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**Group of Experts for the revision of the IMO/ILO/UNECE
Guidelines for Packing of Cargo Transport Units**

Fourth session

Geneva, 4 – 6 November 2013

Item 6 (a) of the provisional agenda

Proposals for amendments to the final draft of the CTU Code

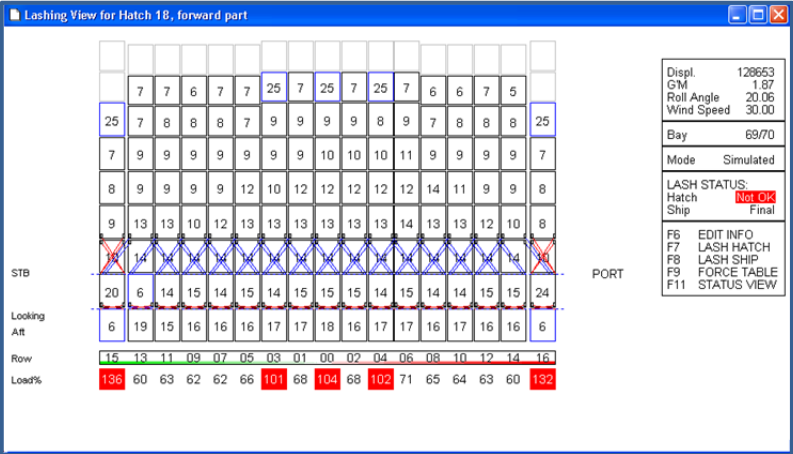
**Consolidated list of proposed amendments to the draft CTU
Code (annexes)**



The secretariat reproduces below a list of proposals for amendments to the annexes of the draft CTU Code, based on comments received by the deadline of 8 October 2013.

The list includes proposals by the IMO Working Group on Container Safety¹, United States of America, International Cargo Handling and Coordination Organization (ICHCA), International Chamber of Shipping (ICS), International Group of P & I Associations (P&I Clubs), International Transport Workers Federation (ITF) and World Shipping Council (WSC).

¹ See also Informal document EG GPC No. 4 (2013) on the outcome of the eighteenth session of IMO Sub-Committee on Dangerous Goods, Solid Cargoes and Containers.

Proposed amendments to the draft CTU Code (annexes)

Annex	Section	Submitter(s)	Comment	Proposed text
1	4.3	USA	Clarify the vehicle concerned. At the end of first sentence, amend as follows:	A CTU that is not overloaded, i.e. the gross mass of the CTU is less than the maximum permissible mass of the CTU, may be packed with cargo so that the gross mass exceeds the permissible gross mass of the <u>transport</u> vehicle.
1	5.4 and 5.5	IMO	Figure 1.15 should be deleted and text amended as follows:	 <p style="text-align: center; color: red;">Figure 1.15 Container ship bay plan example</p> <p style="color: red;">5.4 ——— Figure 1.15 shows an example of a container ship's bay plan modified to reflect five containers which were incorrectly declared and, for the purposes of this exercise, the correct mass entered. In row 01 there are 8 containers with a total stack mass of 96 tonnes. The load is shown as 68%. The next stack (00) has a misdeclared container placed on the top stack. Instead of the 7 tonnes (stack mass 98 tonnes) the transport documents declare, its actual mass is 25 tonnes (stack mass 116 tonnes). The stack load increases to 104% with a resulting risk of the stack failing when the ship rolls.</p> <p style="color: red;">5.5 ——— Row 15 and 16 show a greater risk with the load at 132% and 136% respectively even though the stack height is less. Any of the stacks in the rows where the load is greater than 100%. When the ship rolls these stacks will move transversely far greater than the adjacent stacks and as a result the whole bay may fail.</p> <p style="color: red;">5.4 <u>Inadequately packed containers or misdeclared container weights declaration may cause container stacks to collapse.</u></p>

Annex	Section	Submitter(s)	Comment	Proposed text
1	5.5	USA	Amend and combine the last two sentences as follows:	<p>Row 15 and 16 show a greater risk with the load at 132% and 136% respectively even though the stack height is less. <u>When the ship rolls, any stacks in the rows where the load is greater than 100 per cent will move transversely far greater than the adjacent stacks and as a result the whole bay may fail.</u> Any of the stacks in the rows where the load is greater than 100%. When the ship rolls these stacks will move transversely far greater than the adjacent stacks and as a result the whole bay may fail.</p>
1	Figure 1.16	IMO	Replace the figure by a more illustrative one.	 <p>replaced by:</p> 

Annex	Section	Submitter(s)	Comment	Proposed text
2	Figure 2.1	IMO	Figure 2.1 should be updated.	
2	1.8	IMO	The meaning of the first sentence is not clear. The wording should be improved as follows:	The shipper will arrange the transport of the goods and, depending on the nature of the contract between the shipper, the carriers and the consignee the <u>may arrange the cargo</u> insurance cover. In some contracts there is an agreed location, terminal or destination where the responsibility of the shipper ends. Thereafter responsibility is transferred to the consignee or another party who may undertake the function of a shipper
2	1.8	IGP&I	First sentence needs a coma between “consignee” and “the insurance” in order to make sense.	The shipper will arrange the transport of the goods and, depending on the nature of the contract between the shipper, the carriers and the consignee, <u>the</u> insurance cover.
2	Figure 2.3	ICHCA	Change caption of Figure 2.3 as follows:	Figure 2.3 Typical <u>sales</u> contract term
2	2.4	WSC / ICS	Re-phrase the first sentence.	This is the document that is <u>may be</u> used to provide the shipping company with details of the goods and set out any specific instructions for the shipment. It follows up on the initial booking, when space will have been confirmed on particular sailings. The process is often concluded by telephone.
2	2.5	WSC / ICS	We do not see the purpose of including this Note. The document discussed in 2.4 would suffice, the important thing being that the shipper after booking provides the carrier with the information listed in 2.4 which in the industry is referred to as “the shipping instructions”. Delete section 2.5.	Standard Shipping Note (Sea transport) If the goods are non-hazardous, a Standard Shipping Note is required.
2	2.6.1	WSC / ICS	Delete “also”.	If however, the goods are considered to be dangerous as per the IMDG Code, a Dangerous Goods Transport Document will also be required. In some countries this document is also known as Dangerous Goods Note (DGN).
3	title	ITF	Add “Excerpts from* to the title of the Annex.	<u>Excerpts from</u> Safe transport of containers at sea
3	1	ITF	Delete the second sentence and add new text as	This Annex is an extract of the International Chamber of Shipping (ICS) and

Annex	Section	Submitter(s)	Comment	Proposed text
			follows.	World Shipping Council (WSC) publication " <i>Safe Transport of Containers at Sea</i> ". Although much of the information in that document is outside of the scope of the Code of Practice, it provides those involved with the packing and handling of container type CTUs with a better understanding of the requirements for safe transport of containers on maritime transport and is recommended reading. The passages excerpted from the document provide a list of steps terminals should undertake to ensure containers they are receiving and handling are safe to store or move from one mode of transportation to another.
3	2.2	USA	It is not a standard practice to include or, in many cases, to take digital photographs. While these photographs may assist in showing that the job has been done properly, they are not definitive and do not themselves contribute towards packing and securing. To require photographs for every container would be extremely onerous to all parties. Amend last bullet point as follows.	<ul style="list-style-type: none"> • When available, Ddigital photographs of the cargo packing and securing arrangements.
3	2.3	ITF	Delete section.	<p>Berth assignment Terminal operators should pre-assign berths on the basis of the following criteria:</p> <ul style="list-style-type: none"> • Proximity to the export yard and, to a lesser extent as appropriate, to the import yard as well. Berths should preferably be pre-assigned at least 3 days in advance of the ship's arrival; • Number of gantry cranes available at the berth to match with what is needed for optimal crane deployment; • Adequate outreach capacity of gantry cranes; • Adequate water depth, for which early advice of the estimated arrival draft is important and which may present problems for ships with a short steaming time (e.g. less than 24 hours) from the previous port. <p>The export yard should be pre-determined before commencement of receiving export containers, normally 3 days before the ship's arrival, although some containers may start arriving at the terminal as much as 7 days prior to the ship's arrival.</p>
3	2.4	ITF	Delete section.	<p>Cargo cut off Adequate cargo delivery cut-off is necessary to ensure proper segregation of containers at export container yards, in order to facilitate stowage planning and crane sequencing. Adequate time should also be provided to facilitate drafting of the stowage plan.</p>

Annex	Section	Submitter(s)	Comment	Proposed text
3	2.6	ITF	Delete section.	<p>Export yard The placing of containers in the export yard should be pre-planned, and outbound containers segregated according to size, type and mass categories (Empty, L, M, H and XH) in order to facilitate smooth loading.</p>
3	2.7	ITF	Delete section.	<p>Stowage instruction Terminal planners should liaise directly with the stowage co-ordinator in order to develop the stowage instruction. The instruction must be as specific as possible indicating, inter alia, the following:</p> <ul style="list-style-type: none"> • Stowage locations by bay, row and tier; • Segregation by port marks and mass categories; • Exact stowage locations and segregation of DG containers, reefers and OOG cargo. <p>Should changes to the plan be necessary, then the terminal planner should liaise with the stowage co-ordinator.</p> <p>No major changes to the stowage layout should be carried out without acceptance from the stowage co-ordinator.</p>
3	2.8	ITF	Delete section.	<p>Crane sequencing Cargo operations will normally commence with discharge and end with loading, although not all the cranes will complete discharge and start loading at the same time due to varying discharge/load throughputs allotted to each crane.</p> <p>For maximum productivity, cranes should be sequenced so that they are spread out and can move in the same direction, i.e. from forward to aft or aft to forward, in order to avoid clashing. Furthermore, crane sequencing information should include details on bays and compartments (on deck, under deck, port section, starboard section, centre, etc.).</p> <p>In order to avoid clashing and thus crane idling, it is important that no two cranes should ever come closer than within an appropriate clearance, i.e. from centre to centre of the cranes.</p> <p>It is important to ensure that sufficient time is allowed to manage relay containers, as tight connection times can disrupt terminal planning and crane sequencing.</p>
3	2.9	ITF	Delete section.	<p>Ship / shore communication Direct radio communication capability between the terminal (planners, foremen, watchmen, etc.) and the ship's duty officers must be established.</p>

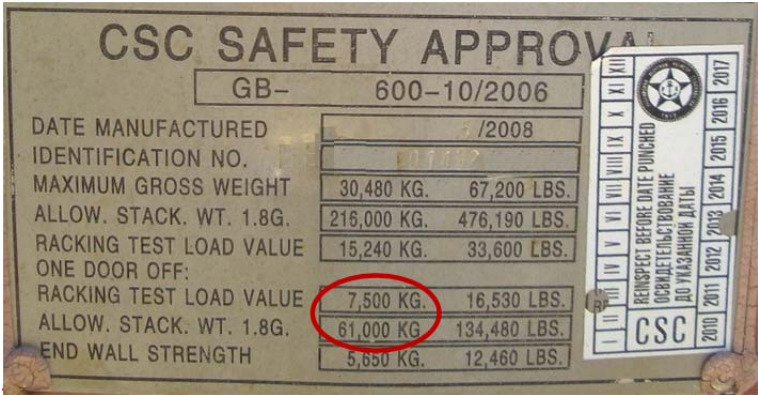
Annex	Section	Submitter(s)	Comment	Proposed text
3	2.10	ITF	Delete section.	<p>Arrival condition Terminal planners must take into consideration the ship's arrival condition in order to develop the discharge/load sequencing.</p> <p>In order to preclude incidents of the ship touching bottom as a result of having been assigned a berth with inadequate water depth, the ship must be required to submit accurate draft information for arrival to facilitate berth assignment. Attention must also be paid to air draft, both with regard to bridges over the access waterway but also the cranes at the berth.</p>
3	2.11	ITF	Delete section.	<p>Implementing the loading plan Cargo operations should preferably not commence prior to checking the ship's departure condition and obtaining confirmation that it is ready to sail, based upon the loading plan given by the terminal planner to the ship on its arrival. The implications of any departure from the loading plan should be fully addressed through discussion between the ship's officers, the terminal planner and the shipping line's stowage co-ordinator.</p>
3	2.12.1	ITF	Delete point.	<p>Discharge of containers must be sequenced to ensure that bending moments are not exceeded.</p>
3	2.13.1 – 2.13.3	ITF	Delete points.	<p>Loading must be sequenced in such a way as to ensure that bending moments are not exceeded, and one-sided stow should be avoided to preclude excessive torsional moments.</p> <p>Any deviation from the loading plan must be agreed and accepted by the ship's master.</p> <p>During loading and discharging, it must be ensured that the ship's list does not exceed more than a few degrees. It will usually not be possible to continue cargo operations safely if the list exceeds 5 degrees.</p>
3	2.14	ITF	Delete section.	<p>Container lashing The responsible ship's officer and the lashing supervisor should check that all containers are adequately lashed in accordance with the lashing plan upon completion of operations by the lashing gang.</p>
3	2.15	ITF	Delete section.	<p>Prior to departure On completion of loading, the terminal should submit the final stowage bay plan to the ship, advising as to any changes made. On the basis of this, finalised departure conditions should be developed by the ship and submitted to the terminal.</p>

Annex	Section	Submitter(s)	Comment	Proposed text																				
				<p>The ship's officers should ensure that the following has been performed to their satisfaction:</p> <ul style="list-style-type: none"> • The terminal has stowed and segregated DG, 00G and reefer containers in accordance with the stowage instruction; • Lashings for each and every container on deck have been securely tightened and are secured. 																				
3	2.16	ITF	Delete section.	<p>Transshipment containers Transshipment containers pose significant challenges for terminal operators. Although beyond the same degree of control, transshipment containers must still be supervised in the interests of the safety and security of the terminal itself and of the wider transport chain.</p> <p>The safety and security checks outlined in Section 7.5 should also apply to transshipment containers, with special attention given to the verification of total container mass against documentation, and the even distribution of mass.</p> <p>Tight connections for the movement of transshipment containers between line haul and feeder ships have to be managed such that terminal planning and crane sequencing will not be severely disrupted.</p>																				
4		USA	All other annexes are broken down into clearly indicated sections and subsections. This annex contains unnumbered headings only. This entire annex should be divided into identifiable sections and sub-sections and marked as such.																					
4	Sliding - Friction	USA	This is the first reference to friction factors so the symbol μ should be included at end of first sentence.	Different material contacts have different friction factors (μ).																				
4	Sliding - Friction	IMO	Table for friction factors: there are some values which are not consistent with the respective values in table B.1 of standard EN 12195-1:2010. The Group of Experts agreed on the values as provided in the standard. Thus, most probably this discrepancy is a typing error which requires correction as follows:	<table border="1"> <thead> <tr> <th rowspan="2">Material combination in contact surface</th> <th colspan="2">Friction factor μ</th> </tr> <tr> <th>Dry</th> <th>Wet</th> </tr> </thead> <tbody> <tr> <td colspan="3">SAWN TIMBER/WOODEN PALLET</td> </tr> <tr> <td>Sawn timber/wooden pallet – fabric base laminate / plywood</td> <td>0.45</td> <td>0.45</td> </tr> <tr> <td>Sawn timber/wooden pallet - grooved aluminium</td> <td>0.40</td> <td>0.40</td> </tr> <tr> <td>Sawn timber/wooden pallet - stainless steel sheet</td> <td>0.30</td> <td>0.30</td> </tr> <tr> <td>Sawn timber/wooden pallet - shrink film</td> <td>0.30</td> <td><u>0.30-</u></td> </tr> </tbody> </table>	Material combination in contact surface	Friction factor μ		Dry	Wet	SAWN TIMBER/WOODEN PALLET			Sawn timber/wooden pallet – fabric base laminate / plywood	0.45	0.45	Sawn timber/wooden pallet - grooved aluminium	0.40	0.40	Sawn timber/wooden pallet - stainless steel sheet	0.30	0.30	Sawn timber/wooden pallet - shrink film	0.30	<u>0.30-</u>
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4	Sliding - Friction	USA	Text below the table for friction factors: amend first sentence for clarity as follows and the following minor editorial changes for consistency.	<p>Friction factors should be applicable to the actual conditions of transport. It has to be ensured, that the used friction factors are applicable to the actual transport. When a combination of contact surfaces is missing in the table</p>																				



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				above or if its friction factor cannot be verified in another way the maximum allowed friction factor is 0.30. If the surfaces are not swept clean the friction factor 0.30 or the value in the table if it is lower shall should be used. If the surface contacts are not free from frost, ice and snow a friction factor $\mu = 0.20$ shall should be used unless the table shows a lower value. For oily and greasy surfaces or when slip sheets have been used a friction factor $\mu = 0.10$ shall should be used.
4	Sliding - Friction	IMO	Text below the table for friction factors: the text should be aligned with paragraph 2.2.2.3 of annex 14. Therefore the third sentence should read:	If the surfaces are not swept clean the maximum friction factor to be used is 0.30 or the value in the table, when this is lower if it is lower shall be used .
4	Cargo Securing Equipment	USA	Other regional standards may apply outside Europe. If it is intended that this apply to all, then relevant sections should be agreed, extracted and inserted directly into the Code. Beneath "Labelling", in text alongside bullet for LC, delete reference to EN 12195, and amend text in parentheses to refer to Europe. In other IMO publications, the term used to define strength is shown as Breaking Strength. Here, it is referred to as MBL. While these may mean the same thing, we should be consistent in IMO terminology and the term Breaking Strength (BS) used be used in place of Maximum Breaking Load (MBL). Insert a new bullet.	LC = Lashing Capacity according to EN 12195 (generally used for road transport in Europe) BS = Breaking Strength
4	Cargo Securing Equipment	USA	Elsewhere in the Code and annexes, the primary unit of force has been kN. This should be consistent throughout and also consistent with other IMO publications, such as CSS Code. Amend as follows.	The unit daN , where $1 daN = 1 kg$, is sometimes used to indicate the LC and S_{TF} for cargo securing equipment. MBL and MSL are usually stated in kN, kg or tons .
4	Cargo Securing Equipment	USA	In order to remain consistent with other IMO publications, e.g. CSS Code, Maximum Securing Load (MSL) should be directly related to Breaking Strength (BS). Amend as follows.	Alternatively the MSL for different types of equipment is calculated from the minimum break load MBL Breaking Strength (BS) , according to the table below: If labelling of the pre-tension force is missing 10% of MBL Breaking Strength (BS) , although not more than 1,000 kg, may be used as pre-tension when dimensioning according to the tables in this Quick Lashing Guide.

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4	Cargo stowed in more than one layer	IMO	In the instruction for cargo stowed in more than one layer for method 2 on page 9, correct the numbering to read:	<ol style="list-style-type: none"> 1. Determine the number of lashings to prevent sliding using the mass of the entire section and the friction for the bottom layer. 2. Determine the number of lashings to prevent sliding using the mass of the section's upper layer and the friction between the layers. 3. Determine the number of lashings for the entire section which is required to prevent tipping. <p>The largest number of lashings in steps 1 to 3 is to be used.</p>
4	Conversion Factors for other types of Lashing Equipment	USA	Primary unit should be kN to provide consistency in this Code and with other IMO codes, e.g. CSS Code. Amend the second sentence as follows. Values for kN are added throughout Annex 4 for consistency.	For lashing equipment with MSL and pre-tension other than those shown in tables in this quick lashing guide, the table values shall should be multiplied by a conversion factor corresponding to the actual lashing method and type of equipment, (see the table below) . All values used should be taken in kN (where 1 kN ≈ 100 kg) or daN (where 1 daN ≈ 1 kg). All values used should be taken in daN, where 1 daN ≈ 1 kg.
4	Conversion Factors for other types of Lashing Equipment	USA	Diagonal loop lashings represent a new concept in many areas. Clear guidance should be given as to how the strength of these is to be assessed with particular consideration given to compliance with the CSS code. After the example shown, another example should be inserted showing how the strength of diagonal loop lashings should be assessed.	
4	Quick Lashing Guide B – Tag washers and nails	USA	This is not a term that is commonly used outside Europe. Provide a definition or description for “TAG WASHER”.	
4	Quick Lashing Guide B – Wire	USA	Provide clear warning that wires of this type are not suitable for use in containers by inserting the following text after the tables.	<u>NOTE: WIRES OF THIS SIZE ARE NOT SUITABLE FOR SECURING CARGO WITHIN CONTAINERS AS STRENGTH OF ANCHOR AND LASHING POINTS ARE LIKELY TO BE EXCEEDED.</u>
5	1 Introduction	IMO	Condensation can also be caused by high humidity at high temperatures. This should be part of the summing up. In the summation in the third sentence the end should be as follows:	The source of this humidity is generally the cargo itself and to some extent timber bracings, pallets, porous packaging and moisture introduced by packing the CTU during rain or snow <u>or loading in an atmospheric condition of high humidity and high temperature.</u>
5	4	USA	This gives undue weight to a regional standard. If it is intended that this apply to all, then relevant sections should be agreed, extracted and inserted directly into the Code. In this case, this is adequately covered by reference to ISO 535:1991 alone. Delete footnote 1.	<u>EN 20535:1994, ISO 535:1991 Paper and board. Determination of water absorptiveness. Cobb method</u>








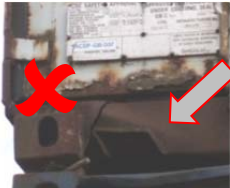

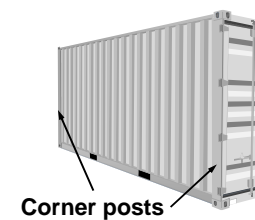

Annex	Section	Submitter(s)	Comment	Proposed text
6	1.1.3	ICHCA	In Figure 6.1, column 2, are “45” and “40” correct? Is not the tolerance for 20’ units applied equally to 40’ units?	
6	1.2.1.4.3	IGP&I	Rating and load distribution - Table shows load distribution based on gross mass of container and cargo rather than payload. Thus figures should be somewhat less than indicated in the table.	
6	1.2.4.11	ICHCA	Figure 6.22 should be changed to show a less unsafe practice.	
6	1.3.10	USA	While this may presently be true, this is intended to be a long term document and a specific reference to the last three years now will soon be obsolete. Amending this as follows should remove the need for revision after three years if the statistic changes.	On the other hand the 40ft 9ft 6in high reefer has been growing with 150,000 added to the fleet in the last three years <u>recent years</u> .
6	1.5.3	USA	This does not only apply to Europe. It is equally valid for other parts of the world so amend last sentence as follows.	In Europe, t There are a number of specialist companies who provide complete logistics services for bulk dry materials.
6	1.5.5.1	USA	This statement is equally valid whether the direction of trade is north/south, east/west or anywhere in between. Amend the fifth sentences as follows.	For higher density cargoes and for north / south deep sea trades, the 20ft units would be appropriate.
6	2.1.1	USA	This clarifies that this is a specific regional variation, only applicable within Europe. This clarification is particularly necessary as European Standards and directives are referenced further on in this section. These do not apply outside Europe. Amend the first sentence as follows.	An item of transport equipment having a mechanical strength designed only for rail and road vehicle transport by land or by ferry <u>within Europe</u> , and therefore not needing to fulfil the same requirements as series 1 ISO containers; having a width and/or a length exceeding those of series 1 ISO containers of equivalent basic size, for better utilisation of the dimensions specified for road traffic;
6	5	USA	Change the caption under Figure 6.71 for consistency.	Figure 6.71 Flatbed back -truck
6	5.4.5	USA	Clarify that this is a regional restriction that may not be applicable elsewhere by amending as follows.	In Europe, T the maximum individual truck length is 12m, articulated truck and trailer length is 16.5m and road trains are allowed up to 18.75m. The maximum width for all is 2.55m. If a vehicle has an overall height of 3m or above, a notice is required must be displayed in the cab showing its full height.
6	5.4.5 & 5.4.7	ICHCA	Figures could usefully depict “cow-bars” to reflect good practice/safety. Do we need to mention “conspicuity tape to improve visibility”?	
7		IMO	In case of the decision to keep this annex, then the following is proposed:	
7	2.1.1	IMO	Amend as follows:	Container load distribution diagram (LDD(C)) specifies boundaries of 5% eccentricity of CoG of cargo and boundaries for cargo CoG when eccentricity of container CoG is 5 per cent and 10 per cent.

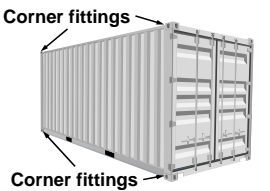


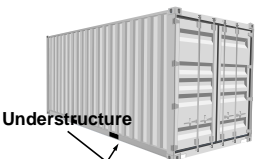




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7	3.3.4	IMO	Amend as follows:	The figure above shows all LDD's and we can clearly decide that maximum cargo mass in this case is 2226,2 tonnes limited by container chassis and gross combination mass of 40 tonnes. Maximum eccentricity of the cargo centre of gravity shall be maximum 3.6 per cent which is limited by maximum axle load of railway wagon for route category C.
8	1.1	USA	Domestic requirements differ with local regulations. Amend as follows.	Containers <u>used in international transport</u> and, under certain conditions, also swap bodies and road trailers are required by applicable regulations to bear a safety approval plates.
8	1.3	USA	This gives undue weight to a regional standard. If it is intended that this apply to all, then relevant sections should be agreed, extracted and inserted directly into the Code. Delete footnote 2.	EN 13044 2:2011 Intermodal loading units—Marking Part 2: markings of swap bodies related to rail operation
8	3.6 & 3.7	WSC / ICS	While we acknowledge that “door-off” containers loaded with perishable cargoes are relatively common, we recommend that references to “door-off”/“door open” not be included in the CTU Code or alternatively that this practice be discouraged. We believe that it is an inherently dangerous practice, which leaves the container prone to damage and poses unacceptable risks to personnel if door comes free. It should also be noted that many terminals refuse to lift “open door” containers.	<p>Containers that carry cargoes that give off large volumes of moisture can be transported with one door removed or open. Only those containers that have been tested and certified for this format may be used and should be shown on the CSC safety approval plate.</p> <p>Containers with one door off / open will have reduced allowable stacking mass and racking as shown in Figure 8.10.</p>  <p>Figure 8.10 CSC safety approval plate with one door off data</p>
8	3.6 & 3.7	IGP&I	“Door Open” containers are mentioned. While “door-off” containers loaded with perishable cargoes are relatively common and accepted it is recommended that reference to “door open” be	Containers that carry cargoes that give off large volumes of moisture can be transported with one door removed or open. Only those containers that have been tested and certified for this format may be used and should be shown on the CSC safety approval plate.

Annex	Section	Submitter(s)	Comment	Proposed text
			removed from the guide. It is our considered opinion that this is an inherently dangerous practice, which leaves the container prone to damage and poses unacceptable risks to personnel if doors come free. It should also be noted that many terminals refuse to lift "door open" containers.	Containers with one door off / open will have reduced allowable stacking mass and racking as shown in Figure 8.10.
8	5	USA	This section largely deals with regional markings which may not be applicable elsewhere so make reference to Europe. Amend title of section as follows.	European R rail wagon marks
9	2.5	USA	At present, we appear to be telling somebody to ignore instructions if they're questionable. In that case, a proactive approach in seeking further guidance would be appropriate. After 1 st sentence, insert a new sentence as follows.	The shipper is in the best position to know the optimum temperature and container vent settings (or Fresh Air Exchange rates) for the carriage of his product and his reefer instructions should be followed unless they are obviously wrong or raise a natural uncertainty. In that event, clarification should be sought. Carriage instructions given to a shipping company must be complete, adequate and accurate to avoid the risk of damage to the cargo.
9	10.4.3	USA	Location is not relevant and it needs to be clarified that this is an example. Amend as follows.	The rate of air circulation within the vehicle is equivalent to 60 to 90 air changes per hour of the empty volume. Some container operators are increasing the rate to 120 for chilled cargoes. Under maximum U.K. summer temperatures of 30°C and 0°C set point, for example, the range of air temperatures would be about 1.5°C at full speed and 2.5°C at half speed on 40ft semi-trailers. Tighter tolerances are achieved on marine containers where a 1°C spread would not generally be exceeded.
9	11.2.2.1	USA	This acronym has not been used previously and does not appear in Annex 21. The meaning is not clear and should be amended to reflect the meaning of "PID".	
9	14.2.3.2	USA	Theses acronyms, "EEC" and "ATP", have not been used previously and do not appear in Annex 21. Their meanings are not clear. In the first sentence sentence, amend "ATP maximum" and "EEC figure" to reflect the meaning of "ATP" and "EEC".	
9	14.2.4.3 & 14.2.5.2 & 14.2.6	USA	The acronyms, "EEC" and "ATP", should not be used unless their meanings have been previously clarified.	
9	14.2.8	USA	There is no section on ventilated containers in this Annex. Amend so that the reference is correct.	Coffee and cocoa beans See section 13, Ventilated transport. See ventilated containers.
9	15.7	USA	We are in section 15 and there is no section on Ventilated Systems in this Annex. Amend to make reference to section 13 consistent.	For many products the use of vented or ventilated containers has proved to be a solution to condensation problems (see section 13, Ventilated transport). (see section 15. Ventilated Systems).
9	17.3.3	USA	This is a regional standard. If it is intended that	Check the temperature of the product with a thermometer of an accuracy

Annex	Section	Submitter(s)	Comment	Proposed text
			this apply to all, then relevant sections should be agreed, extracted and inserted directly into the Code. Other regions may have different standards. Amend as follows to refer to any relevant standards.	complying with any relevant standards, conforming to EEC directives (where applicable). Take several product temperatures at random and write them down on the loading sheet.
9	17.5.3	USA	Eliminate reference to a regional standard. It is, in any event, good practice and as such should be included in this Code. Amend as follows.	Where applicable e Check temperatures of packages from various sections of the load. in accordance with the EEC directive.
11	5	IMO	The instructions for container inspection in section 5 (Containers) is unclear regarding what defects that can be accepted and what cannot be accepted and should thus either be deleted or completed. The list contained in circular CSC.1/Circ.138/Rev1 should be included.	
11	5	WSC / ICS	We do not agree with the inclusion of section 5 of Annex 11, which is taken from IMO's circular CSC/Circ. 138 regarding serious structural deficiencies. This circular is addressed to government inspectors. Packers are not government inspectors.	<p>5 — Containers</p> <p>5.1 — Containers, because of the handling methods employed, require additional checks to identify damage which might impede safe transport of the CTU (structural deficiencies)³.</p> <p>5.1.1 — Top rail:</p> <ul style="list-style-type: none"> • — local deformation to the rail. • — separation or cracks or tears in the rail material. <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Top rail</p> </div> <div style="text-align: center;">  </div> </div> <p>5.1.2 — Bottom rail:</p> <ul style="list-style-type: none"> • — local deformation perpendicular to the rail • — separation cracks or tears in the rail's material: <ol style="list-style-type: none"> a) — of top flange or b) — of web

³ — Serious structural deficiencies are defined in IMO's circular CSC / Circ. 138 section 10.4

Annex	Section	Submitter(s)	Comment	Proposed text
				<div data-bbox="1193 212 1447 368">  <p>Bottom rail</p> </div> <div data-bbox="1480 196 1704 368">  </div> <div data-bbox="1783 196 2018 368">  </div> <p data-bbox="1167 392 1637 483"> 5.1.3 Header: • local deformation to the header • cracks or tears </p> <div data-bbox="1193 491 1447 679">  <p>Header</p> </div> <div data-bbox="1464 488 1727 683">  </div> <div data-bbox="1765 488 2047 695">  </div> <p data-bbox="1167 699 1765 790"> 5.1.4 Sill: • local and significant deformation to the sill • cracks or tears </p> <div data-bbox="1193 807 1447 963">  <p>Sill</p> </div> <div data-bbox="1487 791 1715 979">  </div> <div data-bbox="1765 791 2018 979">  </div> <p data-bbox="1167 986 1839 1077"> 5.1.5 Corner posts: • local deformation to the post in excess of 30mm • cracks or tears in any length </p> <div data-bbox="1193 1094 1447 1315">  <p>Corner posts</p> </div> <div data-bbox="1464 1078 1621 1315">  </div> <p data-bbox="1167 1361 1648 1425"> 5.1.6 Corner and intermediate fittings: • missing corner fittings </p>

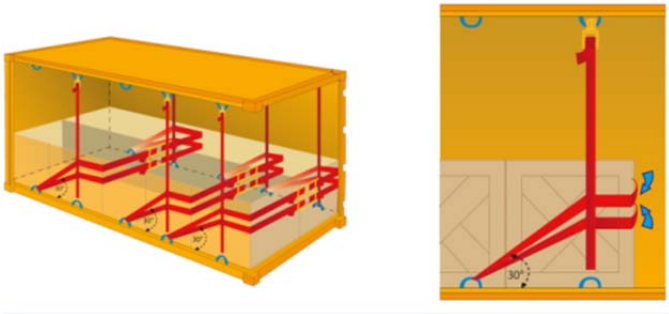
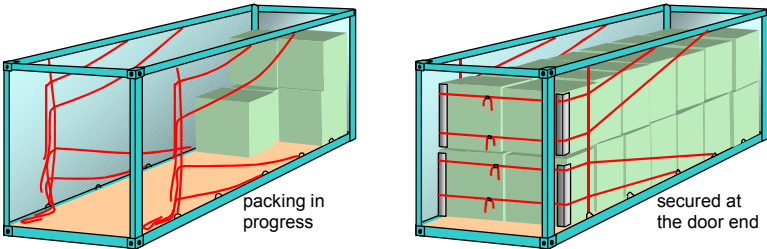
Annex	Section	Submitter(s)	Comment	Proposed text
				<ul style="list-style-type: none"> • any through cracks or tears in the fitting • any deformation of the fitting that precludes full engagement of the securing or lifting fittings • any weld separation of adjoining components • any reduction in the thickness of the plate containing the top aperture that makes it less than 26mm thick <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>Corner fittings</p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <p>5.1.7 Understructure:</p> <ul style="list-style-type: none"> • one or more cross members are missing or detached. <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Understructure</p> </div> <div style="text-align: center;">  </div> </div> <p>5.1.8 Door:</p> <ul style="list-style-type: none"> • one or more locking rods are non-functional • hinges allow free movement of doors <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Lockrods Doors Hinges</p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <p>5.1.9 Exterior</p> <ul style="list-style-type: none"> • Side and end walls distorted significantly outside of the plane of the corner fittings <p>Cross members should not be bowed below the line of corner fittings</p>
11	Appendix 1	ICHCA	Under "CONSPICUITY REQUIREMENTS FOR ROAD VEHICLES", good practice would include "cow-bars". Whilst not necessarily mandated in all jurisdictions, showing these might assist in	

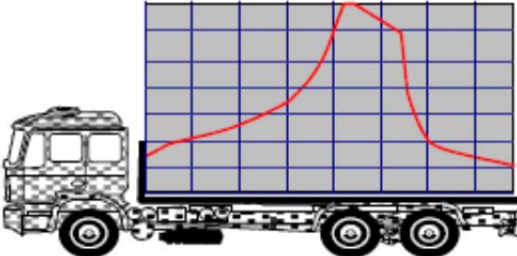
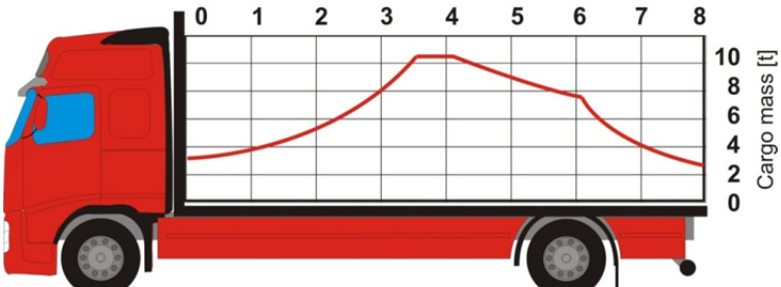
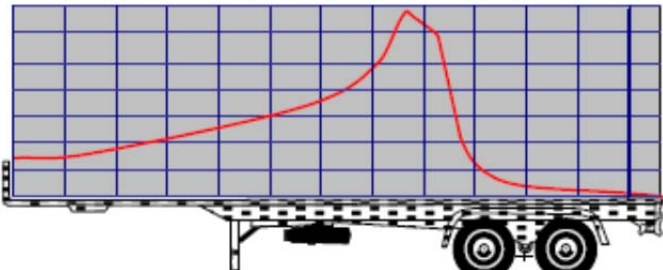
Annex	Section	Submitter(s)	Comment	Proposed text
			voluntary adoption.	
12	4.1.2.3	ITF	Add reference to Annex 18.	Containers transported under fumigation are required to be labelled and declared in accordance with the International Maritime Dangerous Goods Code. However, absence of marking cannot be taken to mean fumigants are not present. Containers marked as having been ventilated after fumigation may also contain fumigant that was absorbed by the cargo and released during transit. <u>(See Annex 18)</u>
12	4.1.2.4	USA	CTUs that have been fumigated should be appropriately marked. To make a blanket statement that they may not be is akin to saying that the regulations are not being followed. While this may, unfortunately, be the case in some instances, this would apply to any and every regulation. The Code cannot accommodate non-compliance. An amendment would also correct the Figure reference. Amend as follows.	On occasion, fumigation marks may become obliterated or lost during transport. As CTUs may then not be appropriately marked, the doors and vents should be checked. Tape applied to door gaskets or to the vents (see Figure 12.20) may indicate the risk of fumigant presence. However in practice not all containers that have been fumigated will have a warning label. Therefore a check of the doors or vents on the container side walls may assist. Tape applied to the door gaskets or the vents (see Figure 12.18) may be taped over indicating that there is a risk of a fumigant being used recently.
12	5	ITF	Add reference to Annex 19.	Measuring gases <u>(See also Annex 19)</u>
12	5.1	USA	The location and period of those surveys is not relevant. Amend as follows.	A number of surveys have revealed undeclared gases carried in CTUs. Surveys carried out in Europe from 2007 until 2012 found a number of undeclared gases carried in CTUs. Many of the gases are dangerous and would constitute a severe risk to those involved in unloading.
12	8.1.2.1	WSC / ICS	Amend as follows.	completely empty and clean. A clean CTU should have all cargo residues, packing, lashing and securing materials marks, signs and placards associated with packing the CTU or the cargo, and any other debris removed. <u>This includes fumigation or other noxious substances.</u> (See Definitions) <u>Appropriate respirators and protective clothing should be provided for such work.</u>
12	8.1.2.2	WSC / ICS	Amend as follows.	returned in a timely manner <u>as agreed with the CTU operator.</u> CTUs in the supply chain and associated road vehicles, if separate, are often scheduled <u>schedules</u> for immediate reuse or positioning. CTU operators <u>suppliers</u> may charge demurrage if the CTU is not returned as soon as practically possible after unpacking.
12	8.2.1	WSC / ICS	Delete paragraph.	CTUs will generally benefit from a thorough sweep, ensuring that debris and residue are removed from corners and recesses. Consignees are responsible for this as a minimum, but must also remove all signs of the cargo carried. Appropriate respirators and protective clothing should be provided for such work.

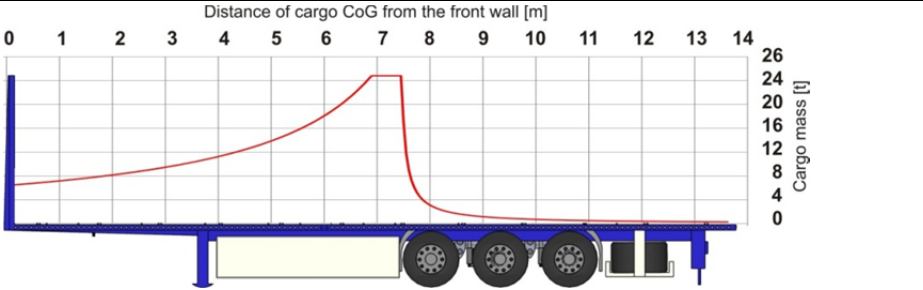
Annex	Section	Submitter(s)	Comment	Proposed text
12	8.2.2	WSC / ICS	Amend as follows.	If additional cleaning <u>beyond a thorough sweep of the CTU</u> is required the consignees should consider the following techniques:
12	8.2.3	WSC / ICS	Add reference to fumigated cargoes in the first sentence, and amend the second last sentence as follows.	After a CTU with dangerous cargoes, <u>including fumigated cargoes</u> , has been unpacked, particular care should be taken to ensure that no hazard remains. This may require special cleaning, particularly if spillage of a toxic substance has occurred or is suspected. When the CTU offers no further hazard, the dangerous goods placards, orange panels. "ENVIRONMENTALLY HAZARDOUS SUBSTANCE (AQUATIC ENVIRONMENT) marks and any other marks or signs <u>regarding the cargoes</u> should be removed. A CTU that retains these exterior signs and marks should continue to be handled as though it still carried the dangerous goods.
12	8.2.3	USA	As the third sentence is presently written, there is an inconsistent and unnecessary reference. A replacement third sentence is proposed as a second option. The two options are now in square brackets.	After a CTU with dangerous cargoes, <u>including fumigated cargoes</u> , has been unpacked, particular care should be taken to ensure that no hazard remains. This may require special cleaning, particularly if spillage of a toxic substance has occurred or is suspected. <u>[When the CTU offers no further hazard, the dangerous goods placards, orange panels. "ENVIRONMENTALLY HAZARDOUS SUBSTANCE (AQUATIC ENVIRONMENT) marks and any other marks or signs regarding the cargoes should be removed.] or [When the CTU offers no further hazard, the dangerous goods placards, orange panels and any other marks or signs should be removed.]</u> A CTU that retains these exterior signs and marks should continue to be handled as though it still carried the dangerous goods.
12	8.2.3	USA	With text in 8.2.3 amended to be consistent footnote 4 is not necessary. Delete footnote 4.	Known as Marine Pollutant in SOLAS.
12	8.3.6	WSC / ICS	Amend as follows.	Plants, P pests, animals and other invasive alien species should be disposed of as described in Annex 13 section 5.6.
12	8.4.1	WSC / ICS	Amend last sentence as follows.	The various types of CTU suffer differing degrees of damage en route. Rail wagons probably do not suffer much handling damage and are only likely to be damaged by poorly secured cargoes. Road vehicles, especially articulated trailers, do suffer from turning and reversing damage as the vehicle is manoeuvred. Containers and swap bodies will suffer from the same manoeuvring damage, but may <u>will</u> also suffer from impact damage between other containers and swap bodies and handling equipment.
14		ICHCA	Some of the formulae are far too complex and will be difficult to apply in the field, is there not an easier way to present this information?	
14	1.5 note	IMO	To make it possible to find the referenced appendices, the text ""to this annex"" should be included in the text.	Note: See appendix 1 <u>to this annex</u> for further details on packing marks.

Annex	Section	Submitter(s)	Comment	Proposed text
14	1.11	IMO	The reference at the end of the paragraph should be § 3.1.4 in this annex.	(see 3.1.4 in this annex also appendix 3.4).
14	1.11	USA	There is no appendix 3.4 in this annex. Appendix 3 deals with friction factors and is not relevant here. At the end of the last sentence, delete or amend the reference to Appendix 3.4. It has been deleted as follows.	In case of CTUs, which shall <u>will</u> be lifted by cranes or container bridges, the longitudinal centre of gravity should be close to a position at half the length of the CTU. (see also Appendix 3.4).
14	2.2.2.3	IMO	in order to use the unique term "friction factor", amend as follows:	The friction values given in appendix 3 are valid for swept clean dry or wet surfaces free from frost, ice, snow, oil and grease. When a combination of contact surfaces is missing in the table in appendix 3 or if its <u>friction factor coefficient of friction</u> can't be verified in another way, the maximum friction factor to be used in calculations is 0.3. If the surface contact is not swept clean, the maximum friction factor to be used is 0.3 or the value in the table, when this is lower. If the surface contacts are not free from frost, ice and snow a <u>friction factor static friction coefficient</u> $\mu = 0.2$ shall be used unless the table shows a lower value. For oily and greasy surfaces or when slip sheets have been used a <u>static</u> friction factor $\mu = 0.1$ shall be used. The friction factor for a material contact can be verified by static inclination or dragging tests. A number of tests should be performed to establish the friction for a material contact (see appendix 4).
14	2.3.2	USA	The value of 0.3 kN/cm ² is shown in Annex 13 of the CSS Code. We should not be providing different values in different Codes. Delete the table shown here or amend to show MSL of timber as 0.3 kN/cm ² .	
14	2.3.4	IMO	Amend last sentence as follows:	The required number of such battens together with their dimensions may be identified by calculations, which is shown in appendix 5 to this annex 4.1 .
14	2.3.6	ICHCA	There is a reference to a void space of 15cm. This is too large and would lead to damage as goods move from side to side. European best practice guidelines mention 8cm and would be more appropriate.	In the case of form locking, void spaces should be filled and may be favourably stuffed by empty pallets inserted vertically and tightened by additional timber battens as necessary. Material which may deform or shrink permanently, like rags of gunny cloth or solid foam of limited strength, should not be used for this purpose. Small gaps between unit loads and similar cargo items, which cannot be avoided and which are necessary for the smooth packing and unpacking of the goods, are acceptable and need not to be filled. The sum of void spaces in any horizontal direction should not exceed 15-8 <u>15</u> cm. However, between dense and rigid cargo items, such as steel, concrete or stone, void spaces should be further minimized, as far as possible.
14	2.3.8	IMO	The reference should be appendix 5, section 5 to this annex.	(see appendix 5, section 5 to this annex appendix 5.1 and appendix 5.5)
14	2.4	IMO	Amend the heading as follows:	Lashing materials <u>and arrangements</u>

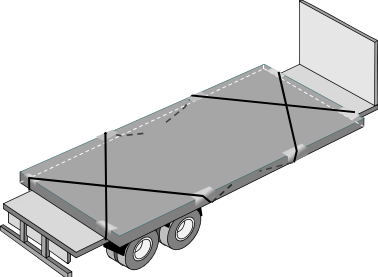
Annex	Section	Submitter(s)	Comment	Proposed text
14	2.4.2	IMO	In the table (reusable) should be included after web lashings on the third row. Web lashings (single use) should be moved to the fourth row.	
14	2.4.15	USA	<p>Re-drafting of first sentence eliminates reference to a regional standard. It is, in any event, good practice and as such should be included in this Code. Amend the first sentence as follows.</p> <p>The inclusion of footnote 4 gives undue weight to a regional standard. If it is intended that this apply to all, then relevant sections should be agreed, extracted and inserted directly into the Code. The footnote is deleted.</p>	<p>Chain lashings used in road and rail transport are mainly short link chains. Chain lashings used in road and rail transport according to European standards are mainly short link chains. Long link chains are <u>generally</u> reserved for the transport of logs. Short link chains have an elastic elongation of about 1.5%, when loaded to their LC. The standard includes various systems of tensioners, specially adapted hooks, damping devices and devices to shorten a chain to the desired loaded length. Chain compound assemblies may be supplied with a label containing identification and strength data. Manufacturer's instructions on the use of the equipment should be strictly observed.</p> <p>EN 12195-3:2004</p>
14	2.4.16	USA	<p>The third sentence currently in square brackets should be included in the Code.</p> <p>Amend second sentence as follows to use standard phraseology and delete the last sentence. Steel bands have been successfully used for securing on flatracks for many years. Any broken lashing could pose a danger if it hangs outside a CTU.</p>	<p>Steel band for securing purposes is generally made of high tension steel with a normal breaking strength of 0.8 to 1.0 kN/mm². Steel bands are most commonly used for compacting-unitizing packages to form greater blocks of cargo. [In sea transport, such steel bands are also used to "tie down" packages to flatracks, platforms or roll-trailers.] The bands are tensioned and locked by special manual or pneumatic tools. Subsequent retensioning is not possible. The low flexibility of the band material with about 0.3% elongation, when loaded to its MSL, makes steel band sensitive for losing pre-tension if cargo shrinks or settles down. Therefore, the suitability of steel band for cargo securing is limited and national restrictions on their use in road or rail transport should always be considered. The use of steel bands for lashing purposes should be avoided on open CTUs as a broken lashing could be of great danger if it hangs outside the CTU.</p>
14	2.4.18	USA	<p>Assuming that "the Code" refers to this Code, the reference to "paragraph 7.2.4 of the Code" in the last sentence does not make sense. It currently refers the user to a paragraph on transport of perishable cargoes in insulated or temperature controlled CTUs. The reference is deleted as follows.</p>	<p>The number of belts is to should be calculated depending on the mass of the cargo, the lashing capacity of the belts, the lashing angle and the MSL of the lashing points in the container. (see paragraph 7.2.4 of the Code).</p>

Annex	Section	Submitter(s)	Comment	Proposed text
14	2.4.19	IMO	Figure 14.20 shows a modular system of a certain provider of lashing material which has obviously been copied from advertising material. The CTU Code should not show products of certain providers but illustrate the principle of cargo securing. Therefore, it should be replaced by the following illustration:	 <p>replaced by:</p> 
14	2.4.19	USA	This Code should not favor one securing method over another. Adhesive-based fabric restraint systems are also commonly used and this Code should reflect that. After 2.4.19, insert a new paragraph 2.4.20 containing a drawing with text describing an adhesive-based fabric restraint system as an option.	
14	3.1	ITF	Add reference to Annex 7.	Load distribution (For more details see Annex 7)
14	3.1.1	IMO	Amend the last sentence as follows (It is the weight (the force originating from the mass) which has to be transferred into the corner posts by appropriate support):	It may be necessary to transfer the weight mass to the corner posts <u>by supporting and to support</u> the cargo on strong timber or steel beams as appropriate.
14	3.1.4	IMO	The second and third sentences should read:	In order to comply with restrictions like the observation of axle loads of road vehicles (see 3.1.7) and/or the avoidance of overloading <u>lifting equipment</u> the transverse bottom structure of the CTU , the eccentricity of the <u>CTU</u> centre of gravity should not exceed ± 5 per cent in general. As a rule of thumb this can be taken as <u>maximum</u> 60 per cent of the cargo's total mass in <u>not less than</u> 50 per cent of the CTU's length.
14	3.1.4	IMO	The reference in this paragraph should be appendix 5 to this annex, section 4	(see appendix 5 to this annex, section 45.4)

Annex	Section	Submitter(s)	Comment	Proposed text
14	Figure 14-22	IMO	Replace with following figure:	<p style="text-align: center;">Distance of cargo centre of gravity from front</p> <p style="text-align: center;">1 2 3 4 5 6 7</p>  <p>replaced by:</p> <p style="text-align: center;">Distance of cargo CoG from the front wall [m]</p> 
14	Figure 14-23	IMO	Replace with following figure:	<p style="text-align: center;">Distance of cargo centre of gravity from front</p> <p style="text-align: center;">1 2 3 4 5 6 7 8 9 10 11 12 13</p>  <p>replaced by:</p>

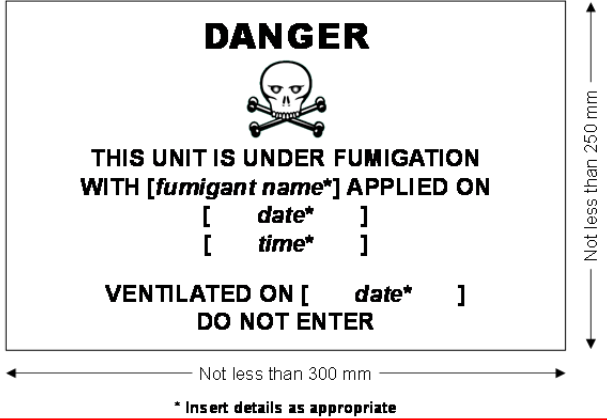
Annex	Section	Submitter(s)	Comment	Proposed text
				
14	3.2.3	USA	<p>Whether the compatibility is mutual or not is irrelevant. The cargoes are either compatible or not. Amend as follows to remove the word “mutual”.</p> <p>In first sentence, clarify that the reference is to “this Code”. In the fifth bullet, it should be “packaging”.</p>	<p>When packing mixed cargoes, their mutual compatibility should be observed. Irrespective the regulations for the stowage of dangerous goods (see Chapter 10 of this Code) the following general rules are applicable:</p> <ul style="list-style-type: none"> • Heavier cargoes should not be stowed on top of lighter cargoes. This will also provide for the centre of gravity of the CTU in a level not exceeding half the height of the CTU. • Heavy units should not be stowed on top of fragile parcels. • Sharp-edged pieces should not be stowed on top of units with weak surfaces. • Liquid cargoes should not be stowed on solid cargoes. • Dusty or dirty cargoes should not be placed near to clean and easily soiled cargoes like foodstuff in porous packing packaging. • Cargoes emitting moisture should not be stowed on or near to cargoes sensitive to moisture. • Odorous cargoes should not be stowed in the vicinity of cargoes easily absorbing odour. • Mutually-incompatible cargoes should be loaded into the same CTU only, if their stow is appropriately separated and/or the goods are effectively protected by suitable sheathing material.
14	3.3.1	ITF	Add reference to Annex 15.	<p>Relevant regulations on the use of personnel protection equipment (helmet, shoes, gloves and clothing) should be adhered to. Personnel should have been instructed on ergonomic aspects of manual lifting of weighty parcels. Weight limitations of parcels to be lifted and carried by persons should be observed.</p> <p>(See Annex 15)</p>
14	3.3.3	IMO	This paragraph requires more consideration. It could be so understood that in any case where such products are handled, intrinsically safe forklifts have to be used, as there is always a danger that a receptacle is damaged, the content	<p>Wherever there is a risk of explosion due to the vapours, fumes or dust given off by the cargo, all electrical equipment mounted on the trucks must be sealed to ensure that they are intrinsically safe for flammable and explosives atmospheres.</p>

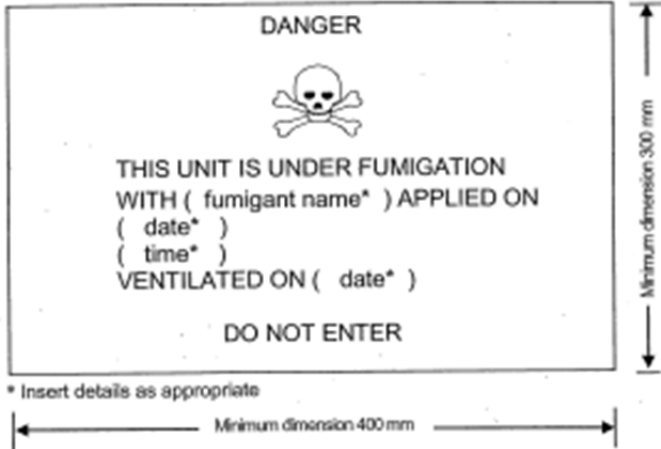
Annex	Section	Submitter(s)	Comment	Proposed text
			is leaked and an explosive atmosphere is generated. The paragraph reads:	
14	4.1.4	IMO	[Amend the first sentence as follows:	Lashings used for direct securing will inevitably elongate <u>under external load over time</u> , thus permitting the package a degree of movement.]
14	4.2.3, 4.2.7 and 4.2.8	IMO	"Friction coefficient" should be replaced by "friction factor".	
14	4.2.6	IMO	The text should be changed and read:	Where there is a risk that the forces on the door may exceed the designed limits of the CTU or Where there is the need to stack packages <u>in a broken second layer</u> at the centre of the CTU additional longitudinal blocking can be adopted <u>as shown in the figures 14.33 – 14.36</u> .
14	4.2.7	IMO	At the end of this paragraph the following sentence should be included:	<u>For direct lashing arrangements μ should be set to 75 per cent of the friction factor.</u>
14	4.3.1	IMO	"kN" should be deleted in the formula.	$c_{x,y} \cdot d \geq c_z \cdot b$ {kN}
14	4.3.3	IMO	"Loop" should be replaced by "half-loop".	Packages and articles without securing points should be either secured by shoring or blocking against solid structures of the CTU or by top-over, <u>half-loop</u> or spring lashings.
14	4.3.3.2	IMO	The information in this paragraph should be moved to paragraph 4.3.2.1 as a corner fitting has the same effect as a lashing point on the cargo. Reference should be made to figure 14.39.	
14	4.3.3.2	ICHCA	In 4.3.3.2, "corner fittings" are referenced but the picture has been removed. Note by Secretariat: "Figure 14.43" depicts "spring lashing".	
14	4.3.7	USA	The term "half-loop" implies that a single lashing is taken around the cargo piece and both ends are secured at the same side of the piece. That is not the case here. Amend "half-loops" to read "diagonal loops", as well as in the text below Figure 14.49.	Alternatively an over-width package or article can be secured by <u>half-diagonal</u> loops over the corners as shown in the figure below.

Annex	Section	Submitter(s)	Comment	Proposed text
				 <p data-bbox="1317 480 1850 539">Figure 14.49 Over-width package secured by diagonal half-loops</p>
14	4.3.7	USA	The grayscale drawing is confusing, partly because the term “half-loop” has been used but also because it is not clear from the drawing that independent lashings are shown. Amend the drawing in Figure 14.49 to colorize the lashings themselves and clearly indicate the leads and termination points.	
14	4.4.4	USA	In the second sentence, clarify the location of Annex 4 by amending as follows.	Such methods may be directed to specific modes of transport (see Quick Lashing Guide in Annex 4 <u>of this Code</u>).
14	4.4.5	USA	The current drafting of this section gives undue weight to regional standards. If it is intended that these apply to all, then relevant sections should be agreed, extracted and inserted directly into the Code. Amend the text as follows.	<p>The eEvaluation of securing arrangements may be carried out by balancing forces and moments by an elementary calculation. <u>However, the particular method used should be approved and suitable for the intended purpose and mode of transport. Specific guidance may be found in the IMO Code of Safe Practice for Cargo Stowage and Securing and in various other standards and guidelines issued by regional or national authorities and industry groups covering various modes of transport. However, the method used should be approved and suitable to the purpose.</u> References:</p> <p>IMO CSS Code, Annex 13, for sea transport, European Standard EN 12195-1:2010, for road transport, International Union of Railways (UIC), Agreement governing the exchange and use of wagons between Railway Undertakings (RIV 2000) Annex II, for rail transport.</p>
14	5.2	IGP&I	It should be noted that the flexitank manufacturers fitting instructions should be followed as these often vary. It should also be noted that the commodity intended to be carried, should be checked for compatibility with flexitank material and that the density is within design range of the flexitank, with the flexitank operator/manufacturer. It would be useful to reference the Container Owners Association (COA) Code of Practice to the Operation of Flexitanks as this document has been developed between the carriers and the flexitank manufactures/operators.	

Annex	Section	Submitter(s)	Comment	Proposed text									
14	5.2.3	IMO	[The maximum value of 24 tonnes was not agreed by the Group of Experts. Calculations carried out by classification societies provide certain evidence that the side walls of a box container may suffer serious damage or may even fail when the liquid mass in the flexitank exceeds 50 per cent of the rated payload of the container, unless the side walls are sufficiently enforced for that purpose. Therefore, the Group of Experts agreed on the following wording:	When a flexitank is loaded into a general purpose ISO box container, the mass of the liquid in the flexitank should not exceed <u>a value agreed with the operator of the CTU, to prevent the container from suffering bulging damages 24 tonnes or the volume should not exceed 24,000 litres whichever is the larger.</u>]									
14	5.2.3	WSC / ICS	We do not agree with this paragraph but can support the compromise language contained in the consolidated report from DSC 18.										
14	5.3	IMO	This section shows two alternatives. The Group of Experts agreed on the first option. The second option was not presented to the group and not discussed. Therefore, it is proposed to keep the first option .										
14	5.3	IGP&I	Recommend to keep the first option for 5.3 only. Delete the second option for 5.3.										
14	5.3	WSC / ICS	We support retaining the first alternative text for 5.3. Delete the second option.										
14	5.3	USA	The second version of 5.3 provides more detailed information and guidance. Propose to delete the first option and use the second .										
14	Appendix 1	IMO	Packing marks, before section 1 (Introduction), include a note in order that the users of the CTU Code are directed to the legislation for the labels and marks for dangerous goods. The note could read as follows:	<u>Note: The labels and marks required for the transport of dangerous goods can be found in the applicable dangerous goods regulation.</u>									
14	Appendix 1	IMO	Packing marks: what is the difference between 8 and 9?										
14	Appendix 1	ICHCA	In the table, numbers 8 and 9 have the same image?										
14	Appendix 3	IMO	Friction factors", table: there are some values which are not consistent with the respective values in table B.1 of standard EN 12195-1:2010. The Group of Experts agreed on the values as provided in the standard. Thus, most probably this discrepancy is a typing error which requires correction as follows:	<table border="1"> <thead> <tr> <th>Material combination in contact surface</th> <th>Dry</th> <th>Wet</th> </tr> </thead> <tbody> <tr> <td>Sawn timber /wooden pallet against - shrink film</td> <td>0.30</td> <td><u>0.30</u></td> </tr> <tr> <td>Planed wood against smooth steel - stainless steel sheet</td> <td><u>0.200-30</u></td> <td><u>0.200-30</u></td> </tr> </tbody> </table>	Material combination in contact surface	Dry	Wet	Sawn timber /wooden pallet against - shrink film	0.30	<u>0.30</u>	Planed wood against smooth steel - stainless steel sheet	<u>0.200-30</u>	<u>0.200-30</u>
Material combination in contact surface	Dry	Wet											
Sawn timber /wooden pallet against - shrink film	0.30	<u>0.30</u>											
Planed wood against smooth steel - stainless steel sheet	<u>0.200-30</u>	<u>0.200-30</u>											
14	Appendix 4	IMO	Insert the following paragraph:	<u>2.8 If the measurement condition differs from what is specified above, the test conditions should be documented in the test report.</u>									

Annex	Section	Submitter(s)	Comment	Proposed text
14	Appendix 5	IMO	Based on the tests and calculations the following text is proposed for appendix 5 based on option 2 for this section. [When the formulas in this appendix have been agreed upon, user-friendly tables are proposed to be developed .]	Note by the secretariat: the proposal is reproduced in Informal document EG GPC No. 18 (2013)
14	Appendix 5	WSC / ICS	While realizing that Appendix 5 currently contains square bracketed texts, we highly recommend that, once consensus – hopefully – has been reached on an agreed text, simple “Rules of Thumb” guidance is additionally provided as it is our considered opinion that the formulae contained in Appendix 5 are too complicated for use by those who normally pack containers or arrange for same.	
14	Appendix 5 3.1	USA	It would be better if specific advice was obtained and obtaining such advice is what “should” be done. However, use of the provisions described here would be acceptable and so the permissive term “may” could be used here. Amend as follows and remove the square bracket.	Bedding arrangements for concentrated loads on flatracks or platforms should be designed in consultation with the CTU operator of the flatrack or platform. If no specific advice is available the provisions described in this section should <u>may</u> be applied.
14	Appendix 5 2.3 – 5.5.2 & 3 – 6.5.2	USA	Remove the square brackets from Appendix 5 and retain all the text contained within, as amended with grammatical changes.	
16	1.2	USA	One party cannot maintain awareness in another. Amend the second sentence as follows.	Site access requirements are-should be communicated to the hauliers and that safety procedures are communicated to the drivers upon arrival. Management must-should promote and-maintain safety awareness <u>and emphasize that it should be maintained</u> , particularly during product handling. The m Management should ensure that loading / unloading operations are carried out under supervision.
16	4.4	USA	The first sentence, as presently written, is too definitive. There may be other equivalent alternatives in existence now or in the future. Amend the first sentence as follows.	<u>A fall arrest system may be the best item of personnel safety equipment that can be employed. Use a fall arrest system, by far the best item of personnel safety equipment that can be employed.</u>
17	3.4.5.4	USA	The last sentence of this paragraph is duplicate text (see 3.4.5.1). Delete the last sentence.	While owners endeavour to make their equipment as secure as possible there are many methods that criminals can gain access to the interior of the CTU.

Annex	Section	Submitter(s)	Comment	Proposed text
18		IMO	<p>[This annex repeats information which is already provided in the IMDG Code. Furthermore, the information provided is not fully consistent with chapter 5.5 of the IMDG Code. It was agreed by the Group of Experts that the CTU Code should not repeat mandatory requirements of other legal instruments. The reasons are first to avoid redundancy and second, more important, to avoid discrepancies, as mandatory legal instruments such as the IMDG Code are more often revised than the CTU Code. With respect to the CTU Code, all necessary information on fumigation is already provided in annex 12, section 4. Therefore, this annex should be deleted.]</p> <p>In case of the decision to keep this annex, then the following is proposed:</p>	
18		IMO	<p>Fumigation: the fumigation mark is regulated in the regulations for the transport of dangerous goods. It would be best not to have detailed description of the fumigation mark in the CTU. Delete 3.2 and 3.3 and replace it with the following:</p>	<p>3.2 — The fumigation mark should be rectangular and should not be less than 300 mm wide and 250 mm high. The markings should be in black print on a white background with lettering not less than 25 mm high.</p> <div style="text-align: center;">  <p>Figure 18.1 Fumigation mark</p> </div> <p>3.3 — Class 9 placards prescribed in dangerous goods regulations should not be affixed to a fumigated CTU except as required for other Class 9 substances or articles packed therein.</p> <p>3.2 — The fumigation mark shall comply with the relevant dangerous goods regulations. Hereafter is the fumigation mark as in the 18th revised edition of the United Nations Model Regulation.</p>

Annex	Section	Submitter(s)	Comment	Proposed text
				
18	2	IGP&I	Section 2 on training should be deleted since covered in IMDG Code.	<p>Training Persons engaged in the handling of fumigated CTUs should be trained commensurate with their responsibilities.</p>
18	5	IGP&I	Section 5 on documentation should be deleted since covered in IMDG Code.	<p>Documentation Documents associated with the transport of CTUs that have been fumigated and have not been completely ventilated before transport should include the following information:</p> <ul style="list-style-type: none"> • "UN 3359, fumigated cargo transport unit, 9", or "UN 3359, fumigated cargo transport unit, Class 9"; • the date and time of fumigation; and the type and amount of • the fumigant used. <p>The transport document may be in any form, provided it contains the information required in 5.1. This information should be easy to identify, legible and durable.</p> <p>Instructions for disposal of any fumigants including fumigation devices (if used) should be provided. A document is not required when the fumigated CTU has been completely ventilated and the date of ventilation has been marked on the fumigation mark.</p>

Annex	Section	Submitter(s)	Comment	Proposed text
18		IGP&I	Reference should be made to IMDG Code however the current procedure can be retained. The duplication/ description of the IMDG Code should be kept to a minimum as this would require amending if any changes are enacted in the IMDG Code. There should be a warning here that precautions should be made entering any container until it has been established the atmosphere within the container is safe.	
20		ITF	A category should be added to include training on the safe manual handling of cargo and the safe use of mechanical cargo handling equipment and the proper choice and use of Personal Protective Equipment.	
21	Acronyms	IMO	In the text acronyms such as LC, MSL, FLT, etc. are used. These acronyms have to be explained either in annex 21 or in chapter 2 of the main body of the code.	
21	Acronyms	IMO	The following acronyms have double meanings which could lead to misinterpretations by the reader: BB, CAF, CIA, COD, COP, DG, ETA, FAS, FIFO/FIO, IBC, ICC, IT, ITF, NOS, OCP, POD, POL, S/D, T&E.	
21	Acronyms	ICHCA	Is it really necessary to have all these terms defined in this Code? Some are of no real relevance to Packers etc.	
21	Acronyms	ICHCA	The acronym "CFR" is listed, If we are going to define certain INCOTERMS, would we not need to put the rest in? i.e. CIF, FOB etc.	
21	Acronyms	ICHCA	Is "FFE" correct? Thought universally it was now "FEU"?	FFEF FEU Forty-Foot Equivalent unit
21	Acronyms	ICHCA	"ISP" is "ICHCA's Technical Panel"	ISP International Safety Panel of ICHCA ICHCA's Technical Panel
21	Acronyms	ICHCA	To the definition of "ISPS", add "part of SOLAS".	ISPS International Ship and Port Facility Security Code, <u>part of SOLAS</u>
21	Acronyms	ICHCA	To the definition of "P&I", add "insurance" at the end.	P&I Protection and Indemnity <u>insurance</u>
21	Acronyms	ICHCA	To the definition of "TT Club", also add "and TT Club Mutual Insurance Ltd".	TT Club Through Transport Mutual Insurance Association Limited <u>and TT Club Mutual Insurance Limited</u>