Template for comments and secretariat observations

Date:2020-01-05	Document: WD 24330 (Sep 2019)	Project:

MB/ NC[1]	Line number	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment[2]	Comments	Proposed change	Observations of the secretariat
JP-07 001		01		ge	Scope does not need to be described after "It is necessary...".	Remove after "It is necessary…"	Partially accepted. The sentence on application to more detailed standards is retained [Re-comment from JPN] Confirmed
DE 002		01	2	te	The idea to claim compliance here does not work. The content in sections 4 and 5 are not actual, specific and verifiable requirements. 4 and 5 are only a collection of principles. In a contract/project you can always claim compliance to them for yourself, and you can always challenge the compliance statement of someone else. This will lead to endless discussion, but not to any actual implementation of anything specific.	Do not introduce the idea of conformance/compliance to the document, as long as there are no true, specific, verifiable requirements in the document.	Accept. As a standard, compliance follows according to user needs. This language is redundant and is removed.
JP-04 003		02		ge	Add relative conventions and standards.	Add (1) Convention on Registration of Objects Launched into Outer Space (1976) (2) Recommendation on enhancing the practice of States and international intergovernmental organizations in registering space objects (2007) (3) ISO 24113 Space debris mitigation requirements	Accept. [Re-comment from JPN] Confirmed
JP-08 004		04.01		ge	Clause 4.1 is unnecessary because it should be written in Scope.	Move the text in 4.1 to Scope	Accept [Re-comment from JPN] Confirmed
JP-09 005		04.02		ge	It does not have to be "via commercial agreements". There are various forms of agreement, so it is not necessary to specify to commercial.	Remove "commercial"	Accept. [Re-comment from JPN] Confirmed

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JP-10 006		04.04			Add the following design aspects: At the first phase of concept design, the mission requirement must be assured not to cause intentional release of debris, destruction, etc. Refuelling to extend operations beyond the limits of OLI (Operation Life limited Items) shall similarly be avoided. Also, the requirements of ISO 24113 should be referred to here.	As left 4.4 Responsible design and operation (1) In order for the industry to flourish, commercial servicing operators shall ensure their activities are planned and conducted in a responsible manner to promote safety and mission success. (2) Servicer shall assure the mission objective would not pose adverse effects on other space assets and their activities, and the orbital and ground environment. (3) In the case of a refueling project, it shall be verified that the probability of successful disposal of the client space object is larger than 0.9 in spite of the extension of operation period. (4) Servicer shall assure not to cause the generation of debris during its mission operation. Note: See ISO 24113.	Applied as follows: The language is accepted but reformatted within the existing structure of 4.4. [Re-comment from JPN] Confirmed Additional comment on JP2-06
JP-11 007		04.04.4 New 4.1.5		ge	Third-party liability should be mentioned here, but it is inappropriate to require insurance in ISO for OOS missions only. At most, ISO should require an agreement with the client on resulting third-party damage. Also, the title should be changed to "Liability for Damage"	Change to; 4.4.4 Liability for damage Servicer and client shall agree to have responsibility to compensate the damage given to third parties.	We should discuss. What are alternative means of being responsible aside from insurance? - Pay for business losses out of pocket (self-insure - Restitution in-

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							kind, such as shifting data traffic to another vehicle [Re-comment from JPN] (1) There no need to mention thee financial measures for compensation. Any ISO standards have not mentioned that. Delete the second sentence. (2) It should be cleared that not only servicer but also client shall agree to have responsibility. Additional comment on JP2-08 – resolution is provided at JP2-08.
JP-12 008		04.04.5 New 4.1.6 (It is written in 4.2. But "Transparent Operations" shoud be 4.2.		ge	It is not clear what to do specifically.	Specify clearly what to do	Good point. CCSDS requires 2 mission verification of a standard before final publication. S14 has no parallel requirement. How can we address this need? [Re-comment from JPN] We can't understand your response. Our point is this requirement is not clear what shall be

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							done. Please clear it. Response: The section on Transparent Operations has subsections with measurable and verifiable requirements
JP-15 009		04.05		ge	For debris removal missions which capture and place the client into a re-entering trajectory, the servicer shall be responsible for the safe re-entry of both servicer and client spacecraft.	Add the following; 4.5.x Notification of re-entry hazard 4.5.x.1 Assessment of re-entering hazard If the mission intends to capture the client's space objects and place them into a re-entering trajectory, the servicer shall be responsible to assess the re-entry risk for all of the servicer spacecrafts and client space objects. 4.5.x.2 Notification of re-entry event In the case of controlled re-entry, servicer shall notify information regarding its hazard to the public, or related states.	Good points. We should discuss. Tentatively included. This extends 24113 by assigning notification responsibility to the servicer. This is an example of OOS specific language. Alternatively, this responsibility is the same as any spacecraft, so is a restatement of that responsibility needed here? [Re-comment from JPN] Confirmed Additional comment on JP2-12,2-13
JP-14 010		04.05		ge	The initial orbit and subsequent significant orbital change shall be registered in accordance with the "*Convention on Registration of Objects Launched into Outer Space*", and the "*Recommendation on enhancing the practice of States and international intergovernmental*	Add followings; 4.5.x Registration of orbit The initial orbit and subsequent significant orbital change shall be registered in accordance with the "*Convention on Registration of Objects Launched into Outer Space*", and the "*Recommendation on*	Partially accepted with qualification on "Convention…" Good points. We should discuss. Other SME input? Can we elaborate on this requirement in

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					organizations in registering space objects".	*enhancing the practice of States and international intergovernmental organizations in registering space objects*".	another clause? [Re-comment from JPN] Confirmed
JP-13 011		04.05		ge	General operation plan shall be notified to the public. Change title of 4.5 to "Transparent Plan and Operation", and add new requirement as following; "4.5.x Notification of Plan The plan of the RPO and OOS shall be open to the public, including its concept of operations, rough time schedule, responsible organization, relevant systems, affected orbital zones, anticipated benefits and potential risks.	Add followings, 4.5 Transparent <u>Plan</u> and Operation 4.5.x <u>Notification of plan</u> The plan of the RPO and OOS shall be open to the public, including its concept of operations, rough time schedule, responsible organization, relevant systems, affected orbital zones, anticipated benefits and potential risks.	While the intent is understood, there are security implications. Discussion? How to balance transparency and security? [Re-comment from JPN] We understand that a part of your intention to propose this standard is to assure the transparency to avoid orbital collision or avoid creating conflict in term of national security. This is a first step for such transparency. This is also coinciding with the best practices for LTS studied in UN.
JP-16 012		04.05.1 and 4.5.2		ge	OST is a national obligation, so it is inappropriate to ask the private sector to deal with OST [Related to comment JP-06].	Change to; "---- shall <u>coordinate with their national government to</u> notify----"	Reject. While the intent is agreed upon, it is possible some regime may disagree with OST compliance. This should not negate a commercial obligation to comply with OST.

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							[Re-comment from JPN] Agreed
JP-17 013		04.05.4		ge	it is not clear what to do specifically. Export control is a matter for each country, so it does not need to require it in ISO.	Remove ", and complying with export control regulations"	Agree. There is a new Informative Clause in A.1.2 covering compliance with law. [Re-comment from JPN] Confirmed
JP-18 014		05			Since ISO has been incorporated into national activities in recent years, there is no need to specify "commercial" such as "Commercial RPO and OOS". Application of ISO is up to the user (both national and private).	Remove "commercial"	Accept. The language has been moved to Informative Clause A.1 [Re-comment from JPN] Confirmed
DE 015		05		ge	Servicing interface standardisation might be a goal	e.g. refuelling I/F, robotic tool I/F, capture I/F etc.	We should discuss. These have been left out to keep the statement broad and inclusive. We may need to reassess inclusion of that language. At the same time, a request by some to move non-normative language has prompted the move this text to an informative annex.
JP-19 016		05.01		ge	The contents in 5.1 seems to be best practice guidelines. In their current state, they are not enforceable requirements. If they are indeed not requirements, they	As left.	Informative text (such as this example) has been moved to an Annex for informative clauses

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					should be written in TR. Otherwise, write just essential requirements, and write best practices in NOTE.		[Re-comment from JPN] Confirmed
DE 017		05.01.1		ge	Interfaces in terms of sensor support patterns or docking/capture mechanism should be addressed as well		Accepted.
JP-20 018		05.03		ge	Write as requirements.	Clarify the requirements or recommended approach.	Accepted [Re-comment from JPN] Confirmed
JP-21 019		05.03.1		ge	The title "Contractual Relationship" does not match with the content, as the section covers missions for objects both with and without an owner to enter a contract.	Change title to 5.3.1 Contractual relationship with owner	Accepted [Re-comment from JPN] Confirmed
DE 020		05.03.5		ge	Interface Requirements for visiting vehicles of the ISS might be a good starting point		These are under review for use in this standard. Are there specific Interface Requirements this Project should look at? Note from Fall Meeting 2019 -
JP-22 021		05.03.5.1		ge	Firstly, servicer shall define "operating zone". Secondly, they shall notify the zone to the public. Thirdly, they shall not conduct RPO or OOS outside the zone.	Change to; 5.3.5.1 Operating Zone A servicer shall reasonably define an operating zone to assure the safety of other spacecraft by avoiding their passing through the zone and their being affected by the physical or electro-magnetic interference of the servicer spacecraft and client space	Understand the intent. First and Third are accepted in concept, but we made need to discuss the right term. Second is complied with in 5.3.5.2. Aside from through State authorities there are no other no

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						object. The operating zone shall be notified to the public. Servicer shall not conduct RPO and OOS outside the zone.	"public" notification bodies with global authority. [Re-comment from JPN] Confirmed
JP-23 022		05.03.6		ge	Put priority on notification of anomaly. Preparing and conducting anomaly resolution protocols is an ordinary approach, and is not specific to RPO and OOS missions.	Change to; 5.3.6 Notification of anomaly In case anomalies happen, particularly resulting in break-up or loss of control, servicers shall notify the situation to the public, and take contingency actions to minimize the adverse effects on other space users or the orbital environment.	Accepted. Please review changes to 5.3.6 [Re-comment from JPN] Confirmed
DE 023		05.03.7.1		ge	It is not only the 25 years rule but also the casuality risk, which may require a controlled reentry		Correct A reference to 24113 is added to this paragraph
JP-25 024		05.05		ge	"The servicing community" and "frameworks" lack specifics. Specific frameworks recommended by ISO should be presented. If there is no such framework, this subclause should be deleted. There is a basic ISO rule of one requirement in one sub-clause. Simplify and clarify the requirement.	(1) Define "the servicing community" and "frameworks." (2) Simplify and clarify the requirement. Any explanation should be sent to TR.	(1) Agreed for servicing communities. For framework the wording is changed to ISO 42010 [Re-comment from JPN] <mark>It seems that "Servicing community" has not to been added in clause 3.1.</mark> Correct. "Servicing community" is not a technical definition. The wording has been changed to "the community involved in

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							spacecraft servicing"
JP-24 025		05.05		ge	The contents seem to be correct, but the necessity to mention those as requirements in this draft is questionable as, generally, such work is outside the scope of contracts pertaining to this standard.	Transfer to TR or rewrite as requirements.	Informative (non-normative) information has been moved to a new Annex. [Re-comment from JPN] Confirmed
JP-26 026		05.05.4		ge	What is "Members of the Consortium" or "The Consortium"?	Define "Members of the Consortium" and "the Consortium"	Accepted. Language is changed to be consistent with UN language on sustainability [Re-comment from JPN] Confirmed
JP-06 027		Introduction		ge	The content of the Introduction should describe the relationship with the International Treaty (Article 9) and the COPUOS guideline (3 and/or 4). [Related to the comment of JP-02/JP-04]		Accepted in principle. A sentence was added to the Introduction and the Normative References updated for consistency. [Re-comment from JPN] Confirmed
JP-05 028		New clause (between 3 and 4)		ge	Abbreviations should be listed for; RPO, OOS IST, CONOPS, CCSDS, etc.	As left.	Accepted [Re-comment from JPN] Confirmed
JP-03 029		Whole		ge	Both "satellites" and "spacecraft" are used in this draft. A satellite sometimes means not only	Satellites should be changed to spacecraft.	Accepted. [Re-comment from JPN] Confirmed

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					spacecraft but also all the objects including fragments circulating around the planet. Spacecraft is better to use in this draft.		
JP-02 030		Whole		ge	Most important aspects of this project are: (1) "Assurance of Transparency": Since RPO and OOS must be planned and operated with enough transparency to the world to avoid misunderstand leading to conflict with other nations. (2) "Assurance of Safety and Preservation of orbital environment": Since RPO or OOS tend to pose larger risk to cause collision, break-up, or the intentional release of parts than spacecraft in traditional missions. Common concept of design, verification or operation methods (written in sub-clause 5.1, for example) can be reduced to simplified description.	Delete traditional design, operation requirements or best practice, and emphasize the characteristics specific to RPO and OOS missions.	This is a very broad comment. The intent is correct but difficult to implement. Please provide specific changes we can make. [Re-comment from JPN] We point out sub-clause 5.1 as example. They seem to be common requirements as traditional S/C. Other example will be shown later. Response 2: The approach taken is to identify requirements which are perhaps traditionally done and perhaps even standardized, but which MUST be done in operations involving two or more spacecraft involved in contacting operations on-orbit.

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JP-01 031		Whole		ge	"Programmatic Principles and Practices" is not suitable as the basis of a WD for an ISO standard. A WD should be more like a "Program Requirement" which can be directly applied to a project activity and related contracts for compliance. Recommend drafting a "Program Requirement" before discussion of WD. Otherwise, this project can be developed for TR or TS at the first step. A TS can be developed in to IS in the future.	As left.	Disagree. Discuss. [Re-comment from JPN] This comment will be changed to request putting emphasis on practical requirements specific to PRO and OOS. Detail will be shown later. Per our discussion in WG3, (Fall Meeting 2019) we are in agreement on the need and general content for an international standard.
DE 032		whole document		ge	The intent of the document is ok. But I do not see the proposed draft fit for an actual standard. The content is completely unspecific. It describes basic principles of "good conduct". These in themselves are unspecific for RPO and OOS. What is written here is common and basic "good practice", applicable to all space endeavours, for their management, their engineering, their operations. The current collection of principles is not specific, but holds a basic and global "good conduct" in space in general. As the content is unspecific these are more guidelines and a collection of principles, no actual requirements. The current content is in some way a "work program" of topics to be addressed, if possible, in actual standards. Then the question still remains:	develop the document as technical report. develop actual technical standards to address specifics and check their integration (overlap) with existing space standards	Informative content is moved to an Annex. Normative requirements are retained in the main body. Some of these requirements may need the development of lower level standards.

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					are there true specifics for RPO and OOS that are not already covered and implemented in the rest of the space domain?		
ESA				ge	From the proposal it is not clear if this intend to cover human graded missions, or interaction therewith, as well. Given that the survey covered in section 2 (which should not be part of a standard text in any case) focusses on human mission for which specific procedures were developed, as is currently the case in the ISS world as well, we are concerned with how procedure can be applied in general for RPO/OOS. We would suggest to explicitly exclude them until the topic is more mature.		In the series of six international workshops and work between the workshops by 26 companies from 6 countries these requirements have substantial technical and organizational input. ESA, for example, provided input at the workshop in Bremen in October 2018. Human Spaceflight is not expected to be included in RPO/OOS business opportunities and is not explicitly addressed here. However, the opportunity for more specific standards work at a lower level or in parallel may occur in the future. Existing language is constructed to allow for these options.
ESA		4		ge	Most of section 4 is superfluous when considering an ISO standard here, but it does raise the question on the effective scope of the NWIP (p12, section 1): "It is necessary to establish these principles and practices before going forward with development of more detailed Voluntary Consensus Standards (VCSs)." . It is unclear what is meant: principle and practice documents such as the CONFERS draft		The goal of the standard is to establish top-level standard requirements for this set of unique space missions. Existing standards will be adopted as normative references where they exist in VCS

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					added to the NWIP exist an can't be the goal of a standard draft. However, the content of the CONFERS document does not make it clear if "service level requirements" are to be drafted as part of the NWIP (and mentioned VCS) or a standard capturing the concepts underlying any RPO/OOS activity. We would be in favour of the latter: I.e. a standard which deals with the general safety aspects of and RPO/OOS mission without a reference to what mission aims to achieve. The logic would be to separate the safety aspects of the operations from the mission success criteria, and associated specific guidelines, which can still be further derived from a high level standard. This is a crucial point which should be discussed at the beginning of the NWIP cycle.		form. Regarding the separation of safety and mission success, it is the opinion of the commercial space community to date that the two are inseparable. This is a major difference with government agency practices since corporations are not indemnified from space operations liability.
ESA				ge	Various terms and definitions overlap with existing ones in similar operational contexts. This needs to be carefully evaluated where terms can be adopted from and which can be extended.		Agreed. There has been initial work on RPO/OOS specific terms. It is the intent of this work item to apply and coordinate terms with SC14 and CCSDS glossaries.
					Additional comments from JP 2019-10-30		
JP2-01		3.1.3		ge	This sentence doesn't seem to describe what the essential "servicing" is.	Change to; On-orbit activities by a servicer spacecraft which requires rendezvous and/or proximity operation such as refuelling, active debris removal etc..	Per WG3 discussion, added, "See 3.8 Servicing Operations." Which contains a more detailed description of servicing.
JP2-02		4.1.1 4.1.2 4.1.3		ge	The subject of each clause is inconsistent, so please match if not specifically intended. 4.1.1 says "servicing operators"	Written as left.	A review of the correct use of terms is being done. Upon review, the terms

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		4.1.5 4.2.1-3 4.2.5.1 4.2.5.2			4.1.2 says "servicing spacecraft" 4.1.3 says "Servicer" 4.1.5 says "A servicing operation" 4.2.1-3 says "Parties conducting commercial servicing operations" 4.2.5.1 says "the servicer" 4.2.5.2 says "the servicer owner"		are correct. Servicer and Client are organizations, but not necessarily owners. Servicer Spacecraft and Client Space Object are spacecraft or other space objects.
JP2-03		4.1.1		ge	Please clarify "in a responsible manner". If there is no specific example, the compliance cannot be confirmed.	Written as left.	"responsible manner" is removed
JP2-04		4.1.2		ge	Please clarify "generally accepted engineering practices". Does this word mean existing traditional standard such as ISO, ECSS, AIAA etc.?	Written as left.	Segment is removed.
JP2-05		4.1.3.1		ge	Please clarify "Reasonable provisions".	Written as left.	Reasonable is removed. Mission is replaced by service. Added operations to planning.
JP2-06		4.1.3.2		ge	Thank you for adding new requirement based on the comment JP-10. 4.1.3.2 was written for a very special case. To make it more general, so we reconsider the sentence on the right.	Change to; 4.1.3.2 In the case of servicing to active spacecraft (e.g. a refueling project), servicer shall not impair the client space object conformity to space debris mitigation requirement such as ISO 24113.	Rewritten per WG3 discussion
JP2-07		4.1.4		ge	The scope of this requirement is not for the client but the servicer.	Change to; During a servicing operation, the servicing organization shall establish and maintain effective communications with client organization in support of safe and successful operations.	Reject. Communications is a responsibility of both servicer and client.
JP2-08		4.1.5		ge	Is there any conventional insurance for OOS? In this clause it is important only clarify the	Change to;	As a result of discussion in WG3 at the Fall 12019

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					liability of servicer and client for damage to the activity of third party. Insurance is one implementation of this requirement.	4.4.4 Liability for damage Servicer and client shall agree to have responsibility to compensate the damage given to third parties.	Mtg text for this section is as follows: A servicing operation shall be insured to cover the risk of damage to the activity of third parties. NOTE: The liability for damage may be covered by conventional insurance, financial reserves, alternative operational support or other means.
JP2-09		4.2.1		ge	The situation of this requirement depends on national law.	Change to; Parties conducting servicing operations shall notify the relevant State(s) of the general nature, conduct, locations, and results of servicing operations in accordance with their national law.	Accept with additions.
JP2-10		4.2.2		ge	Please clarify how to distinguish "entities that could reasonably be affected by the servicing operation". Can we distinguish entities based on the information from CSpOC?	Written as left.	Perhaps. The need to measure and verify compliance with this requirement may require further standards development. See also 4.2.3.
JP2-11		4.2.5		ge	In order to show the importance of information sharing, the text on the right is preferable.	Change to; Parties conducting servicing operations shall look for opportunities to share lessons learned from operational successes and anomalies, unless there is a loss of intellectual property	Reject. The change is not substantive and had editorial issues.

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					and competition-sensitive information.		
JP2-12		4.2.5.1		Ge	Thank you for adding new requirement based on the comment JP-15. It is too strict requirement for servicer to have responsibility of client space object, so we reconsider the sentence on the right.	Change to; If the mission intends to capture the client's space objects and place them into a re-entering trajectory, the servicer shall assess the re-entry risk for all both of the servicer spacecrafts and all client space objects. The information of re-entry risk for client space objects is normally provided by client.	A change is made to capture the intent of the comment.
JP2-13		4.2.5.2		Ge	Thank you for adding new requirement based on the comment JP-15. We would like to clarify "state actors" , so we reconsider the sentence on the right.	Change to; In the case of controlled re-entry, the servicer owner shall notify information relevant state actors such as civil aviation and maritime organization of anticipated re-entry risk(s), consistent with UN treaties and ISO 24113 reentry requirements.	A change is made to include (e.g., civil aviation or maritime authorities)
JP2-14		5.1.1		ge	Please clarify who can certify for system and operational safety.	Written as left.	Reject. All possible options for certification are allowed. (Self-certification, certification by customer, third party certification)
JP2-15		5.1.2		ge	Is the following sentence a requirement or recommendation? "Software designs and functionality should be verified using, for example, extensive simulation runs to model sensor inputs to the relative navigation algorithms."	If this sentence is requirement, please change "should" to "shall".	No change. The sentence is used to clarify the requirement stated in a different sentence in 5.1.2.
JP2-16		5.1.2		ge	The Patch function may be used appropriately, but essentially it is most important to have a high degree of perfection with proper verification on the ground. It is not good that the ground verification is neglected because of the patch function.	Just a comment.	

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Date:2020-01-05	Document: WD 24330 (Sep 2019)	Project:

MB/ NC[1]	Line number	Clause/ Subclause	Paragraph/ Figure/Table	Type of comment[2]	Comments	Proposed change	Observations of the secretariat
JP2-17		5.1.2		ge	What are the assumptions for the Safety [Design] Requirement of Software or Computer system? For example, IV & V is a verification of completeness but not a safety design.	Just a comment.	
JP2-18		5.1.3		ge	Please clarify who can certify for system and operational safety. In order, CONOPS should come first, followed by H / W and S / W design requirements.	Written as left.	Reject. All possible options for certification are allowed. (Self-certification, certification by customer, third party certification)
JP2-19		5.1.4		ge	Is the following sentence a requirement or recommendation? "The approved procedures should align with the CONOPS and establish the foundation for the servicer to execute."	If this sentence is requirement, please change "should" to "shall".	No change. The sentence is used to clarify the requirement stated in a different sentence in 5.1.4.
JP2-20		5.1.5		Ge	Qualification is not mentioned in this subclause.	Change the title to; 5.1.5 Trained operators	Reject. The qualifications are experience and rehearsal of procedures.
JP2-21		5.2		Ge	Each subclause has each requirement so the text in 5.2 is redundant.	Delete "Spacecraft servicing operations shall :"	Accept.
JP2-22		5.2.1		Ge	Isn't it premature to define that RPO / OOS will be implemented for an artificial object whose source or owner is not specified? (We understand that legal debate has not been resolved)	Delete For cases where no owner can be identified, e.g., space debris objects, perform RPO and OOS operations in a safe and transparent manner. This may include providing adequate public notice and communication of intent to States that may have reasonably been the source of the object . If the source is identified during/following the service, the relevant States shall be notified.	Reject. Failure to resolve the policy issue does not mean that companies are not pursuing country licensing to remove debris. Ac cumulation of debris is a technical and operational issue that possibly will not wait for international policy resolution.
JP2-		5.2.3		te	Passive safe concept shall be also used to	Written as left.	Changed per WG3

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23					the client up to a certain relative position. Since passively safe cannot be taken at the close approach phase, collision avoidance needs to be performed with some alternative way.		discussion at the Fall Meeting 2019.
JP2-24		5.2.4		ge	This subclause is only mentioned about affected third party.	Change the title to; 5.2.4 Notification practice to affected third party by close approaches	Change is mad to "Third Party Notification"
JP2-25		5.2.4		te	Intentionally close approach to third party spacecraft should be basically prohibited. If there is a possibility of closing approach to third party spacecraft in the process of providing services to clients, the expression "..." is appropriate. What is defined as close approach is a problem.	Change to; Intentionally close approach to third party spacecraft shall be basically prohibited. If there is a possibility of closing approach to third party spacecraft in the process of providing services to clients, servicer shall notify to third party in advance of any close approaches and exchange information to support safety of spaceflight (e.g. operator points-of-contact, ephemerides, ability to maneuver, and maneuver plans). Reference 5.2.1 for situations where no owners can be identified.	Reject. "Close" is a relative term and is not measurable. There is already requirements to not cause physical or electromagnetic interference.
JP2-26		5.2.4		te	The following sentence is not proper as a requirement. Third party safety should be prioritized over everything. "while respecting owner/operator intellectual property and proprietary information"	Written as above.	Reject. This sentence segment is related to the earlier part of the sentence regarding types of information to share.
JP2-27		5.2.7		ge	There seems to be a contradiction between "when possible" and shall".	Clarify this clause is a requirement or recommendation.	"When possible" is removed. A qualification NOTE is added.
JP2-28		5.2.7.1		ge	The relationship between the 25-year rule and consideration for manned activities is unclear. If it is necessary to consider both, checkout in	Written as left.	That recognition is correct. There is no direct correlation between

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					orbits well below the ISS altitude is required, but is that recognition correct?		eh 25 year rule and Human Space Flight.
JP2-29		5.3		ge	OOS seems to include physical contact such as docking.	Change to; Servicers and Clients shall avoid unintended physical or electro-magnetic interference during all phases of operations.	Accept.
JP2-30		5.4.2		ge	Please clarify "the spacecraft servicing community" or modify the term to "Relevant spacecraft operators"	Written as left.	Accept. The servicing community is identified.
					JS Comments 28 Oct 2019		
JS		3.1		te	Add a term for passive safe trajectory, e.g.:	A passive safe trajectory is a trajectory which will not interfere with a convex envelope of the client space object when control is lost. The trajectory propagation to be considered shall include all navigation uncertainties and process noise (perturbations).	Accept.
JS		5.2.3		te	A good practice is to introduce hold points for system checkout and as time flexible elements to bridge any problems, which may occur during the approach Taking this strict does not allow to perform a V-Bar approach and docking like ATV did. At a certain distance passive safety may not be guaranteed. In this case active safety may apply, meaning a reliable implementation of collision avoidance capability		Add the words, "Except while in or establishing a Proximity Operations Control Volume (See B.7)" to the beginning of 5.2.3
JS		B.7.1	First Sentence	ed	This is not mandatory when the client spacecraft is still operational		No Change - This type of variation is noted in the Annex B Introduction

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JS		B.7.1	Second Sentence	ed	This is not possible in case of incapacitated client S/Cs (debris removal)		No Change - This type of variation is noted in the Annex B Introduction

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JS – Joseph Sommer

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Page 21 of 21