDA Washington, D.C. Office (September 2002); NASA-GOJ MOU entered into force 28/02/98.

⁴² Projected annual JEM operations budget is ~500 million U.S. dollars per year and the entire annual NASDA budget is 1.6 billion.

⁴³ Based on an interview September 20, 2002 with Masato Koyama, Director of NASDA Washington, D.C.

⁴⁴ See ISS MOU Article 16.4 --- "The Parties will seek to minimize the exchange of funds while carrying out their respective

responsibilities in this cooperative program, including through the performance of specific operations activities as provided for in Article 9 or, if they agree, through the use of barter, that is, the provision of goods or services.”

⁴⁵ See ISS NASA-ESA MOU Art. 12.1.g and NASA-NASDA MOU as well as implementing arrangement.

⁴⁶ See ISS MOU Article 16.3---“In the event that funding problems are arising that may affect a partner’s ability to fulfill its responsibilities under this MOU, that partner will promptly notify and consult with the other partners. Further, the Parties undertake to grant high priority to their Space Station programs in developing their budgetary plans.”

⁴⁷ See ISS IGA Article 7.2 (Management)—“The United States, acting through NASA, and in accordance with the MOUs and implementing arrangements, shall be responsible for the management for: overall program management and coordination of the space station.”

⁴⁸ Acceptance here means ratification, confirmed by the U.S. Department of State, Washington, D.C., July 24, 2000; Based also on communications with Mick Schlabs, NASA Legal Department, Washington, D.C. (July 2002).

⁴⁹ 1998 ISS IGA Article 25 (Entry into Force); note ISS IGA entered into force March 27, 2001.

⁵⁰ This document is used as an example among the existing NASA-Partner MOUs since there is no NASA-NASA MOU.

⁵¹ Term “Core Complete is not present in the 1998 ISS IGA or NASA MOUs with the other Partners. This differs from the “Assembly Complete” term that was agreed upon by consensus by all ISS Partners: see Article 5.2 NASA-ESA MOU—“assembly of all permanently attached elements listed in Article 3” (parenthetical interpreted as quotation). The term “core complete” was introduced by the U.S. OMB concerning the FY 2002 Budget submission to U.S. Congress on 28 February 2001. This document indicates that completion of the U.S. Core is the point where the basic infrastructure is ready to accept “major international hardware elements,” see <http://www.whitehouse.gov/news/usbudget/blueprint/bud33.html> ; See also Statement of A. Thomas Young, Chairman ISS Management and Cost Evaluation Task Force, Before Science Committee, House of Representatives, November 7, 2001 where ‘Core Complete’ is defined on page 1—“the core complete program

is the original program with the deletion of the Crew Return Vehicle, Node 3, the Habitation module, and the Propulsion module, as well as a reduction in the research budget,” www.hq.nasa.gov/congress/young11-7.html ; also ISS Management Evaluation Task Force (or Young) Report that mentions ‘core complete’ in preface,

www.hq.nasa.gov/pub/pao/reports/2001/imce.pdf ; also NASA Advisory Council Meeting Minutes, June 11-12, 2002, mentions ‘core complete’ in opening remarks, www.hq.nasa/office/codez/nac/mins/0206mins.html.doc; also GAO Report July 2002, Space Station: ‘Actions Underway to Reduce costs but Significant Challenges Remain’, mentions ‘core complete on page 3 and refers again to the term throughout the document, www.gao.gov .

⁵² The Russian Soyuz can rescue 3 people. A temporarily docked Space Shuttle could rescue more people; see also The Young Report (2001) which detailed an internal review of NASA overspending on the ISS Program and recommended a complete review of specific management and operations approaches.

⁵³ See *NASA’s Integrated Requirements*, Presentation by Shannon W. Lucid, September 10, 2002, especially slides 9,10, 11 and 12 (of 14) that stipulate and project individual ISS Partner crew time requirements; Dr. Sigmar Wittig, Chairman of the DLR German Aerospace Center also stated in Washington, D.C. on September 10, 2002 that ESA will require 720 hours of crew time per year as of the time the Columbus Module is launched; see also Pellis Neal R.(2002) “ISS Research, Office of Biological & Physical Research.”, Presentation to the NASA Advisory Council, September 10-11, 19pgs; Gerstenmaier William (2002), “Response to Research Requirements.” Presentation to NASA Advisory Council, September 10, 19pgs.

⁵⁴ Note NASA Space Policy Directive NPD 1050.1F--- “Authority to Enter into Space Act Agreements” and Chapter 3 of Space Act Agreements (NPG 1050.1)--- “Non-reimbursable and reimbursable agreements with foreign governments or governmental entities,” Appendix 3: Sample Clauses for non-reimbursable and reimbursable agreements with foreign governments or governmental entities”

⁵⁵ “Non-reimbursable Agreement/ Memorandum of Understanding”, Chapter 3 NASA Space Act Agreements, “Non-reimbursable and reimbursable agreements with foreign

governments or governmental entities,” (NPG 1050.1).

⁵⁶ See McNeill John H. “International Agreements: Recent U.S. –U.K. Practice Concerning the Memorandum of *Understanding in American Journal of International Law*, Volume 88, Issue 4 (Oct., 1994), 821-826, especially 822-823; Aust Anthony (2000) *Modern Treaty Law and Practice*, Cambridge University Press, 443pgs; Ibid (1986). “The Theory and Practice of Informal International Legal Instruments. 35 I.C.L.Q. 787.

⁵⁷ “The intent of drafters to conclude an agreement in written form governed by international law, whatever its particular designation, is determinative,” McNeill, supra. note 41 (823); also 22 USC S 2767 (b)(1)-(2) (1988) and 22USC S 2767a(d)(1)(1988).

⁵⁸ Based, in part, on communications with Robert Lefebvre, Legal Counsel, CSA (September, 2002).

⁵⁹ The Civil International Space Station Agreement Implementation Act, S.C., 1999, c.35, Article 13-28 and Annexe.

⁶⁰ See 1998 ISS IGA Article 25 (Entry into Force).

⁶¹ Based on Communications with Benoit Marcotte, Karl-Heinz Gindl, CSA (October 2002).

⁶² See Agreement for Cooperation between the European Space Agency and the Canadian Space Agency.

⁶³ *Space News*, September 30, “Russian Official Warns Lack of Funding May Temporarily Chose Space Station in 2003,” Brian Berger and Simon Saradzhyan authors, p.15.