

## 2006-010A and B: Draft revisions to ISPM 15 (Regulation of wood packaging material in international trade)

Comm no.	Para no.	Comment type	Comment	Explanation	Country
1.	G	Editorial		The document is concise and clear to understand.	South Africa
2.	G	Substantive	I support the document as it is and I have no comments		Georgia, Lao People's Democratic Republic, Australia, Malaysia, Nepal, New Zealand, Kenya, Congo, PPPO, Philippines, Guyana, Ghana
2.	G	Substantive	I support the document as it is and I have no comments		Burundi
4.	G	Substantive	The participants of the workshop appreciated the addition of the new treatments with SF. They requested that further guidelines be developed on the application, procedures, and infrastructures for the use of SF.  The participants considered that the application of the dielectric treatment with radio frequencies is difficult due to the hifh cost of the necessary infrastructures for the application of this method and the lack of expertise in most countries of the region.	Common position on the new proposed treatments and request for assistance/guidance in application of SF treatment.	NEPPO
5.	G	Substantive	To be consistent with MB treatment, extension of treatment time for SF should also be included if the final concentration has not been reached in the draft treatment. (details in table 3)  i.e. #In circumstances when the minimum final concentration is not achieved after 24 hours, a deviation in the concentration of ~5% is permitted provided additional treatment time is added to the end	To be consistent with MB treatment, extension of treatment time for SF should also be included if the final concentration has not b een reached in the draft treatment. (details in table 3)	APPPC, Singapore, Korea, Republic of

Comm no.	Para no.	Comment type	Comment	Explanation	Country
6.	G	Substantive	of the treatment to achieve the prescribed CT. The addition of sulfuryl fluoride as a phytosanitary treatment in ISPM 15 is welcome	See comment	Jamaica, Barbados, Belize
7.	G	Substantive		The Standards Committee should consider reviving the topic to develop criteria to evaluate ISPM 15 treatments for a wider array of organisms than insects and nematodes, i.e. fungi	Canada
8.	G	Substantive		Twenty-four hour SF fumigations appear to be more efficacious at 15oC than at 20oC at comparable concentration-time (CT) products (Sousa et al. 2010). Data in this draft are contrary to those that are typically observed with fumigants. Furthermore, 48-hour fumigations were generally more efficacious than 24-hour treatments conducted at 20oC at similar CT values (Bonifacio et al. 2013). The reason for this discrepancy in results between the 24 and 48-hour fumigations is not clear. Bonifacio et al. (2013) suggests that the higher level of control in the 48-hour treatment may be the result of pine wood nematode eggs having more time to hatch into a more susceptible life stage. However, this does not explain the high level of control observed in the 24-hour treatment at 15oC. Further studies are necessary are needed to confirm the reasons for both the time and temperature discrepancies reported in the Sousa et al 2010 vs Bonifacio et al 2013 papers. It is important that the data show consistent, repeatable results.	United States of America
9.	G	Substantive	<ol> <li>As there is a concern about the safe use of sulphuryl fluoride in terms of lack of information on operational procedure guidance for fumigation, handling and equipment, it is needed for member countries to have a rational explanation for the inclusion of sulphuryl fluoride in the ISPM15.</li> <li>In addition, the Explanatory Document for ISPM15: 2009 which provides the operational guide to fumigation should be revised for sulphuryl fluoride.</li> </ol>	1 Though existing treatment such as heat treatment are already available as an annex to ISPM15 for wood packaging material, it is necessary to provide the rational explanation for sulphuryl fluoride fumigation will be added in the ISPM15. 2 Provided that the rational explanation for inclusion of sulphuryl fluoride is presented, the Explanatory Document for ISPM15: 2009 which gives the operational guide to fumigation should be revised in order to ensure sulphuryl fluoride fumigation is applied appropriately in terms of both for efficacy and safety reasons. In this document, advantage/disadvantage and special care for the use of sulphuryl fluoride should be described for the reference of the NPPOs and treatment providers.	Japan
10.	G	Substantive	1. Put off adopting the draft revision of Annex 1 and Annex2 to ISPM15.	1.When CT product is 3000 g.h/m3, the pine wood nematode can not be completely killed at 20°C.Bonifacio L. (2014) showed the results as flollow: Boards were fumigated for 24 h at	China

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			2. To be consistent with MB treatment, extension of treatment time for SF should also be included if the final concentration has not been reached in the draft treatment. (details in table 3)  i.e. #In circumstances when the minimum final concentration is not achieved after 24 hours, a deviation in the concentration of ~5% is permitted provided additional treatment time is added to the end of the treatment to achieve the prescribed CT.	three different temperatures (15, 20 and 30 °C) with dosage ranges of 31 69-4407, 1901 -4051 and 1385-2141 g.h m-3 respectively. No survival was found in the 15 °C and 30 °Ctreatments, while at 20 °C the mortality ranged from 94.06 to 100%. So further studies are needed to obtain the most effective dosage at 20 °C, and to determine the toxicity of SF fumigation on B.xylophilus at other temperatures, especially at 25 °C. Reference: Bonifacio L., Sousa, E., Naves, P., etal. 2014. Efficacy of sulfuryl fluoride against the pinewood nematode, Bursaphelenchus xylophilus(Nematoda: Aphelenchidae), in Pinus pinaster boards. Pest Management Science, 70: 6-13. 2. The effect of Methyl bromide and sulphuryl fluoride on pathogenic fungi and nematode is poor, and lack of experimental data support. Jiangsu, Shanghai and other ports intercepted pine wood nematode from American wood repeatedly, that the wood has been treated by Methyl bromide.  3.To be consistent with MB treatment, extension of treatment tim e for SF should also be included if the final concentration has not been reached in the draft treatment. (details in table 3)	
11.	G	Substantive	Footnotes should be renumbered according to changes in paragraphs 42, 44, 91, 121, 122 and 123. The paragraph 95 should be actualized, including the abbreviations DH and SF. ¥	See comments	COSAVE, Argentina, Peru, Brazil, Uruguay, Chile, Paraguay
12.	G	Substantive	Existe la necesidad de conocer la información técnica de respaldo del tratamiento de fluoruro de sulfurilo dado que no es un tratamiento común, se recomienda apuntar al final de la norma algún enlace a la información de referencia para conocimiento de los países.  Sería muy recomendable que la CIPF desarrolle un taller sobre el uso y manejo de este producto en la región de Latinoamérica y el Caribe así como que ponga a dis posición información técnica sobre uso y manejo del producto. Lo anterior para estar en mejores condiciones de aplicar el tratamiento.	Para facilitar el establecimiento e implementación de la norma	Costa Rica
			Faltaría incluir información sobre la eficacia del tratamie		

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			nto en los diferentes grupos de plagas por ejemplo los hongos y otros insectos.			
13.	G	Technical	Add one article: Contracting parties to the IPPC may also have obligations under the Kyoto Protocol on Substances that causes the greenhouse effect.	As more Sulphuryl fluoride is used, the greenhouse effect must come into being. Every country has the obligations under Kyoto Protocol.	China	
14.	11	Editorial	For methyl bromide and sulphuryl fluoridetreatments, the removal of bark must be carried out before treatment as the presence of bark on the wood may affect treatment efficacy. For heat treatment, the removal of bark may be carried out before or after treatment. When a dimension limitation is specified for a certain type of heat treatment (e.g. dielectric heating), any bark must be included in the dimension measurement.	Two treatments, so it should be plural.	EPPO, European Union, Austria	
15.	11	Editorial	For methyl bromide and sulphuryl fluoride_treatments, the removal of bark must be carried out before treatment as the presence of bark on the wood may affect treatment efficacy. For heat treatment, the removal of bark may be carried out before or after treatment. When a dimension limitation is specified for a certain type of heat treatment (e.g. dielectric heating), any bark must be included in the dimension measurement.	Plural for treatment	NEPPO	
16.	11	Editorial	For methyl bromide and sulphuryl fluoride treatments treatment, the removal of bark must be carried out before treatment as the presence of bark on the wood may affect treatment efficacy. For heat treatment, the removal of bark may be carried out before or after treatment. When a dimension limitation is specified for a certain type of heat treatment (e.g. dielectric heating), any bark must be included in the dimension measurement.	Editorial: need plural for treatments as we have now 2 treatments	Jamaica, Barbados, Belize, Guyana	
17.	33	Editorial	Where dielectric heatingis used (e.g. microwaves or radio waves) is used, wood packaging material composed of wood not exceeding 20 cm <sup>1</sup> when measured across the smallest dimension of the piece or the stack must be heated to achieve a minimum temperature of 60 °C for 1 continuous minute throughout the entire profile of the wood (including its	Currently these are the only treatments, not examples	EPPO, European Union, Austria	

Comm .	Para	Comment type	Comment	Explanation	Country	
no.	no.					
			surface). The prescribed temperature must be reached within 30 minutes from the start of the treatment <sup>2</sup> .			
18.	33	Substantive	Where dielectric heatingis used (e.g. microwaves or radio waves) is used, wood packaging material composed of wood not exceeding 20 cm¹ when measured across the smallest dimension of the piece or the stack must be heated to achieve a minimum temperature of 60 °C for 1 continuous minute throughout the entire profile of the wood (including its surface). The prescribed temperature must be reached within 30 minutes from the start of the treatment² Treatment providers using dielectric heating must verify that their schedules acheive treatment para meters, taking into account such factors as moisture content of wood, its size and density, and the frequency used (mic rowave and radio waves) (this should ideally be added after bullet point number 2 below)	If current limitations (30 min and 20cm) then even more than now it's important to mention factors important for the efficacy of the ttreatment, which should be taken into account when validating a schedule.	EPPO, Austria, Norway	
19.	33	Substantive	Where dielectric heatingis used (e.g. microwaves or radio waves) is used, wood packaging material composed of wood not exceeding 20 cm <sup>1</sup> when measured across the smallest dimension of the piece or the stack must be heated to achieve a minimum temperature of 60 °C for 1 continuous minute throughout the entire profile of the wood (including its surface). The prescribed temperature must be reached within 30 minutes from the start of the treatment <sup>2</sup> Treatment providers using dielectric heating must verify that their schedules acheive treatment para meters, taking into account such factors as moisture content of wood, its size and density, and the frequency used (mic rowave or radio waves).	If current limitations (30 min and 20cm) then even more than now it's important to mention factors important for the efficacy of the ttreatment, which should be taken into account when validating a schedule. The suggested text may better fit if added after bullet point number 2 below (para [37]) - to be considered by the steward and the SC.	European Union	
20.	67	Editorial	The fumigation of wood_packaging material with sulphuryl fluoride must be in accordance with a schedule that achieves the minimum concentration-time product <sup>4</sup> (CT) in the ambient atmosphere over 24 or 48 hours at the temperature and final residual concentration specified in Table 3. Small increases in	First sentence: 1) The footnote 4 (paragraph 122) applies not only for MB treatment but also for SF treatment. So the reference to footnote 4 should be added in the first sentence (after the term "product") and this footnote should be repeated at the bottom of the page. Second sentence: 2) The dash has to be deleted before "1-2 hours". 3) A space has to deleted after the term	EPPO, European Union, Austria	

Comm no.	. type		Comment	Explanation	Country
			the treatment time (e.g. –1-2 hours) may be permitted to achieve the required CT if the minimum final concentration is not reached. The minimum temperature of the wood must be not less than 20 °C and the minimum exposure time must be not less than the time stated for each temperature in table 3.	"reached" at the end of the second sentence. Last sentnce: 4) Addition of "in table 3" suggested for clarity.	
21.	67	Editorial	The fumigation of wood packaging material with sulphuryl fluoride must be in accordance with a schedule that achieves the minimum concentration-time product (CT) in the ambient atmosphere over 24 or 48 hours at the temperature and final residual concentration specified in Table 3. Small increases in the treatment time (e.g. –1-2 hours) may be permitted to achieve the required CT if the minimum final concentration is not reached. The minimum temperature of the wood must be not less than 20 °C and the minimum exposure time must be not less than the time stated for each temperature.	remove space after reached	NEPPO
22.	67	Editorial	The fumigation of wood packaging material with sulphuryl fluoride must be in accordance with a schedule that achieves the minimum concentration-time product (CT) in the ambient atmosphere over 24 or 48 hours at the temperature and final residual concentration specified in Table 3. Small increases in the treatment time (e.g. –1-2 hours) may be permitted to achieve the required CT if the minimum final concentration is not reached. The minimum temperature of the wood must be not less than 20 °C and the minimum exposure time must be not less than the time stated for each temperature.	(e.g. 1-2 hours)	Indonesia
23.	67	Editorial	The fumigation of wood packaging material with sulphuryl fluoride must be in accordance with a schedule that achieves the minimum concentration-time product (CT) in the ambient atmosphere over 24 or 48 hours at the temperature and final residual concentration specified in Table 3. Small increases in the treatment time (e.g. –1-2 hours) may be permitted to achieve the required CT if the minimum final concentration is not reached. The minimum	To delete the additional dash.	APPPC, Singapore, Korea, Republic of

Comm no.	type		Comment	Explanation	Country
			temperature of the wood must be not less than 20 °C and the minimum exposure time must be not less than the time stated for each temperature.		
24.	67	Editorial	The fumigation of wood packaging material with sulphuryl fluoride must be in accordance with a schedule that achieves the minimum concentration-time product (CT) in the ambient atmosphere over 24 or 48 hours at the temperature and final residual concentration specified in Table 3. Small increases in the treatment time (e.g. –1-2 hours) may be permitted to achieve the required CT if the minimum final concentration is not reached. The minimum temperature of the wood must be not be less than 20 °C and the minimum exposure time must be not be less than the time stated for each temperature.	for better clarity	Jamaica, Barbados, Belize, Guyana
25.	67	Editorial	The fumigation of wood packaging material with sulphuryl fluoride must be in accordance with a schedule that achieves the minimum concentration-time product (CT) in the ambient atmosphere over 24 or 48 hours at the temperature and final residual concentration specified in Table 3. Small increases in the treatment time (e.g. –1-2 hours) may be permitted to achieve the required CT if the minimum final concentration is not reached. The minimum temperature of the wood must be not less than 20 °C and the minimum exposure time must be not less than the time stated for each temperature.	In the sentence no. 2 of this paragraph, the dash in front of "1-2 hours" in a bracket should be deleted.	Thailand
26.	67	Editorial	The fumigation of wood packaging material with sulphuryl fluoride must be in accordance with a schedule that achieves the minimum concentration-time product (CT) in the ambient atmosphere over 24 or 48 hours at the temperature and final residual concentration specified in Table 3. Small increases in the treatment time (e.g. –1-2 hours) may be permitted to achieve the required CT if the minimum final concentration is not reached. The minimum temperature of the wood must be less than 20 °C and the minimum exposure time must be not be less than the time stated for each temperature.	Concentration-time products (CT) is defined earlier in the document. Remove an extra hyphen before "1-2 hours" Suggest to move "be" after "not" to improve the sentence.	Canada

Comm no.	n Para Comment Comment . type no.			Explanation	Country	
27.	67	Editorial	The fumigation of woodpackaging material with sulphuryl fluoride must be in accordance with a schedule that achieves the minimum concentration-time product (CT) in the ambient atmosphere over 24 or 48 hours at the temperature and final residual concentration specified in Table 3. Small increases in the treatment time (e.g1-2 hours) may be permitted to achieve the required CT if the minimum final concentration is not reached. The minimum temperature of the wood must be not less than 20 °C and the minimum exposure time must be not less than the time stated for each temperature.	More appropriate wording	United States of America	
28.	67	Editorial	The fumigation of wood packaging material with sulphuryl fluoride must be in accordance with a schedule that achieves the minimum concentration-time product (CT) in the ambient atmosphere over 24 or 48 hours at the temperature and final residual concentration specified in Table 3. Small increases in the treatment time (e.g. –1-2 hours) may be permitted to achieve the required CT if the minimum final concentration is not reached. The minimum temperature of the wood must be not less than 20 °C and the minimum exposure time must be not less than the time stated for each temperature.	To delete the additional dash.	China	
29.	67	Substantive	Wood packaging material containing a piece of wood ex ceeding 20 cm in cross-section at its smallest dimension must not be treated with sulfuryl fluoride. wood packaging material with a moist ure content more than 60% at the time of treatment must not be treated with sulfuryl fluoride.  The fumigation of woodpackaging material with sulphuryl fluoride must be in accordance with a schedule specified or approved by the NPPO that achieves the minimum concentration- time product (CT) in the ambient atmosphere over 24 or 48 hours at the temperature and final residual concentration specified in Table 3. Small increases in the treatment time (e.g. – 1-2 hours) may be permitted to achieve the required CT	1) these are mandatory requirements and should be in the main text rather than in the list in paragraphs 75-87. 2) Treatment schedules should be specified or approved by the NPPO, as for the MB treatment. 3) For consistency with MB treatment.	EPPO, European Union, Austria, Norway	

Comm no.	Para no.	Comment type	Comment	Explanation	Country
			if the minimum final concentration is not reached. The minimum temperature of the wood must be not less than 20 °C and the minimum exposure time must be not less than the time stated for each temperature.  If the CT is not achieved within a single period of 24 or 48 hours, corrective action needs to be taken to ensure the required CT is reached; for example, the treatment is restarted or its time extended for a maximum of 2 hours without adding more sulphuryl fluoride.		
30.	67	Substantive	The fumigation of wood packaging material with sulphuryl fluoride must be in accordance with a schedule that achieves the minimum concentration-time product (CT) in the ambient atmosphere over 24 or 48 hours at the temperature and final residual concentration specified in Table 3. Small increases in the treatment time (e.g. –1-2 hours) may be permitted to achieve the required CT if the minimum final concentration is not reached. The minimum temperature of the wood must be not less than 20 °C (retain 20 deg C for insect & nematodes as 15 deg C is not effective against nematodes) and the minimum exposure time must be not less than the time stated for each temperature.	To retain 20 deg C for insect & nematodes as the temperature of 15 deg C (draft annex in ISPM 28 - insects) is not effective against nematodes.	APPPC
31.	67	Substantive	The fumigation of wood packaging material with sulphuryl fluoride must be in accordance with a schedule that achieves the minimum concentration-time product (CT) in the ambient atmosphere over 24 or 48 hours at the temperature and final residual concentration specified in Table 3. Small increases in the treatment time (e.g1-2 hours) may be permitted to achieve the required CT if the minimum final concentration is not reached. The minimum temperature of the wood must be not less than 20 °C and the minimum exposure time must be not less than the time stated for each temperature.	The treatment should specify how the CT is calculated, or at a minimum provide a link or cross-reference to where this is described or provided.	United States of America

Comm no.	nm Para Comment Comment . type no.			Explanation	Country
32.	67	Substantive	The fumigation of wood packaging material with sulphuryl fluoride must be in accordance with a schedule that achieves the minimum concentration-time product (CT) in the ambient atmosphere over 24 or 48 hours at the temperature and final residual concentration specified in Table 3. Small increases in the treatment time (e.g. –1-2 hours) may be permitted to achieve the required CT if the minimum final concentration is not reached. The minimum temperature of the wood must be not less than 20 °C(retain 20 deg C for insect & nematodes as 15 deg C is not effective against nematodes) and the minimum exposure time must be not less than the time stated for each temperature.	To retain 20 deg C for insect & nematodes as the temperature of 15 deg C (draft annex in ISPM 28 - insects) is not effective against nematodes	China
33.	67	Technical	The fumigation of wood packaging material with sulphuryl fluoride must be in accordance with a schedule that achieves the minimum concentration-time product (CT) in the ambient atmosphere over 24 or 48 hours at the temperature and final residual concentration specified in Table 3.  This CT must be achieved throughout the profile of the wood, including its core, although the concentration would be measured in the ambient atmosphere. Small increases in the treatment time (e.g. –1-2 hours) may be permitted to achieve the required CT if the minimum final concentration is not reached. The minimum temperature of the wood must be not less than 20 °C and the minimum exposure time must be not less than the time stated for each temperature.	Similarly to the MB treatment, the CT must be achieved throughout the profile of the wood, not in the ambient atmosphere.	EPPO, European Union, Austria, Norway
34.	67	Technical	The fumigation of wood packaging material with sulphuryl fluoride must be in accordance with a schedule that achieves the minimum concentration-time product (CT) in the ambient atmosphere over 24 or 48 hours at the temperature and final residual concentration specified in Table 3. Small increases in the treatment time (e.g. –1-2 hours) may be permitted to achieve the required CT if the minimum final concentration is not reached. The minimum temperature of the wood must be not less than	The minimum temperature of the wood in this annex is defined at 20C, while both of the draft annex to ISPM 28 related to sulphuryl fluoride fumigation of debarked wood are defined at 15C. The corrected temperature should be clarified.	Thailand

Comm no.	Para no.	Comment type	Comment			Explanation	Country
			20 or 15 °C ?? and be not less than the				
35.	67	Technical	be not less than the time stated for each temperature.  The fumigation of wood packaging material with sulphuryl fluoride must be in accordance with a schedule that achieves the minimum concentration-time product (CT) in the ambient atmosphere over 24 or 48 hours at the temperature and final residual concentration specified in Table 3. Small increases in the treatment time (e.g1-2 hours) may be permitted to achieve the required CT if the minimum final concentration is not reached. The minimum temperature of the wood must be not less than 20 °C and the minimum exposure time must be not less than the time stated for each temperature.			Regarding "1-2 hours", the treatment should specify what exactly would be a permissble increase in time.	United States of America
36.	68	Technical		able 3: Minimum CT over 24 or 48 hours for wood ackaging material fumigated with sulphuryl fluoride		Some of the references in the draft treatments to ISPM 28 (2007-101A and 101B) relevant to this annex recommend a much higher dosage (4 400). Therefore we note there is an inconsistency of results. We ask the TPPT to explain why they are proposing this treatment when published papers are proposing a different treatment. Bonifacio et al 2014 findings at 20 C (3,000 gh/m3 with an initial dose of 124 g/m3) have higher requirements than are proposed in this draft. Further, the authors state that additional work is required to fully establish the dose at 20 and 25 C. Therefore, we suggest several inconsistencies be resolved before the SF treatment be added to Annex 1 of ISPM 15.	United States of America
37.	69	Editorial	Temperature (°C)	Minimum CT (g·h/m³)	Minimum final concentration (g/m³)	1) Some vertical lines are missing in tables 1, 2, 3 and 4. For table 1 there are two unnecessary horizontal lines. 2) In tables 1 and 2, the temperature is given in descending order, and in tables 3 and 4 in ascending order which seems more logical. We	EPPO, European Union, Austria
			20 and above for 48 h	3 000	29	are aware that the tables 1 and 2 are not open for comments, but still suggest that they be aligned.	
			30 and above for 24 h	1 400	41		
8.	69	Editorial	Temperature (°C)	Minimum CT (g·h/m³)	Minimum final concentration (g/m³)	To be consistent with Table 1 & 2 to use " or" instead of "and".	APPPC, Singapore, Korea, Republic of, China

Comm no.	Para no.	Comment type				Explanation	Country
			20 and or above for 48 h				
			30 and or above for 24 h	1 400	41		
9.	69	Editorial	Temperature (°C)	Minimum CT (g·h/m³)	Minimum final concentration (g/m³)	In the column of temperature in table 3, a conjunction "or" is more suitable than "and" . It is also consistent with table 2 of this document.	Thailand
			20 <u>or</u> and above for 48 h	3 000	29		
			30 <u>or</u> and above for 24 h	1 400	41		
·0.	69	Substantive	Temperature (°C)	Minimum CT (g·h/m³)	Minimum final concentration (g/m³)	it is difficult to implemented for countries which natural condition or ambient temperature below 20 C	Indonesia
			20 and above for 48 h	3 000	29		
			30 and above for 24 h	1 400	41		
			Note: How about cow 20 °C?	ountries that ambig	ent temperature belo		
1.	69	Substantive	Temperature (°C)	Minimum CT (g·h/m³)	Minimum final concentration (g/m³)#	Similarly for MB under table 1, there is a need to include under the sulphuryl fluoride treatment table 3, a mention of the requirement for additional treatment time in the event that the final concentration is not achieved i.e same text from table 1 has been reproduced	Republic of, China
			20 and above for 48 h	3 000	29	under table 3.	
			30 and above for 24 h	1 400	41		
			# In circumstances is not achieved after concentration of ~5	er 24 hours, a devi			

Comm no.	Para no.	Comment type	Comment		Explanation	Country
			treatment time is added to the end of t achieve the prescribed CT.	he treatment to		
-2.	69	Technical	Temperature (°C)    Minimum   Required CT   (g·h/m³)	Minimum final concentration (g/m³)	"Minimum" to be replaced by "Required" to be more correct.	EPPO, European Union, Austria
			20 and above for 48 h 3 000	29		
			30 and above for 24 h	41		
3.	71	Editorial	Table 4: Example of a treatment sche- the minimum required CT for wood pa- treated with sulphuryl fluoride		Columns should be re-aligned to the right to allow the 48 h figure to be above 29 g/m3 and the 36 h to be above 41g/m3 etc. The formatting of the columns in the header rows of the table isappear to be formatted incorrectly.	South Africa
ļ.	71	Technical	Table 4: Example of a treatment schethe minimum required CT for wood patreated with sulphuryl fluoride		From what reference(s) were these values obtained? Please clarify	United States of America
5.	72	Editorial	Te mp targe era t CT dosa ge (°C (g·h/ m³)) mm 3) Minimum concentrate (g/m³) at:	ion	1) Some vertical lines are missing in tables 1, 2, 3 and 4. For table 1 there are two useless horizontal lines. 2) In tables 1 and 2, the temperature is given in descending order, and in tables 3 and 4 in ascending order which seems more logical. 3) "#" applies also to the second occurrence of "NA" We are aware that tables 1 and 2 are not open for comments but we suggest that they be aligned.	EPPO, European Union, Austria
			0.5 2 h 4 h 12 h	2 3 4 4 6 8 h h h		
			20 an 3 00 12 d 124 ab	1 1 8 5 4 2 1 0 2 8 1 9		

Comm no.	Para no.	Comment type	Comment			Explanation	Country
			ove 30 an d 1 40 ab ove	82 8	7 7 5 4 N N A A A A A A		
46.	72	Editorial	Te mum targe t CT dosa ge (°C (g·h/m³)		oncentration <sup>3</sup> ) at:	table need to be edited	Indonesia
			0.5 h 2 h	4 h	2 3 4 4 6 8 h h h		
			20 an d 3 000 ab ove	12 0 12	1 1 8 5 4 2 2 4 2 8 1 9		
			30 an d 1 400 ab ove	82 8	7 7 5 4 N A A		
47.	72	Editorial	Te Mini mp mum era targe tur t CT e dosa	o Minii sa concentratio	mum on (g/m³) at:	To be consisten with table 1 & 2 with use of "or" instead of "and". To ensure that the format of the table 4 should be consistent and correct i.e. the current format of table 4 in OCS is off and there is discrepancy between this table 4 & the table in the draft annex to ISPM 28.	APPPC, Singapore, Korea, Republic of, China

Comm no.	Para no.	Comment type	Comm	ent			Explanation	Country
			(°C g (g	(g ·h/ / n³) m				
			0.5 h	h 4 h	12 h	2 3 4 4 6 8 h h h		
			20 an dor a bov e	00 12	124	1 1 8 5 4 2 1 0 2 8 1 9		
			30 an d o r ab ove	40 0 82	87	7 7 5 4 N N A A		
48.	72	Editorial	mp tar era t (	ini o sa ge crissa (ge (ge / h/ m) 3)	gm / at.		In the column of temperature of table 4, a conjunction "or" is more suitable than "and". It is also consistent with table 2 of this document.	Thailand
			0.5 h	h 4 h	12 h	2 3 4 4 6 8 h h h		

Comm no.	Para no.	Comment type	Comment			Explanation	Country
			20 ora a de	124 1 2	1 8 5 4 2 0 2 8 1 9		
			30 ora nd ab ov e	87 7 8	7 5 4 N N 3 8 1 # A		
49.	72	Editorial	Te mp o sa targe t CT tur e ge (°C (°C) (g·h/ m³) 3	Minimum ncentration (g/m³) at:	C	Columns should be fixed	Mexico
			0.5 h 2 h 4 h	1211	3 4 6 8 h h		
			20 an d 3 00 12 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	124 1 2	1 8 5 4 2 4 2 8 1 9		

Comm no.	Para no.	Comment type	Comme	nt									Explanation	Country
			30 an d ab ove	0 82			8	37			7 7 5 8 3 8	4 A N 1 # A		
50.	72	Editorial	T M e i m n p i e m	D o s a g	ľ	Vinin	num	cor	ncei	ntrat	ion (g/m	<sup>3</sup> ) at:	The columns should be adjusted.	COSAVE, Argentina, Peru, Brazil, Uruguay, Chile, Paraguay
			r ature (°C)	e ( g / m ³)	0 . 5 h	2 h	h	1 :		3 4 6 8 h				

Comm no.	Para no.	Comment type	Com	nme	nt											Explanation Country	
			20 and abo ve		3 000	0	12 0	1 2 4	1 1 2	1 0 4	8 2	5 8	4	2	29		
			30 and abo ve		1 400	0	82	8 7	7 8	7	5 8	4	N A #	٨	<b>N</b> A		
51.	72	Substantive	е	M	D o		Mini	mui	m c	onc	ent	ratio	on (g/	/m³)	at:	As per the requirements, the temperature of the product must be at Bahrain least 20o C. In case of cold areas (less than 20oC), what are the other options that fumigator can do in that case.	
			r	nimum targetCTdosage(g	s a g e ( g / m <sup>3</sup> )	0 . 5 h	h	4 h	2		3 6 h	4 8 h					

Comm no.	Para no.	Comment type	Comment	Explanation	Country
			h / m ³)		
			20 and abo ve 3 000 12 1 1 1 1 8 2 5 8 1	29	
			30 and abo ve 82 7 8 7 7 5 8 4 8 #	NA NA	
52.	72	Technical	Minimum Te Req o mp uired era CT t g tur arget e CT (g concentration (g/m³) at:  (°C desa / ) ge m (g·h/ m³)  (g·h/ m³)	"dosage" - dosage is shown in the next column 3. A footnote to be added after the table: "Initial doses may need to be higher in conditions of high sorption or leakage." 4. Concentrations after 0.5 hours are higher than the dosage, which is very confusing and requires a clarification.	EPPO, European Union, Austria
			0.5	6   8	
			20 an d   3 00   12   124   1 1 0 2 4	0 8 5 4 2	

Comm no.	Para no.	Comment type	Comment	Explanation	Country
			ab ov e       30 an d ab ov e       e       30 an d ab ov e   82 87	7 7 5 4 N N A A A	
53.	72	Technical	Te mp targe era tur e (g (g·h/ m³))  (°C (g·h/ m³))	To Expand the scope of application.	China
			h    <sup>2</sup>    h	2 3 4 4 6 8 h h h	
			20 an d 3-00 ab ov e 12 d	1 1 0 8 5 4 2 2 8 1 9	
			30 an d 1-40 ab ov e 82 87	7 7 5 4 N A A A	

Para	Comment type	Comment	Explanation	Country
no.				
		1.Adopt the treatment schedule of sulphuryl fluoride		
		fumigation on sects in debarked wood.		
		2. For Expand the scope of application, Add technical		
		parameters of SF fumigation when temperature is 15°C		
73	Editorial		Editorial remark to avoid confusion of using coma	NEPPO
, 0	Lattorial	FIVE, MICE applicable.	Editorial Terrial to avoid cornasion of asing corna.	INC. I TO
73	Editorial	# <sup>5</sup> NA, not applicable.	Suggest to make "NA, not applicable" a proper numbered footnote as shown in the comment column.	Canada
73	Substantive	# NA, not applicable.	may be permitted in case the minimum final concentration is not	Japan
		(Add the following sentence)	in para [48].	
		concentration of 5% is permitted provided additional		
		treatment time is added to the end of the treatment to		
74	Substantive		For consistency with MB treatment, 2. This is the text used for	EPPO, European Union,
		PPOs should consider shall ensure that the following	the MB treatment in para 20 and 52. The requirement that	Austria, Norway
		addressed by those involved in the application of sulphury	treatment providers should be approved by the NPPO is essential.  Instead of repeating the statement in each part of the Annex I. it	
		fluoride fumigation to meet the treatment requirements	could be better to move it into Section 4.1 as a more precise and	
		under this standard.		
			ensure that the basic requirements shall be met. This is the reason	
			the CT, and NPPOs should not have to consider this requirement.	
74	Technical	NPPOs shall ensure that the following factors are		COSAVE, Argentina, Peru,
		appropriately addressed by those involved in the application of sulphuryl fluoride treatment under this		Brazil, Uruguay, Chile,
	73 73 74	73 Editorial 73 Editorial 73 Substantive  74 Substantive	1.Adopt the treatment schedule of sulphuryl fluoride fumigation on sects in debarked wood.  2. For Expand the scope of application, Add technical parameters of SF fumigation when temperature is 15°C and 25°C above respectively.  73 Editorial # NA;—Neot applicable.  73 Editorial #S NA, not applicable.  (Add the following sentence)  In circumstances when the minimum final concentration is not achieved after treatment, a deviation in the concentration of 5% is permitted provided additional treatment time is added to the end of the treatment to achieve the prescribed CT.  74 Substantive Treatment providers should be approved by the NPPO. NPPOs should consider shall ensure that the following factors that may be required for are apprepriately addressed by those involved in the application of sulphury fluoride fumigation to meet the treatment requirements under this standard.	1.Adopt the treatment schedule of sulphuryl fluoride funigation on sects in debarked wood. 2. For Expand the scope of application, Add technical parameters of SF funigation when temperature is 15°C and 25°C above respectively.  73 Editorial # NA,—Not applicable.  Editorial # NA, not applicable.  Editorial # NA, not applicable.  Suggest to make "NA, not applicable" a proper numbered footnote as shown in the comment column.  73 Substantive # NA, not applicable.  In circumstances when the minimum final concentration is not achieved after treatment, a deviation in the concentration of 5% is permitted provided additional treatment time is added to the end of the treatment to achieve the prescribed CT.  74 Substantive Treatment providers should be approved by the NPPO. Not provided additional treatment time is added to the end of the treatment of achieve the prescribed CT.  Treatment providers should be approved by the NPPO. Not provided additional treatment time is added to the end of the treatment of achieve the prescribed CT.  Treatment providers abunded in the application of sulphuryl fluoride fundigation in para [48].  1. For consistency with MB treatment, 2. This is the text used for the MB treatment in para 20 and 52. The requirement that under this estandard.  1. For consistency with MB treatment, 2. This is the text used for the MB treatment in para 20 and 52. The requirement sunder this estandard.  1. For consistency with MB treatment, 2. This is the text used for the MB treatment in para 20 and 52. The requirement that under this estandard.  1. For consistency with MB treatment, 2. This is the text used for the MB treatment in para 20 and 52. The requirement sunder this endirement is the consistency of the parameter of the careful wording states as the basic treatment requirements when the endit into Section 4.1 as a more precise and straightforward supplementary text. The factors of para 75 to 87 do not have the same state as the basic treatment requirements they are only important supplements to consider

Comm no.	Para no.	Comment type	Comment	Explanation	Country
			Standard.  Treatment providers should be approved by the NPPO.  NPPOs should consider the following factors that may be required for sulphuryl fluoride fumigation to meet the treatment requirements		Paraguay
59.	75	Editorial	<ul> <li>Fans are used as appropriate during the gas distribution phase of fumigation to ensure equilibrium is reached and positioned to make certain that the fumigant is rapidly and effectively distributed throughout the fumigation enclosure (preferably within the first hour of application).</li> </ul>	Editorial	NEPPO
60.	75	Substantive	<ul> <li>Fans are used as appropriate during the gas distribution phase of fumigation to ensure equilibrium is reached and positioned to make certain the fumigant is rapidly and effectively distributed throughout the fumigation enclosure (preferably within the first hour of application).</li> </ul>	To be consistent with MB treatment that the equilibrium should be established within the 1st hr of application.	APPPC, Singapore, Korea, Republic of, China
61.	77	Technical	<ul> <li>The fumigation enclosure is well sealed and as gas tight as possible. If fumigation is to be carried out under sheets, these must be made of gas-proof material and sealed appropriately at the seams and at floor level.</li> <li>Add: Fumigation carried out under sheet is not encourged.</li> </ul>	Fumigation carried out under sheet is easier to gas leak than in the chamber.Fumigationcarried out under sheet is not encouraged.	China
62.	79	Editorial	<ul> <li>Sulphuryl fluoride treatment is not carried out on wood packaging material exceeding 20 cm in cross-section at its smallest dimension.</li> <li>Wood stacks need separators at least every 20 cm to ensure adequate sulphuryl fluoride circulation and penetration.</li> </ul>	These are two separate issues and can better be expressed in separate bullets.	EPPO, European Union, Austria

Comm .	Para	Comment type	Comment	Explanation	Country
no.	no.				
63.	79	Substantive	<ul> <li>Sulphuryl fluoride treatment is not carried out on wood packaging material exceeding 20 cm in cross-section at its smallest dimension.</li> <li>Wood stacks need separators at least every 20 cm to ensure adequate sulphuryl fluoride circulation and penetration.</li> </ul>	Sentence moved to paragraph 67 to give it more importance.	EPPO, European Union, Austria, Norway
64.	79	Technical	<ul> <li>Sulphuryl fluoride treatment is not carried out on wood packaging material exceeding 20 cm in cross-section at its smallest dimension. Wood stacks need separators at least every 20 cm to ensure adequate sulphuryl fluoride circulation and penetration.</li> </ul>	For consistency as per the draft annexes to ISPM 28 2007-101A and 2007-101B	Jamaica, Barbados, Guyana
65.	80	Substantive		It is requested that, if possible, the amount of compensation that is acceptable to calculate for sulphuryl fluoride dosage be quantified in order to avoid under application or over application of this chemical. or a reference to appropriate calculation methodology provided (i.e. what percentage compensation needs to be made for any gas mixture e.g. carbon dioxide to ensure the correct amount of fumigant is applied).	
66.	80	Technical	<ul> <li>When calculating sulphuryl fluoride dosage, compensation is made for any gas mixtures (e.g. carbon dioxide) to ensure that the total amount of fumigant applied meets required dose rates.</li> <li>The concentration of sulphuryl fluoride in the air space is always measured at a location furthest from the insertion point of the gas as well as at other locations throughout the enclosure (e.g. at front bottom, centre middle and back top) to confirm that unifrom distribution of the gas is reached. Treatment time is not calculated until uniform distribution has been reached.</li> </ul>		EPPO, European Union, Austria, Norway
67.	82	Editorial	<ul> <li>The measured temperature of the product or the ambient air (whichever is the loweret) is used to calculate the sulphuryl fluoride dose, and the</li> </ul>	There are only two, so "lower".	EPPO, European Union, Austria

Comm no.	Para no.	Comment type	Comment	Explanation	Country
			temperature of the product must be at least 20 °C (including at the wood core) throughout the duration of the treatment.		
8.	84	Editorial	<ul> <li>For the purpose of auditing, the treatment provider keeps records of sulphuryl fluoride treatments for a period of time determined and as required specified by the NPPO.</li> </ul>	1) The topic of auditing would be better located at the end of the list (see MB treament), before paragraph [87]. 2) "specified" is more straightforward than "determined and as required" (see MB treatment).	EPPO, European Union, Austria, Norway
9.	84	Editorial	<ul> <li>For the purpose of auditing, the treatment provider keeps records of sulphuryl fluoride treatments for a period of time specified determined and as required by the NPPO.</li> </ul>	To consistent with paragraph 65	Mexico
).	84	Editorial	<ul> <li>For the purpose of auditing, the treatment provider keeps records of sulphuryl fluoride treatments for a period of time determined and as required specified by the NPPO.</li> </ul>	To be consistent with paragraph 65 of this annex.	COSAVE, Argentina, Peru, Brazil, Uruguay, Chile, Paraguay
1.	84	Substantive	<ul> <li>For the purpose of auditing, the treatment provider keeps records of sulphuryl fluoride treatments and calibrations for a period of time determined and as required specified by the NPPO.</li> <li>Temperature and gas concentration sensors and data recording equipment are calibrated in accordance with the manufacturer's instructions at a frequency specified by the NPPO.</li> </ul>	To ensure consistency with para[64] and [65]	Japan
2.	84	Technical	For the purpose of auditing, the treatment provider keeps records of sulphuryl fluoride treatments and calibrations for a period of time determined and as required by the NPPO.	For consistency with MB treatment.	EPPO, European Union, Austria

Comm .	Para	Comment type	Comment	Explanation	Country
no.	no.				
73.	84	Technical	<ul> <li>For the purpose of auditing, the treatment provider keeps records of sulphuryl fluoride treatments <u>and calibrations</u> for a period of time determined and as required by the NPPO.</li> </ul>	These data shoul also be kept	Norway
<b>74</b> .	85	Substantive	Wood moisture content should not be more than 60% at the time of treatment.	Sentence moved to paragraph 67 for more importance.	EPPO, European Union, Austria, Norway
75.	86	Editorial	Instruments used for measuring     the concentration of sulphuryl fluoride may be affected by altitude, water vapour, carbon dioxide or temperature. These instruments need to be calibrated specifically for sulphuryl fluoride.	It's the concentration that is measured	EPPO, European Union, Austria
6.	86	Substantive	vapour, carbon dioxide or temperature. These	We would like to proposed to add the phrase "in accordance with the manufacturer's instructions" at the end of second sentence to specify the source of reference for calibration ,as shown in paragraph 64 for the requirement of methyl bromide fumigation treatment.	Thailand
7.	86	Substantive	vapour, carbon dioxide or temperature. These instruments need to be calibrated specifically for sulphuryl fluoride.	Since SF is odorless gas (like MB), it is essential to add a leak warning agent. For MB, the annex mentioned "the methyl bromide mixture with 2% chloropicrin", while carbon dioxide has been mentioned in the draft annex as a gas mixture for Sulphuryl fluoride. Could chloropicrin be added also in additional to carbon dioxide as a warning agent to the draft?? Since there is already commercial mixture of (99% Sulphuryl fluoride + 1% chloropicrin).	Bahrain
8.	86	Technical		Sentence added for consistency with what is required for the MB	EPPO, European Union, Austria

Comm no.	Para no.	Comment type	Comment	Explanation	Country
			calibrated specifically for sulphuryl fluoride.		
79.	86	Technical	Instruments used for measuring sulphuryl fluoride may be affected by altitude, water vapour, carbon dioxide or temperature. These instruments need to be calibrated specifically for sulphuryl fluoride.	There should be a recommendation on the periodicity of the calibration.	NEPPO
80.	86	Technical	Temerature and gas concentration sensors and cata recording equipemnt are calibrated in accordance with the manufaturer's intructions at a frequence specified by the NPPO. Instruments used for measuring sulphuryl fluoride may be affected by altitude, water vapour, carbon dioxide or temperature. These instruments need to be calibrated specifically for sulphuryl fluoride.	In accordance with what is required for MB	Norway
81.	87	Editorial	<ul> <li>Personnel applying fumigation <u>must</u> consult and follow <u>the</u> national label instructions and requirements regarding the use of sulphuryl fluoride.</li> </ul>	For clarity.	APPPC, Korea, Republic of, China
82.	87	Editorial	<ul> <li>Personnel applying fumigation <u>must</u> consult and follow <u>the</u> national label instructions and requirements regarding the use of sulphuryl fluoride.</li> </ul>	Clearer wording.	Singapore
83.	87	Technical	Personnel applying fumigation consult and follow national label instructions and requirements regarding the use of sulphuryl fluoride. From the pine wood nematodes and cert ain specific diseases epidemic, wood packaging materials made by the host tree should avoid the use of methyl bromide and sulphuryl fluoride fumigation.	fungi and nematode is poor, and lack of experimental data support. Jiangsu, Shanghai and other ports intercepted pine wood nematode from American wood repeatedly, that the wood has been treated by Methyl bromide.	China

Comm .	Para	Comment type	Comment		Explanation	Country
no.	no.					
84.	104	Editorial	Treatment code	Treatment type		EPPO, European Union, Austria
			HT	Heat treatment		
			MB	Methyl bromide		
			DH	Dielectric heating		
			MB	Methyl bromide		
			SF	Sulphuryl fluoride		
85.	120	Substantive	Footnote 2: Only microwave technology has been prover to date to be capable of achieving the required temperature within the recommended time scale.		We refer to our comment on draft to annex ISPM28/DH and the need to refer in "the references" to the official publication of the scientific results of Janowiak, as now there is only reference to a comparative study. The proposed deletion in ISPM15 (para120, footnote 2)is connected to this comment. We agree on the deletion taking into account the official publication in ISPM 28.We extend the DH treatment with RF in the annex of ISPM 15 but appropriate prove need to be delivered.	EPPO, European Union, Austria