Bulker Q&As and CIs on the IACS CSR Knowledge Centre

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
119	4/3.2.2.2	Question	wave bending moments	2006/8/18	What is the probability level of the vertical wave bending moments (Mwv.h) and (Mwv.s) used in the formulae defining the design still water bending moments ?	The vertical wave bending moments (Mwv.h) and (Mwv.s) used in the formulae defining the design still water bending moments are at the probability level of 10-8, i.e. calculated as defined in [3.1] with (fp) equal to 1.0.	
149	7/2.2.2.4	CI	global strength analysis	2006/10/25	In FE models for global strength analysis, the number of plate elements on the height of primary supporting members is not clear. In particular, for transverse primary members inside the hopper tank and the upper wing tank.	The general case for all primary supporting members of both double hull or single side bulk carriers shoud be 3 elemnts in height. The case of primary supporting members in hopper tank and top side tank should be a particular case, once again for both double hull and single side bulk carriers. Then side frames in single side bulk carriers are covered in a separate item. Considering that, we suggest to modify the third and fourth bullets in 2.2.4 as follows: " - webs of primary supporting members are to be divided at least three elements height-wise. However, for transverse primary supporting members inside the hopper tank and top wing tank, in case their web height is smaller than the space between longitudinal ordinary stiffeners, two elements on the height of primary supporting members are accepted - side shell frames in single side bulk carriers and their end brackets are to be modeled by using shell elements for web and shell/beam/rod elements for face plate. Webs of side shell frames need not be divided along the direction of the depth"	
161	6/3.4.2.2	Question	Stiffeners	2007/6/11	A point is not clear while calculating the bending moment M0. What must be done when (cf - pz) is negative or null?	The requirement [4.2.3] should be applied both to ordinary stiffeners subjected or not to the lateral pressure. When this requirement is fullfilled for stiffeners subjected to lateral pressure, the term (cf-pz) which appears in the calculation of M0 in [4.2.2] becomes greater than 0. In addition, requirements [4.2.1] and [4.2.2] apply only to ordinary stiffeners subjected to the lateral pressure.	

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169	7/2.2.5.4&.6	Question	horizontal shear force	2006/9/11	The formulae in 2.5.4 and 2.5.6 deal with horizontal shear force, but there is no sign convention for horizontal shear force.	In order to have the same relation ship between horizontal shear force and horizontal bending moment as the one between vertical shear force and vertical bending moment, I suggest introducing the following definition: "The horizontal shear force “Qh” is positive in the case of resulting force towards portside preceding the ship transverse section, and resulting forces towards starboard following the ship transverse section, and is negative in the opposite case" This definition is not mentioned in CSR. Therefore, we will submit the following modification to Hull Panel. (1) Chapter 4 Section 1 Figure 1 The symbol “Q” in the figure is amended to “Qs” and “Qwv”.. (2) Chapter 7 Section 2 [2.5.4] The definition of symbols of “QV_FEM, QH_FEM, MV_FEM, and MH_FE“ are amended as follows. QV_FEM, QH_FEM, MV_FEM, and MH_FEM: Vertical and horizontal shear forces and bending moments created by the local loads specified on the FE model. Sign of QV_FEM, MV_FEM and MH_FEM are in accordance with sign convention defined in Ch.4 Sec.3. Sign of QH_FEM is positive in the case of resulting force towards portside preceding the ship transverse section, and resulting forces towards starboard following the ship transverse section, and is negative in the opposite case. (3) Chapter 7 Section 2 [2.5.6] The definition of symbols of “QV_T, QH_T, MV_T, and MH_T“ are amended as follows. QV_T, QH_T, MV_T and MH_T:Target vertical and horizontal shear forces and bending moments, defined in Table 3 or Table 4, as the location xeq. Sign of QV_T, MV_T and MH_T are in accordance with sign convention defined in Ch.4 Sec.3.	

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170	Ch 7 App 2 2.2.2 & 2.2.3	CI	PSI Factor	2007/6/11	In chapter 7 App2, 2.2.2 and 2.2.3, the formulae to obtain sigma x, sigma y, psi x and psi y are given for "longitudinal compression" and "transverse compression". In case the stress are in tension, psi will become bigger than one, and the associated stress will be the minimum tension stress. According to the definition of psi in Ch6 Sec3 and the schemes and formulae in Ch6 Sec3 Table 2 doe, psi is supposed to be smaller than one. One interpretation is to change the formula for sigma and psi in order that psi is lower than one and sigma is the maximum tension stress. The other interpretation is to keep the formulae as they are in order to get the minimum tension stress.	As the psi factor will not be used with tension stresses, it seems preferable to retain the minimum tension stress (ie the maximum stress with the sign convention for stress in the buckling rules) in order to be conservative. Therefore, the formula for sigma x or sigma y is unchanged, and psi is not calculated (or limited to one) for tension stress.	
176	4/App2/Tab3	Question	DSA calculation	2006/9/27	The DSA calculation results in Loading condition No.10 in Table 3 of chapter 4, Appendix 2 are much larger than one in normal, especially for ships whose length is less than 200m.	The loading condition No.10 in the Tab.3 of Chap.4, App.2 is extracted from IACS UR S25, which is applicable to “Bulk Carriers” having length of 150m or above. For ships having notation “BC-A” and length of 200m or less, scantling impact are very large, comparing to those not applied to IACS UR S25.	
177	6/1/2.5.1	Question	welded shearstrake	2006/9/27	2.5.1 Welded sheerstrake The net thickness of a welded sheerstrake is to be not less than the actual thicknesses of the adjacent 2m width side plating, taking into account higher strength steel corrections if needed. In this item, does the actual thickness mean actual gross thickness or actual as-built thickness? Is the word 'net' omitted between 'actual' and 'thicknesses' as 'the actual net thicknesses'?	The actual thickness of the adjacent side plating is to be understand as being the actual net thickness, equal to (tas built - tc).	
188	1/1.1.1.1 & 1/1.3.1.1	Question	length	2006/10/2	Which length is correct? 150m or 90m?	Both are correct. The CSR for bulk carriers apply to ships of 90m or above in general. Sub-sec.[3.1.1] corresponds to UR S25 which applies to ships of 150m or above. These definitions are kept as they are.	
189	1/1.1.1.2	Question	application of CSR	2006/10/2	Does CSR apply to the bulk carrier with box shape which does not have bilge hopper tank and top side tank?	No, the CSR for bulk carriers do not apply to a bulk carrier which does not have hopper side tank and topside tank in cargo holds length area.	

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190 attc	1/1.1.1.2	Question	application of CSR	2006/10/2	With bulk carriers is intended sea going self-propelled ship which are constructed generally with single deck, double bottom, hopper side tanks and topside tanks and with single or double side skin construction in cargo length area and intended primarily to carry dry cargoes in bulk. Hybrid bulk carriers, where at least one cargo hold is constructed with hopper tank and topside tank, are covered by the present Rules. The structural strength of members in holds constructed without hopper tank and/or topside tank is to comply with the strength criteria defined in the Rules. (See attachment)	No, the CSR for bulk carriers do not apply to such bulk carriers which are constructed with topside tank but without hopper side tank in cargo holds length area.	Y
191	1/1.1.1.2	Question	application of CSR	2006/10/2	Are the following ships not subject to CSR due to their cross section design? - ore carrier - combination carrier - cement carrier - wood chip carrier - open hatch carrier	No, such ships are not subject to the CSR for bulk carriers.	
192 attc	1/1.1.1.5	Question	hull materials	2006/10/2	Ships whose hull materials are different than those given in [1.1.4] and ships with novel features or unusual hull design are to be individually considered by the society, on the basis of the principles and criteria adopted in the present Rules. (1) Is the word “ships” the bulk carriers as defined in [1.1.2]? (see drawing 1 in attachment) (2) Can “Novel features” and “unusual hull shapes” be used to include vessels as shown? See drawing 2 in attachment - Can this design the included in the term novel feature?	(1) Yes, the ships with cross sections indicated in figure are defined as bulk carriers. (2) The treatment of "Novel features" and "unusual hull shapes" depends on the discretion of each Classification Society.	Y
193	1/4.3.3.3	Question	length	2006/10/2	The midship part of a ship is the part extending 0.4L amidship, unless otherwise specified.” Could you elaborate on what this means?	The midship part is the extent of 0.3L to 0.7L from the aft end (A.E.) of the rule length L.	
194	2/1.1.1.2 Table 2.1.1	Question	damage stability	2006/10/2	In current design of bulk carrier with ship's length of 169.5m and after peak bulkhead and aft machinery bulkhead being the same, total number of bulkheads is 7, but CSR requires 8 bulkheads to such ships not required to comply with subdivision requirements. Regarding this requirements, is it acceptable for such ships complying with the requirements on damage stability?	Yes. Ships complying with subdivision requirement need not follow the requirement on the number of watertight bulkhead indicated in Table 1.	

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195 attc	2/1.3.1.1	Question	after peak bulkhead	2006/10/31	Are the example case specified below (see attachment) complied with the requirements that “the after peak bulkhead may be stepped below the bulkhead deck, provided the degree of safety of ships as regards subdivision is not thereby diminished.	Yes, if the fire door may be regarded as safe for the purpose of subdivision.	Y
197	7/4.3.3	CI	simplified method	2006/10/31	We understand that the methodology used in the simplified method is commonly applicable to the intersection of inner bottom plate and sloping plate of lower stool as well as bilge knuckle part. Therefore, Common Interpretation should be prepared as soon as possible so that this method can be applied to the intersection of sloping plate of lower stool and inner bottom plate	Your understanding is right. The simplified method is applicable to the intersection of inner bottom plate and sloping plate of lower stool as well as the intersection of inner bottom plate and hopper slant plate. That’s was the original intention of the requirement. In applying the requirement of Ch.7 Sec 4 [3.3], therefore, the following interpretation is prepared in order to be in line with the original intention. Common Interpretations for: Chapter 7/Section 4/3.3Simplified method for the bilge hopper knuckle part [The text of the Rules] The words “bilge hopper knuckle parts” , “bilge knuckle part” and “hopper slope plate” in the title of [3.3], the text of [3.3.1] and [3.3.3], the title of Fig.6 and the text in the top of column of the Table 1. Common Interpretation The requirements of [3.3] are applicable to the knuckle part not only bilge knuckle part but also lower stool knuckle part such as the intersection of the inner bottom plate and sloping plate of lower stool.	
204 attc	Ch 6	CI	Stiffeners	2007/6/11	Sniped stiffeners, requirement to buckling capacity - please see attachment for full query as it included diagrams and equations.	a)Section 3 covers buckling of ordinary stiffeners and stiffened panels. Therefore sniped buckling stiffeners are subject to Ch. 6 Sec. 3 [4]. b)No. Ch.6 Sec. 2[1], [2] and [3] are applicable to ordinary stiffeners and [4] is applicable to web stiffeners. Buckling stiffeners as shown are subject to 1.Ch. 3 Sec.6 [5.2.1] 2.Ch. 6 Sec.2 [4.1.2] 3.Ch. 6 Sec.3 [4]	Y

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205	3/1.2.3.11	Question	thickness	2006/11/30	In case of bulk carriers, thicker plates greater than 20 mm are normally used for main structural members. Since this requirement is vague, we would like to ask you to clearly explain your intention of the regulation 2.3.11 and to make clear the application of this requirement or criteria. If there is no criteria, it is better to delete the requirement to avoid confusion in design approval stage.	The reason of this requirement is the same as the one requiring D/DH for the SPECIAL elements i.e. Class III) with notes (4), (5) and (6), which are highly stressed elements. In this requirement, the notion of thickness greater than 20 mm is added to the notion of highly stressed element. This corresponds in fact D/DH for Class III elements according to Table 3.However, since the application of this requirement is already covered by Table 1 and other requirements such as 2.3.2, we propose that this requirement should be deleted according to your suggestion.	
206	3/3.1.2.1	Question	Corrosion addition	2006/11/8	According to our understanding on CSR, rules relating to corrosion addition have been harmonized with JTP. However, there is a difference in definition of tank top between JTP and JBP. Note (3) in Table 1 should be revised as follows: "Note (3) Only applicable to ballast tanks with weather deck as the tank top" from CSR for Tankers	Note (3) to be kept as it is. Example is Hopper Side Tk. not connected to TSWB Tk. Air-/Water-Mixture will be below top of tank. **"This question and answer are superseded by KC ID 638. Please refer to KC ID 638."**	
207	3/6.2.3.1	Question	hatch coaming	2006/11/30	As for hatch coamings, ClassNK approves hatch coamings having lower steel grade than that of upper deck plating, in case of the hatch coaming length being less than 0.15L. We therefore propose to delete hatch coamings from the last sentence.	First, it is to be noticed that this requirement is not dealing with steel grade, but with yield strength of the steel. Secondly, the stress in shorter hatch coamings (length much more less than 0,15L) is generally equivalent to the one in the deck. It becomes negligible only for very short hatch coaming. Some criteria could be developed, including parameters such as length and height of hatch coaming and their position along the ship. It seems quite complicated to solve this easy problem. Finally we have to keep in mind a stress check is to be carried out for the hatch coaming. Consequently, we prefer to keep the text as it is, or we may suggest to open a door by adding the word "generally" between "The same requirement" and "is applicable".	

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208	3/6.2.3.1	Question	high strength steel	2006/11/29	The last sentence of 2.3.1 is excess and differs from the present application accepted by many classification societies. Higher strength steels are normally applied taking account of not only hull girder bending stresses but also local stresses. For instance, higher strength steel is used to double bottom girders taking into account local shearing stresses caused by cargo and external sea loads acting on double bottom.And some sniped longitudinal stiffeners not contributing hull girder longitudinal strength, which are mild steel, are welded on the girders to prevent panel buckling. Such design has been already approved by many classification societies. We consider that the steel grade of stiffeners not contributing hull girder longitudinal strength can be selected on a case by case basis. We would like to ask you to revise the rule taking into account the above.	The last sentence in Ch 3, Sec 6, [2.3.1] is not a matter of steel grade, but concerns the yield strength of the steel. The matter of steel grade is relevant to Ch 3, Sec 1. Having said that, it is understood that the original question is not about steel grade. Ch 3, Sec 6, [2.3.1] could be considered as the requirements in general. If the stress level due to hull girder bending, in longitudinal member not contributing to hull girder longitudinal strength, should be verified as to satisfy the requirement in Ch 5, Sec 1, [3.1.1], application of the requirements in Ch 3, Sec 6, [2.3.1] might be mitigated. As a matter of opening the door, the word "generally" should be added between "The same requirement" and "is applicable...".	
209	3/6.6.1.6	Question	scantling determina-tion	2006/11/1	As shown in the caption, main intention of this requirement is continuity of strength, not scantling. In the scantling determination of sloped bulkhead plating, yielding, buckling, grab handling and fatigue strength are taken into account. Continuity of strength can be realized by the consideration. Therefore we would like to ask you to delete the requirement.	In applying the last sentence of 6.1.6, where the scantling of lower strake of the sloped bulkhead of hopper tanks and inner bottom plate adjacent thereto are determined by the requirements on FEA and fatigue strength assessment, such structures are regarded as the satisfaction of the requirement on continuity of strength.	
210	3/6.6.4.2	Question	GRAB notation	2006/11/1	At least, please exclude the required material properties and net thickness of stool side plating by GRAB from this requirement. It is not necessary to apply the required material properties and net thickness of stool side plating by GRAB to the supporting floors.	In applying this requirement 6.4.2, the net thickness and material properties required for the bulkhead plating, or when a stool is fitted, of the stool side plating mean that they are required by the scantling requirement except for the grab loading and under flooded condition.	
211	3/6.9.6.3	Question	extent of insert plate	2006/11/1	The extent of insert plate is larger than that of present designs. Since the stress concentration occurs in way of corner radius, we consider that the requirement should be reconsidered taking account of your experience. Please permit us to determine the extent of insert plate taking into account FEA results.	The following sentence should be added at the end of requirement 9.6.3: "For ships having length L of 150m and above, the extent of insert plate may be determined by the results of a direct strength assessment, including buckling check and of a fatigue assessment of hatch corners."	
212	6/1.2.5.1	Question	side shell plating	2006/11/22	There are some cases where the side shell plating adjacent to sheer strake includes single side part and is increased due to the buckling and hull girder shear strength.Obviously, its reinforcement is not necessary for sheer strake, then please revise the sentence as follows:"...is to be not less than the required thickness of the adjacent 2 m width side plating, which is calculated according to Ch.6, Sec.1,..."	Generally, when the side shell plating adjacent to sheer strake includes single side part and is increased due to the buckling and hull girder shear strength, it is also the case for the sheer strake, which is located above. Consequently, we see no reason to modify this requirement.	

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213	6/2.2.2.1	Question	hull girder	2007/1/11	We consider that this requirement has been introduced taking into account shear lag. However, there are some cases where the attached plating is increased due to the buckling of the plating and hull girder shear strength. Therefore we would like to ask you to revise the sentence as follows: "The net thickness of the web of ordinary stiffeners, in mm, is to be not less than the greater of: ・… ・40% of the net required thickness of the attached plating, which is calculated according to Ch.6, Sec.1."	We agree with the modification proposed in the original question: "The net thickness of the web of ordinary stiffeners, in mm, is to be not less than the greater of: - t = 3.0 + 0.015L2 - 40% of the net required thickness of the attached plating, to be determined according to Ch.6, Sec.1. and is to be less than 2 times the net required thickness of the attached plating." We will consider the Rule change proposal.	
214	6/2.2.3	Question	PMA	2006/12/13	If applying this requirement to longitudinal PMA having wide width, the required scantlings become to be very heavy. This rule seems to be buckling requirement. Since at least longitudinal structural members, such as deck plating, skin plating, longitudinal bulkhead plating, inner bottom plating and longitudinal stiffeners attached to them, are to be complied with Ch.6, Sec.3 “Buckling & Ultimate Strength of ordinary Stiffeners and Stiffened Panels”, it is not necessary to apply this rule to them. We would like to ask you to revise the rule taking into account the above.	Such longitudinal PMA having wide width should comply with the requirement of [2.3], where it is applicable considering the configuration of the stiffener. In case the stiffener should not comply with the requirement of [2.3] or [2.3] should not be applicable to the stiffener, such longitudinal should be modeled by shell elements in FEA and its yielding strength and buckling strength should be verified as a primary supporting member.	
215	6/2.3.3.1	Question	BWE	2006/12/8	The net required section modulus [3.2.3] of side frames in holds intended to carry ballast water is excessive than our experience and approximately twice the value required by [3.3.1].The cause of the above is the difference in position to be assessed.In [3.3.1], the position to be assessed is the mid span of side frame. And the position to be assessed in [3.2.3] is the fixed ends.According to [3.3.3], the required section modulus at ends of side frame is to be twice of the required section modulus at mid span.Therefore we would like to ask you to revise the rule as follows:Case A - [3.2.3] "m=20 for side frames of single side bulk carrier"orCase B - [3.3.1]To add the following:"...the net section modulus at lower and upper bracket"	We conclude that there is no need to change the rule formula according to the following reason. With our calculations, we have not seen this ratio of 2 between the application of [3.2.3] for side frames in holds intended to carry ballast water and [3.3.1].It would be interesting to have more detailed information on the comparative calculation to check that all parameters are correctly taken into account, and in particular the span, which is not the same in both requirements. In [3.2.3], the span is defined in Ch 3, Sec 6, [4.2], i.e. by considering reduction of span due to brackets; and, In [3.3.1], the span is defined in Ch 3, Sec 6, Fig 19, i.e. by considering no reduction of span due to brackets.Therefore, the text is kept as it is.	

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216	6/2.3.4.1	Question	pressure formula	2006/11/22	The required scantlings by this rule is excessive than our experience. In the formula, counter pressures acting on side longitudinals, hopper / top side longitudinals and backing brackets are ignored. Thus the rule brings heavy scantlings. We would like to ask you to revise the formula in which counter pressures are taken into account. If it is difficult, an alternative analysis such as direct calculation should be permitted.	The pressures to be considered in this formula are the pressures at mid-span of the side frame. In addition, the differential pressures, if any, are to be considered. **Also included in Corrigenda 5**	
217	6/2.3.4.2	Question	direct calculation	2006/11/23	The required scantling and the material by this requirement are excessive than our experience.An alternative analysis such as direct calculation should be permitted.	From our experience, we have not seen excessive scantlings. We would like to have more information on this "excessive" values. In addition, to accept that alternative analysis such as direct calculation are permitted is a general question for the totality of CSR (oil or bulk). This should be discussed as a general matter.	
218	7/4.3.2.1	Question	hot spot stress range	2006/11/28	The procedure of obtaining hot spot stress brings very pessimistic results and differs from that of JTP.We would like to ask you to reconsider and revise the procedure as soon as possible.In conjunction with the above, 3.3.2 should be also reconsidered.	The existing procedure is not modified. However, possible changes will be subject to the future harmonisation work between CSR for oil tankers and CSR for bulk carriers.	
219	7/4.3.3	Question	connection	2006/11/8	Please develop and introduce a simplified method for the connection of lower stool of transverse BHD with inner bottom as soon as possible.	The simplified method is applicable to the intersection of inner bottom plate and sloping plate of lower stool as well as the intersection of inner bottom plate and hopper slant plate. That’s was the original intention of the requirement.	

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220	8/1.1.3.1	Question	fatigue strength assessment	2006/11/22	The number of members and locations to be assessed is many.We would like to ask you to reduce the number of locations taking into account damage experience and your calculation results.	The members and locations subjected to fatigue strength assessment described in Table 1 of Ch 8 Sec 1 are of the members and locations which the fatigue damage are occurred in the past, even though the number of damages are neglected. Therefore, the fatigue strength assessment should be carried out for the structural details specified in Table 1.	
221	8/2.2.3.1	Question	fillet weld	2006/11/8	There is no category for welded joint of sloped plate and horizontal plate such as hopper knuckle and lower stool in Table 1.Our understanding is as follows, because Frank angle of the weld joint is lesser than fillet weld:"Kf=1.25 for welded joint of sloped plate and horizontal plate"Please confirm the above as soon as possible.	The fatigue notch factor Kf of 1.25 for welded joints of sloped plate and horizontal plate such as hopper knuckle and lower stool can be applied because their welded joints are classified with the load carrying full penetration weld joints as well as butt welded joint. For the non-load carrying full penetration welded joints between plate, the fatigue notch factor Kf may be reduced.	
222	8/2.2.3.2	Question	fatigue damage	2006/11/28	The correction factor for mean stress is very complicated and sensitive to fatigue damage. Please reconsider and revise the factor to meet our engineering sense as soon as possible.	According to the fatigue damage experiences, mean stress effect is the most dominant factor to explain their fatigue damage. Then, the precise procedure to consider the mean stress effect is mentioned in the text. However, to simplify the procedure for the mean stress effect without losing the accuracy of the present fatigue assessment needs much time, careful discusstion and appropriate ramification study. Therefore, for the time being, the text is kept as it is.	
223	8/5.3.1.1	Question	nominal stress range	2006/12/22	We understand that the nominal stress range obtained from this formula is bending stress of the cross deck.Thus the stress occurs in athwartship direction.In general, the major axis is arranged in longitudinal direction to reduce the stress concentration due to hull girder bending moment.Therefore the explanation of ra and rb is not adequate to use the formula properly.For example, ra and rb are inner radius and outer radius, respectively.This rule brings very pessimistic results.In conjunction with the above comment, the rules should be revised to obtain reliable results as soon as possible	The requirement on hatch corner fatigue check will be revised as soon as possible, including a technical background.	

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224	9/2.3.1.2	Question	stiffeners	2006/11/22	This requirement is excessive than our experience. In structural design, stiffeners are suitably arranged on floors to prevent excessive vibration of them. And scantlings are determined taking account of vibration.	The CSR doesn't take into account the vibration effects for the scantlings, as it is outside the scope of classification.The floor webs are to be stiffened enough to withstand the forces induced by rudder post, propeller post and rudder horn.As a direct calculation of floors and their stiffening arrangement is generally never carried out in this area, it is preferable to indicate a value for the maximum spacing of web stiffeners.	
225	9/3.3.1.3	Question	frame spacing	2006/11/29	This requirement is excessive than our experience. This requirement should be reconsidered taking account of present designs.Please revise the rule as follows, or delete the rule:"not greater than 5 frame spacing	According to the last sentence of [3.1.3], wider spaces may be accepted based on the discretion of the Society. This sentence has been added to respond the comments from Industry. Therefore, the text is kept as it is.	
226	4/6.2.1.2	Question	BWE	2006/12/14	When checking the condition under the ballast water exchange operation by means of the flow through method, static pressure for direct strength analysis is specified in Ch 4, Sec 6, 2.1.2, but there is no description of dynamic pressure. 1. Should the loading cases and wave conditions under consideration comply with the requirements of Ch 4, App 2? 2. The inertial pressure due to ballast is not to be considered according to the requirement in Ch 4, Sec 6, 2.2.1. Does this mean that only static pressure due to ballast defined in Ch 4, Sec 6, 2.1.2 and external pressure defined in Ch 4, Sec 5 are to be considered for direct strength analysis?	1. There is no need to comply with the requirements of Ch4App2. In the loading case specified in the loading manual with regard to ballast exchange, the static load is considered for direct strength analysis. 2. Yes, the dynamic external pressure should be considered for direct strength analysis.Where the ballast water exchange is carried out on the flow through method, the direct strength analysis will be separately required on the ballast water exchange condition in additional sea going ballast loading condition, taking into account all EDWs.	
227	9/4.5.3.1	Question	shear area	2006/11/22	It seems that the equation of Ash is missing. Please confirm.	The formula is not missing, but the words "and the shear area Ash, in cm2," should be deleted.	
228	13/1.1.2.2	Question	substantial corrosion	2006/11/29	The definition of “substantial corrosion” for vessels built under the IACS Common Structural Rules for Bulk Carriers has described in the latest version of IACS UR Z10.2 and Z10.5. The description of substantial corrosion in CSR for Bulk Carriers is not in line with that of IACS URs. To avoid confusion, this paragraph is to be deleted.	In Chapter 13, Section 1, [1.2.2] of the Common Structural Rules for Bulk Carriers, the current text is to be replaced by the following one: 1.2.2 Substantial corrosion Substantial corrosion is an extent of corrosion such that the assessment of the corrosion pattern indicates a gauged (or measured) thickness between t renewal and t renewal+ t reserve.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
243	3/3.1.2	Question	Corrosion addition determinatio n	2006/11/22	Corrosion addition determinationFor ships equal to and larger than 150m in length, corrosion addition for lower stool of 5.2m is very large compared with that for sloped plating of hopper tank of 3.7m. Corrosion addition for lower stool should be the same as that for sloped plating of hopper tank.	The corrosion additions are set according to the results estimated by probabilistic carrion model which are calibrated by huge amount of thickness measurement data. Therefore, the value specified in Table 1 of Chapter 3 is considered appropriate.	
244	3/6.6.1.2	Question	longi framing system	2006/11/22	Framing system; For ships larger than 120m in length, longitudinal framing system is required for bottom, double bottom and sloped bulkheads of hopper tanks in cargo hold. For fore and aft parts of cargo hold, however, it may be difficult to apply this system because of abrupt change of hull form there. So please add 'in general' to allow transverse system for these parts.	The word “in general” has been deleted from the text as far as practicable in order to eliminate the vague expression. Furthermore, from structural continuity point of view, the same framing system is desirable to adopt in whole length of cargo hold region. However, as you pointed out, we can understand that it may be difficult to apply the longitudinal framing system to fore part and aft parts of cargo hold because of abrupt change of hull form.Where it is difficult for the longitudinal system to apply to fore and aft parts of cargo hold region due to its hull form, the Society may accept on a case by case basis the changing the framing system. for such parts subject to provide an appropriate bracket or other arrangements to provide structural continuity in way of changes in the framing system.	
245	3/6.9.5.2	Editorial	hatch end beams	2006/11/30	Hatch supporting structureHatch end beams are required to be aligned with transverse web frames in topside tanks. Partial transverse web or large bracket that is sufficient to transfer load should be considered as an alternative to transverse web. They are normal structural arrangement of existing vessels.	SOLAS XII Regulation 6.5.2 says, “effective continuity between the side shell structure and the rest of the hull structure shall be assured,” Although the application of this regulation is limited to bulk carriers of 150m in length and upwards carrying solid bulk cargoes having density of 1,000 kg/m3 and above, it is considered that the intention of this regulation is applicable to all ships. From the structural continuity point of view, the second paragraph of Ch 3 Sec 6 [9.2.4] (topside tank structure) of CSR for Bulk Carriers says “Where a double side primary supporting member is fitted outside of plane of the topside tank web frame, a large bracket is to be fitted in line with.” In addition to the side structure, to alter the large bracket in order to ensure the structural continuity between the hatch end beams and topside tank web frame seems to overdo. However, in oder to clarify whether the partial transverse web or large bracket provided in the top side tank in line with hatch end beam is acceptable instead of providing the ordinary transverse web, for clarification, we will consider a rule correction with addition of the following text: "Alternatively, the appropriate supporting structures shall be provided in top side tanks in line with the hatch end beam."	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
246	3/6.9.5.3	Editorial	hatch supporting structure	2006/11/28	Hatch supporting structureThe face plate of hatch coamings and longitudinal deck girders are required to be effectively connected. On the other hand, the face plate of hatch end beam is normally tapered at end. Please explain concrete requirements of 9.5.3.	In order to clarify this requirement, we will consider a rule correction as follows: At hatchway corners, the face plate of hatch deck girders or their extension parts and the face plates of hatch end beams on both ends are to be effectively connected so as to maintain the continuity in strength.	
247	3/6.10.4.1	Question	UR S18	2006/11/10	Lower and upper stools of corrugated bulkheadsLower and upper stools are required for corrugated watertight bulkheads of ships equal to and larger than 150m in length. According to UR s18, stools are not required for ships less than 190m in length. In view of the fact that many existing ships having corrugated watertight bulkheads without stools less than 190m in length have been operated with successful results, we request this requirement be modified so as to be the same as UR S18.	The issue is under consideration by IACS.	
248	7/2.2.1.1	Question	FE model	2006/11/30	Extent of model; The extent of FE model is required to be three cargo holds and mid one is the target assessment. In handy bulk carriers, loaded holds(Nos.1 and 5 holds) are not included in the mid part model(Nos.2-4 holds). Please clarify the FE model for handy bulk carriers with 5 cargo holds.	The FEA assessment of cargo holds is restricted to the midship area by the CSR.However, assessment of holds of both ends is left to the responsibility of each Society – this may be an extrapolation schema, a specific FE analysis, a FEA provided by the ship designer,…Furthermore, it should be noticed that this problem is also relevant in the CSR for Oil Tankers.	
249 attc	9/2.5.1.3	Question	Connection of aft peak structure with rudder horn	2006/12/1	The vertical extension of the hull structure is required not to be less than the horn height. This requirement is considered primitive without detailed strength basis. Normally, the vertical extension is between outer shell and steering gear flat and there may be many designs that could not comply with this requirement. Please delete this requirement or amend it considering strength basis.	The feedback is noted and we will consider a rule change proposal.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
250	8/2.2.3.2	Question	hot spot stress range	2006/11/10	Equivalent hot spot stress range (Corrigenda 1) This item seems to be rule change. We would like to know the impact of this rule change.	This revision includes the correction of the factor in the conditional equations and the alternation of the expression. The correction of the factor in the conditional equations is made for the simple error in writing of the factor in the condition that the shakedown in compression stress side is occurred. This condition correspond the case that the large mean stress in compression side is occurred. The effect of this correction on the scantlings of the structural member is very small since the fatigue damage in such case is negligible small. The alternation of the expression is made to clarify the meaning of the conditional equations without changing the conditions.	
251	8/3.2.2.2	Question	FE model	2006/11/10	In Chapter 8 Section 3 / 2.2.2, the calculation of hull girder stresses for the computation of fatigue life by direct strength analysis using superimposition method does not take into account the hull girder bending moments that exist in the FE model due to the local loads. Consequently, some of the hull girder bending stress is considered twice.	The bending moments induced on the FE model by local loads are explicitly taken into account when using superimposition method for yielding and buckling criteria (Cf Ch 7, Sec 2, [2.5.7]), and it seems necessary to proceed in the same way for fatigue. Note: Ch 8, Sec 2, [2.2.2] should make reference to Ch 7, Sec 2, [2.5.7].	
253	Fig 8.5.2	Question	Section modulus	2006/12/20	When calculating section modulus of the cross deck Wq and moment of inertia of the cross deck Iq, how to determine the neutral axis? Is it axis z ? Please clarify it.	IQ and WQ are to be determined about z-axis. In order to clarify the difinition of WQ and IQ, the editorial change will be issued as Corrigenda.	
255	Table 8.4.1	Question	watertight	2006/12/11	In Chapter 8 Section 4, Table 1, some details, in the "watertight" cases seems to be similar (two by two): "3" and "10"; "7" and "12" or "8" and "14". But the values of the stress concentration factors differs from a detail to another. An harmonization of the SCF between these details is needed, in order to apply the right ones.	It is right that the details 3 and 10 (7/12 and 8/14) are very similar for the case "watertight". An harmonization should be very helpful. More generally, each detail should appear only once in the Table with SCF for the two assessed points, and for both cases "watertight" and "non-watertight". It should be considered as a Rule Change	
256	Table 8.4.1	Question	watertight	2006/11/23	In Chapter 8 Section 4, Table 1, the meaning of "watertight" and "non-watertight" in the column "collar plate" is not clear: does it mean that a collar plate is required in any case? Or does it mean that "watertight" is equivalent to a full collar plate and "non-watertight" is equivalent to a partial collar plate?|	A collar plate is not required in all cases."Watertight" means that a full collar plate is fitted, and "non -watertight" means other cases: no collar plate is fitted or a partial collar plate is fitted.It should be better to replace "watertight" by "full collar plate" and "non-watertight" by "other cases".	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
257	Table 8.4.1	Question	watertight	2006/11/18	In Chapter 8 Section 4, Table 1, for details 1 to 8, stress concentration factors are indicated for both cases 'watertight' and 'weathertight' for one of the assessed point and for case 'watertight' only for the other assessed point. What are the values to consider the stress concentration factors in case 'non-watertight' for this later point?	In the case 'non-watertight', the missing stress concentration factors for one of the two points leads to less severe results in fatigue. That is the reason why the values of the SCF are not indiciated. However, our point of view is to add these values in the Table in order to be coherent.	
258	Table 8.4.1	Question	watertight	2006/12/13	In Chapter 8 Section 4, Table 1, a detail is missing: the one corresponding with detail 1, but without vertical stiffener. What are the values to consider for the stress concentration factors for such a detail?	For a detail corresponding to detail 1, but without vertical stiffener nor bracket, SCFs should be developed.	
259	Table 8.4.1	Question	Aft & Fore	2006/11/23	|In Chapter 8 Section 4, Table 1, the meaning of "Aft" and "Fore" is not clear: does it mean aft and fore ends of the ship, or aft and fore ends of the stiffener considered, or is it only a way to identify both sides of the detail?	"Aft" and "Fore" does not mean aft anf fore part of the ship. They are to be understood as being one side and the other side of the considered detail. It should be better to give a name to the two assessed points, i.e. "Point A" and "Point B", and to modify the schemes accordingly ("A" and "B" instead of "a" anf "f", and delete "Aft" and "Fore".	
268	6/3.3.1.2	Question	FEM buckling	2006/11/30	The author requests changes and defines e3 & ky as equal to 1. As far as we concern both kx (for longitudinally loaded plating) and ky (for transversely loaded plating) is defined in Tables 2 & 3(for curved plating) and e3 is well defined in Table 4. IACS's proposed additional definition confuses the issue. Propose to leave text as it was prior to errata	Reference is made to: Additional information according to "Corrigenda 1, May 2006", Ch 6, Sec 3, [3.1.2]: The following three lines are the original text: Each term of the above conditions must be less than 1.0. The reduction factors kx and ky are given in Tab 2 and/or Tab 3. The coefficients e1, e2 and e3 are defined in Tab 4. This was the Add. inf.: For the determination of e3, ky is to be taken equal to 1 in case of longitudinally framed plating and kx is to be taken equal to 1 in case of transversely framed plating. We added this additional information due to several requests from other classification societies, how to calculate e3, because in the buckling assessment of a plate field in a transverse section analsys only hull girder bending and shear stress have to be taken into account (Ch6, Sec3, 3.1.2). Therefore the kappa parameter of a load normal to the hull girder bending stress has to be set to "1" to calculate e3 according Table 4. In case of a pressure loaded bilge plate, the pressure induced circumferential stress has to be neglected for a transverse section analysis. In a FEM based buckling analysis this stress has to be taken into consideration and the complete interaction formula of 3.2.4 has to be used. The additional information, given in "Corrigenda 1, May 2006", is kept because this is universally valid for the transverse section analysis. complete interaction formula of 3.2.4 has to be used. The additional information, given in "Corrigenda 1, May 2006", is kept because this is universally valid for the transverse section analysis.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
269	Table 9.1.2	Question	Min plate thickness	2006/11/23	We can not see the reason for IACS to change the coefficient from 0.7 to 0.9 on the denominator of the second term in the equation. The proposal will reduce the required plate thickness at intact condition and bow flare area. We would like to stress that plating cannot be treated in the same way as a IACS stiffener where the corresponding coefficient is 90% (i.e. 0.9) of the yielding. Propose to remain as it is.	The reason of changing the coefficient from 0,7 to 0,9 is a matter of editorial correction, which was forgotten at the time of publication.This coefficient if normally equal to 0,9 as defined in Table 6 in Chapter 6, Section 1 for platings not contributing to the hull girder longitudinal strength.	
270	Table 9.2.2	Question	Min plate thickness	2006/11/23	We can not see the reason for IACS to change the coefficient from 0.7 to 0.9 on the denominator of the second term in the equation. The proposal will reduce the required plate thickness at intact condition and bow flare area. We would like to stress that plating cannot be treated in the same way as a IACS stiffener where the corresponding coefficient is 90% (i.e. 0.9) of the yielding. Propose to remain as it is.	The reason of changing the coefficient from 0,7 to 0,9 is a matter of editorial correction, which was forgotten at the time of publication.This coefficient if normally equal to 0,9 as defined in Table 6 in Chapter 6, Section 1 for platings not contributing to the hull girder longitudinal strength.	
271	9/5.2.4.3	Question	watertight	2006/11/23	IACS's proposal to change the word "watertight" into "weathertight" is not acceptable unless there is a Load line coaming. Propose to retain watertight.	The change from watertight to weathertight is correct. LL Regulation requests a coaming heigth of 600mm for Pos.1 and 450mm for Pos.2. Subject to this the access hatches need to be weathertght only. In the CSR text in para. 2.4.1 we refer to the required coaming height. Consequently the access hatches as mentionend under para. 2.4.3 have to fulfill the requirement 'weathertight'. We assume the questioner has mixed this with flushdeck hatches. They have to be watertight.	
272	Fig. 10.1.20	Question	plate thickness	2006/11/23	IACS propose to replace the definition of "t = plate thickness in accordance with section 14, E.3.1. (mm)" with "t = thickness of rudder plating, in mm". It is obvious that the reference is missing from the CSR Rules and by IACS' proposal to omit it instead of to complete the Rules means that the rudder plate thickness under the thick flange will be severely undermined. Propose to complete the reference as necessary for the sake of safety of the rudder at the supporting level.	The previous reference in the legend to Fig. 20 of Ch.10 Sec.1 came from the original source of the illustration (different rules as CSR). In the source the Rules were splitted into seperate sections for 'Welded Joints' and 'Rudder and Manoeuvering Arrangements'. The reference lead to the section describing the plate thickness of the rudder. In the CSR both subjects are united under one section. Consequently the reference is obsolete.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
273	3/6.10.4.1	Question	corrugated BHD	2006/11/23	Lower stool with bottom width not less than 2.5 times mean depth of corrugation is required for L>=150m bulkers instead of L>=190m as defined in IACS UR S18.We think this contradiction to be corrected as editorial error in the corrigendum. If it is difficult to add new item in the corrigendum, IACS should take it in the next earliest chance. As you know, most of Handy class bulkers and also significant number of Handy max. bulkers with length between 150m < L 190m have corrugated bulkheads without lower stool and/or with rectangular lower stool which bottom width is same as corrugation depth. If the defined lower stools are installed for those vessels, necessary hold clear length about 27m for these class bulkers to load 2 rows of 40 feet length product such as pipes, etc. can not obtained. The economical loss to the shipping industry by the lower stool requirement is seemed tremendously big. Huge number of safely operating bulkers without required lower stools prove the safeness and propriety of this proposal.	The corrected text in the next Corrigenda should be: "For ships of 190 m of length and above, the transverse vertically corrugated watertight bulkheads are to be fitted with a lower stool, and generally with an upper stool is fittedbelow the deck.For ships less than 190 m in length, corrugations may extend from inner bottom to deck."	
274	3/6.10.4.8	Question	Upper stool	2006/11/22	We think that "The stool top" is correct(This comment is not for your summary but for original rule).	The right wording should be “stool top of non-rectangular stools”. This requirement comes from UR S18 (18.4.1.(b)).	
275	3/6.10.4.1	Question	Corrugated BHD	2006/11/23	Lower and upper stools are required for corrugated watertight bulkheads of ships equal to and larger than 150m in length. According to UR S18, stools are not required for ships less that 190m in length. Since there are many existing ships having corrugated watertight bulkheads without stools less thabn 190m in length and they have successful experiences, please amend as shown below:"In ships less than 190m in length, corrugations may extend from the inner botton to the deck."	The corrected text in the next Corrigenda should be: "For ships of 190 m of length and above, the transverse vertically corrugated watertight bulkheads are to be fitted with a lower stool, and generally with an upper stool is fittedbelow the deck.For ships less than 190 m in length, corrugations may extend from inner bottom to deck."	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
276	6/2.3.3	Question	side frames	2006/11/22	The requirement of this rule for side frame seems to be excessive. The section modulus of side frame of CSR is about twice of URS25.	From our experience, we have not seen excessive scantlings. We would like to have more information on this "excessive" values.It would be interesting to have more detailed information on the comparative calculation to check that all parameters are correctly taken into account.	
277	8/2.2.3.2	Question	conditional equations	2006/11/23	This item seems to be rule change.We would like to know the impact due to this change.	This revision includes the correction of the factor in the conditional equations and the alternation of the expression. The correction of the factor in the conditional equations is made for the simple error in writing of the factor in the condition that the shakedown in compression stress side is occurred. This condition correspond the case that the large mean stress in compression side is occurred. The effect of this correction on the scantlings of the structural member is very small since the fatigue damage in such case is negligible small. The alternation of the expression is made to clarify the meaning of the conditional equations without changing the conditions.	
278	7/App.2,Fig2	Question	FE	2006/11/22	My only comment is that the Amendment for Ch7, App 2, [2.2.3], Fig 2 is still not clear to me.	The numbers 1 to 8 in Fig. 2 indicate the diplacement nodes number of the shell element of FE. The numbers 1 to 6 in bold style in Fig.2 indicate the stress calculation points number of panel which is obtained from the transform matrix using the displacement of the node numbers 1 to 8.The figure may be splited into two figures in a next revision of the CSR: one for the displacement points and the other for the stress calculation points.	
279 attc	1/1.1.1	Question	application	2006/11/13	Is CSR applicable for VLOO (Very Large Oil or Ore) carrier having configuration very similar to VLCC, but with hatch opening in center hold/tank? See attached sketch.	CSR Tanker or Bulker Rules are not applicable for Ore-Oil Carriers.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
280	4/3.2.4.2 & 4/6.3.3.5	Question	permeability	2007/1/8	Minimum permeability of dry bulk cargoes: According to CSR Ch.4 Sec.3 [2.4.2], it is stated that "appropriate permeability should be used" while minimum permeability of 0.3 is also specified for iron ore and cement. In addition, coal cargoes are mentioned in Ch.4 Sec.6 [3.3.5]. For sake of order, minimum permeability should also be specified for grain and other mineral ore materials. Unless other data is justified, we propose to define a minimum permeability of 0.5 for grain and 0.3 for other mineral ore materials in addition to coal, cement and iron ore. The permeability in Ch.4 Sec.6 [3.3.5] should be replaced by reference to Ch.4 Sec.3 [2.4.2].	We will consider the following interpretation on "appropriate permeability" and the treatment in flooded condition. - Minimum permeabilty value for grain to be 0,3. - Determination of still water bending moment in flooded condition is to be based on actual loading conditions specified in the trim/stability booklet. - Check of local strength check in flooded condition is to be based on cargo density as defined in Table 1 of Ch.4/Sec.6.	
283 attc	4/3.2.2.1 & 4/3.2.2.2 & 5/1.4.2.1 & 5/1.4.2.2 & 5/1.4.2.4 & 5/1.4.3.1	Question	design still water bending moment	2007/1/16	Design still water bending moments in CSR Bulk rules - 3 sub-questions with diagrams (see attachment)	Question 1 . We assume the figure in attached file is related to the Fig 2 of Ch 4 Sec 3 [2.2.2] using the formulas of MSW,H & MSW,S and the extent within 0.4L amidships is shown by parallel line drawn in blue color in attached file. In addition the values of the blue line at AE & FE should not be 0 but should be corrected as 0.2MSW in line with Fig 2 of Ch 4 Sec 3 [2.2.2]. At the end of the design process the still water bending moment used for scantling check and FEA has to represent the individual envelope curve (CH4, Sec3, 2.1.1, first sentence). This corresponds to the green line in the figures. Question2 . Ch 4, Sec 3, [2.2.2] should be considered only as a preliminary distribution of SWBM. It is not a minimum value of SWBM. Regarding the strength point of view, the section modulus is to be checked according to its minimum value (see Ch 5, Sec 1, [4.2.1] and [4.2.4]), and to its value based on the permissible distribution of SWBM (see Ch 5, Sec 1, [4.2.2] and [4.3.1]) which may be the preliminary value of SWBM, if the permissible one coming from loading booklet is unknown. Question 3. There is definition of a value of the SWBM in flooded condition. It has to be calculated and included in the loading booklet and used for the checking of hull girder strength according to Ch 5, Sec 1, [4.2.2] and [4.3.1], in addition of the checks in intact condition.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
286	8/1.1.3.1 & Table 8.1.1	Question	fatigue strength assessment	2006/12/13	List of locations subject to fatigue strength assessment: a) For ships having length L of 150 m or above, are there any circumstances under which fatigue assessment of the locations listed in the Table can be waived? b) Is each detail to be assessed for location in homogeneous hold, ore hold and ballast hold? (This question is based on actual cases of different Class giving different opinions of the locations requiring fatigue assessment based on actual designs in progress.)	a)No in general. The members and locations subjected to fatigue strength assessment described in Table 1 of Ch 8 Sec 1 are of the members and locations which the fatigue damage are occurred in the past, even though the number of damages are neglected. Therefore, the fatigue strength assessment should be carried out for the structural details specified in Table 1. b)If the arrangement and scantling of the detailed to be assessed in holds are different, each detail should be assessed.	
287	7/4.3.3.3 & Table 7.4.1	Question	colum plate thickness	2006/12/18	Is the column plate thickness, t column, based on the gross inner bottom plate?	The requirement of 1.4.1, Ch 7 Sec 1 mentions as follows. “Direct strength analysis is to be based on the net scantling approach according to Ch 3 Sec 2.” According to this requirement, the thickness in Table 1 of Ch.7 Sec 4 [3.3.3] is “Net thickness” in FEA. In order to clarify this, the text modification will be proposed as "Corrigenda". **Also Included in Corrigenda 5**	
288	7/4.3.3.3 & Table 7.4.2	Question	Radius R	2006/12/20	a) The radius R is believed measured to the radius on upper surface of hopper knuckle is that correct. b) The thickness t is assumed to be the plate thickness in way of radius knuckle. t is assumed gross thickness. Is that correct? c) K2 in Note 2 should read K3 d) Note 2 only applies to radius knuckle, therefore the text “For bend type knuckle ...” should be inserted e) Does it mean that the insert plate in the floor web is to be the same thickness as inner bottom plate?	a) Yes, it is correct. b) No, it is not correct. The thickness t is always the “Net thickness” in FEA. c) Yes. It is typo. The “Corrigenda” will be issued soon. d) Noted. The text of Note (2) should be revised as follows. “In using the correction factor K3 for bend type knuckle, the members should be arranged such that the bending deformation of the radius part is effectively suppressed.” This revise will be issued soon as “Corrigenda” e) Yes, it is recommended to be the same thickness as inner bottom plate where the fatigue assessment is carried out by simplified method. However, where the fatigue assessment is carried out by very fine FEA, the thickness of insert plate is to be determined based on the results of fatigue assessment.	
289	7/4.3.3.3 & Fig.7.4.7	Question	longitudinal rib	2006/12/21	Is there a maximum distance for the position of the single longitudinal rib required by Table 2 Note (2)?	No, there isn’t. This figure is just example. The distance for the position of the single longitudinal rib is determined by case by case basis but the single longitudinal rib is recommended to fit near of knuckle part as far as practicable.	
290	7/4.3.3.3 Fig 7.4.8	Question	longitudinal ribs	2007/1/8	The figure shows two longitudinal ribs, and indicates a distance of 500mm from the margin girder to the second rib. Is this correct?	Yes, it is correct that Figure 8 shows two longitudinal ribs, and indicates a distance of 500mm from the margin girder to the second rib. However, in order to clarify the arrangement of transverse rib, longitudinal rib and extent of local reinforcement, we will consider the rule change proposal of Figures 7 and 8 in future.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
291 attc	7/4.3.3.3 Table 7.4.2	Question	intersection	2007/1/11	Regarding the simplified method, IACS Q&A (no 11) in the official spreadsheet, indicates that simplified method is applicable to intersection of inner bottom plate and sloping plate of lower stool as well. For this connection with longitudinally framed inner bottom and vertically stiffened lower stool, K2 is understood = 0.9, and K4 =0.9. Is that correct? It is assumed that Note 3 i.e. insert plate in web, is only applicable to hopper knuckle connection.	In our point of view, if the simplified method is applicable to intersection of inner bottom plate and sloping plate of transverse lower stool, the correction coefficients K2 and K4 should be considered in the following way: - K2 equal to 0,9 should be considered when there is a thickness increment of longitudinal girder web, up to the thickness of the inner bottom plating, - K4 equal to 1.0 in general and equal to 0.9 when longitudinal ribs are fitted.	Y
292 attc	7/4.3.2.2	Question	Radius R	2007/1/31	Please find the attached PDF describes our implementation for Lambda as follows. Could you check it if our interpretation is correct? (a) welded intersection between plane plates apply to; - Bilge Hopper plane part to Hopper Transring. - Side Girder to Hopper Transring and Floor. - Inner Bottom to Floor. - Side Girder to Inner Bottom. b) welded intersection between bent plate and plane plate apply to; - Bilge Hopper bent part (between R.ENDs) to Hopper Transring.	Your interpretation is correct, however, the parts indicated in the question are not required to carry out the fatigue assessment. The fatigue assessment is to be carried out for the members and locations described in Table 1 Ch 8 Sec 1.	Y
293	7/4.3.2.1	Question	geometric stress	2007/1/23	The principal stress in the 4th line is a surface stress (at top or bottom of the element? or a membrane stress (at neutral axis of the element? According to [3.1.1], the hot spot stress is defined as the structural geometric stress on the surface at a hot spot. However, in figure 3, it seems a membrane stress. Could you tell us which is correct?	Surface stress is used for hot spot stress evaluation. Figure 3 shows the locations of stress evaluation points to define the hot spot stress. In order to clarify used stresses, we will consider the editorial correction of the second sentence of the first paragraph as follows. “The surface stress located at 0.5 times and 1.5 times the net plate thickness are to be linearly extrapolated at the hot spot location, as described in Fig. 3 and Fig. 4.”	
294	7/4.3.3.2	Question	nominal stress range	2007/1/31	The second and third words "nominal stress" is not consistent with terminology used in 3.2.1 is "nominal stress" a principal stress? or normal stress?	The word “normal stress” instead of “nominal stress” is correct. This revision will be issued as “Corrigenda”.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
301	9/5.1.5.1 & Table 9.5.2	Question	Allowable stresses of external Pressure	2006/12/21	The external Pressure of 0.8 / 0.46 ReH allowable stresses in table 2 of Ch 9, Sec 5, 1.5.1, it is subjected to Ch 4, sec 5, [2], we think that the correct one should be subject to Ch 4, sec 5, [2.2]; the other loads are water ballast load, cargo load and container load etc. If not, please inform us what other loads are with the detail load.|	The Table 2 of Ch 9 Sec 5 is correct. The other loads specified in Table 2 are interpreted as internal loads such as inertia pressure due to water ballast in ballast hold.	
304	9/5.4.2.1	Question	hatch coaming	2007/1/31	Regarding to the load point, some classes require to use the hatch cover top, but others are still on the top of hatch coaming yet. Which is correct one, on top of hatch cover or top of coaming? If the load point is based on top of coaming, the sea load can be reduced a hatch cover depth height (900-1200 mm) from coaming to hatch cover top. We propose that load point on top of cover is for the sea load, on top of coaming is for water ballast load.	The proposal is agreed, but should be more specific on the location of the load point. Regarding the second and last points in Ch 9, Sec 5, [4.2.1], we will consider the rule correction as follows: "- transversely, at hatchway side, - vertically, at the top of the hatch cover for sea pressures, and at the top of the hatch coaming for internal pressures due to ballast water."	
305	9/5.7.5	Question	Cleat for water ballast load	2006/12/26	Because the internal WB loads of CSR are very large on hatch cover bottom side, we advice that an allowable stress of cleat is needed, and propose it is 0.9-1.0 ReH. As some class have an allowable and some have not it.	As [7.3] and [7.5] are coming from UR S21, the dimensioning of cleats is covered under [7.3.5], whatever the loads are.	
309 attc	Ch 9/ 5	Question	hatch cover	2006/12/21	Regarding to the triangular load like water ballast, both way of triangular load and average uniformed load may be used based on class by class or local office by office, but both calculation results is very different. What's CSR standard for folding and side rolling hatch cover from 1 to 5 (see attachment)?	The load cases are "H1" and "H2", the internal pressure due to water ballast in ballast hold is treated as uniform load. The load cases are "P1", "P2", "R1" and "R2", the internal pressure due to water ballast in ballast hold is treated as triangular load.	Y
311 attc	6/4.4.1.1	Question	ve stress	2006/12/21	How to determine the supporting area of the pressure to calculate the compressive stress? If the CSR Bulker Rules has not described, the proposal in the attached file could be taken into consideration.	There may be various arrangement of pillars and other supporting structures. Then supporting area should be determined on a case by case basis.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
312	9/1.4.4.4 & 9/2.4.3.4	Question	FEA	2007/1/31	Which sub-section should be adopted to determine the scantlings of deck primary supporting members of the fore part and the aft part in accordance with Ch 6/Sec.4? For example, if the ship length L is 150m or above, the direct strength analysis would be applied according to the provision specified in Ch 7(see Ch 6/Sec 4/[1.3.1]), but the procedure in Ch 7 is applied on the cargo hold structures in midship area.	For ships greater than 150 m in length, Ch 6, Sec 4 requires normally FEA analysis. However, in the fore and aft parts, it seems that prescriptive formulae may be used instead of FEA. In such a case, the requirements in Ch 6, Sec 4, [2.6] may also be considered as being applicable to primary supporting members in fore and aft parts for ships greater than 150m. We will consider the further rule development about the application of FEA to cargo areas outside midship region and determination of the scantling of primary supporting members outside midship cargo regions for ships of 150m in length and above.	
313	12/1.2.3	Question	transverse lower stool	2006/12/21	Is the formula tGR to be applied to not only sloping side plating but vertical side plating of transverse lower stool?	It is expected that the grab operators often swing the grab in order to clear cargo from sides and ends of a hold. Therefore even a vertical side plating of transverse lower stool is likely to experience a great impact due to the grab hit. As such the formula for tGR should be applied not only to sloping side plating but vertical side plating of transverse lower stool.	
314	2/ 1.2.1.2	Question	SOLAS II-1	2006/12/22	whichever gives the smallest measurement" should be added to be in accordance with SOLAS Ch.II-1, Part B, Reg.11 and for clarification.	That is correct. The words "whichever gives the smallest measurement" should be added at the end of the requirement to be in accordance with SOLAS Ch.II-1, Reg.11.	
316	3/5.1.2.2	CI	Application of CSR vs IMO PSCS(SOLAS II-1/3-2)	2006/12/7	For ships contracted for construction on or after the date of IMO adoption of the amended SOLAS regulation II-1/3-2, by which an IMO “Performance standard for protective coatings for ballast tanks and void spaces” will be made mandatory, the coatings of internal spaces subject to the amended SOLAS regulation are to satisfy the requirements of the IMO performance standard.	Interpreation: This is the date of adoption by IMO MSC 82(Maritime Safety Committee 82nd session) of the resolution amending the SOLAS regulation II-1/3-2. (Note: (1)The date of adoption is 8 December 2006; (2)IMO PSPC = IMO Resolution MSC.215(82); (3) SOLAS II-1, Part A-1, Reg.3-2 = IMO Resolution MSC.216(82))	
317	Ch 4/ 6	Question	sea pressure	2007/1/12	According to Ch4, Sec5, [1.1.1] external sea pressure is defined as summation of hydrostatic pressure and hydrodynamic pressure but should not be negative. However, Sec6 does not clearly specify whether negative pressures are allowed in case of dry cargo or liquid. We would like to confirm if the following interpretation is acceptable. - Internal pressure due to dry cargo or liquid is to be obtained as summation of pressure in still water and inertial pressure but is not to be negative. - In case where two kinds of internal pressures act on a considered location each internal pressure is not to be negative. Example: In case of bulkhead plate between No.4 and 5 holds From No.4: Static=100, Inertial=-80, Sum=20 From No.5: Static=60, Inertial=-80, Sum=0 (Differential pressure=20)	Regarding the first item, the answer is, "Yes". Your interpretation is correct. The total pressure obtained by adding the static pressure to dynamic pressure is not to be negative as specified in Ch 5 Sec 1 [1.1.1]. This is the basic principle. Regarding the second item, we assume that two kinds of internal pressure mean the example as shown in the question. The total internal pressure acting on one side of the boundary is not to be negative and the total internal pressure acting on the opposite side of the boundary is also not to be negative, according to the basic principle as mentioned above. The grand total pressure acting on the boundary is obtained from the difference between both internal pressure.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
318	6/3.3.2.4	Question	buckling ratio	2006/12/21	In the first formula in Ch 6, Sec 3, 3.2.4, we are worried about the effect of the third term with B factor which makes the buckling ratio higher in case when one side is in tension than in case when both sides are in compression.Could you confirm that the formula is correct?	We confirm that the formula is correct, with B factor defined in Table 4.	
319 attc	6/2.3.4.2	Question	brackets	2007/1/12	The value of the net connection area of upper and lower brackets to the ith longitudinal stiffener supporting the bracket, obtained from Ch 6, Sec 2, [3.4.2]) may be 2 times the actual value. Such a large increase may imply the following risks: - Uselessly reinforce bracket thickness. - Uselessly ask for web stiffener connected to longitudinals. - Uselessly extend brackets which could interfer with the PMA arrangement. Please forward us the background of formula in [3.4.1] and [3.4.2].	This requirement is coming from work of IACS WP/S at the time of fourth revision of UR S12, in 2002/2003. A Technical Background explaining the formulae of Ch 6, Sec 2 , [3.4] of CSR for bulk carriers is herewith enclosed. The calculation is on the conservative side (i.e. higher part of the end-fixing moments is transferred by transverse supporting webs), but not unduly, and we really don't think a change is technically justified. The only interpretation that could safely be done looking at the derivation of the formula in [3.4.2] is to replace the provided net section modulus wi by its minimum required value to comply with [3.4.1].	Y
321 attc	10/3.2.1.2	Question	Equipment Number	2007/1/8	Query regarding the formula of EN (Equipment Number) - see attachment.	This is "Typo". We will consider the editorial correction according to your proposal.	Y
322	3/6.6.1.3	Question	FEA	2007/1/4	The text reads: "Unless otherwise specified, the height of double bottom is not to be less than B/20 or 2m whichever is the lesser." Does this require that the double bottom height in way of cargo holds is not to be less than B/20 or 2m whichever is the lesser IN ANY CASE? For instance, even if the strength of double bottom structures is verified by FEA, is this requirement to be maintained?	Yes, this requirement is mandatory. The double bottom height in way of cargo holds is not to be less than B/20 or 2m whichever is the lesser in any case.	
323	Table 11.2.2 & Text 11/2.2.6.1	Question	fillet weld	2007/1/12	The fillet welds to apply for the connection of collar plates with ordinary stiffener and with web of primary members is not defined clearly in Table 2 of Chapter 11, Section 2. Please clarify this matter?	The check of welding shear section attaching shell ordinary stiffeners to primary member is effectively defined in Table 2 in Ch 11, Sec 2, considering Hull area being "General", and connection of ordinary stiffener to cut-out in way of primary supporting member, i.e. Category F2. Regarding the welding of collar plates, it is covered by the same line of the Table. However, for a better understanding, this line in the Table should be modified, replacing "ordinary stiffener" by "ordinary stiffener and collar plate, if any" and replacing "Cut-out web of primary supporting members" by "Web of primary members and collar plates, if any".	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
324	Table 11.2.2 & Text 11/2.2.6.1	CI	side frames	2007/1/8	Two different requirements for welding thicknesses of side web frame in single side bulk carrier are indicated in CSR: - Ch3, Sec6, 8.3 Side frames fig 19. (URS12) - Ch11, Sec2 Welding Table 2 with Hull area side frame of single side structure. Our understanding is that the maximum of both is to be considered. Please confirm?	The welding throats as defined on Fig 19 of Ch 3, Sec 6 are only to be applied. Consequently, Tab 2 in Ch 11, Sec 2 should be modified, for the hull area "Side frame of single side structure", connection of "side frame and end bracket" to "side shell plate" by repacing "F1" by "See Ch 3, Sec 2, Fig 19". We will consider the editorial correction.	
327	6/2.4.1.3	CI	inertial pressure	2007/1/22	Regarding the internal inertial pressure p due to liquid to be applied, our undestanding is that such pressure are those of: - Double Bottom pressure alone acting on bottom longitudinal. Please confirm? - Topside tank ballast pressure alone acting on side and deck longitudinal. Please confirm? - Balance of Double Bottom pressure and Deep Tank ballast pressure acting on Inner Bottom longitudinal of Deep tank. Please confirm? - Balance of Top side tank ballast pressure and Deep Tank ballast pressure acting on top side sloping plate longitudinal. Please confirm? In addition, in no case pressure p acting on watertight floors of double is not to be considered, neither should it be considered for watertight part of bulkheads belonging to wing tanks. Please confirm?	Our interpretation is that the pressure to be considered should be only internal inertial pressure acting on the longitudinal. For better understanding, we will consider the editorial correction of the definition of p in [4.1.3]. **Also Included in Corrigenda 5**	
328	3/6.5.2.1	Question	brackets	2007/3/23	The net thickness of web stiffeners and brackets are not to be less than the minimum net thickness of primary members on which they are fitted. The situation is the following one: for capesize with usual length of 275m, tmin net is 10mm. Thus tgross is ranging from 13 to 14mm due to tc of about 3 to 4mm. For primary members of wider height such as Top side frames and hopper tank frames, web stiffening are made of angles instead of flat bars. Usual angles or T shape sections have web thickness not exceeding 12mm and the current requirement can't be complied with. Additionally, there are two requirements which are applicable at C6.S2. 4.1.1 and 4.1.2. Our request: Alter the formula in C3.S6 5.2.1 to limit the tgross thickness to 12mm or restreint its field of application to only flat bars or disregard C3S6 5.2.1 should C6.S2. 4.1.1 and/ or 4.1.2. been satisfied.?	We agree with you that the requirement asking that "the net thickness of web stiffeners and brackets are not to be less than the minimum net thickness of primary members on which they are fitted" seems quite severe. Our interpretation is that "the net thickness of web stiffeners and brackets are not to be less than the minimum net thickness defined in Ch 6, Sec 2, [2.2.1]", i.e. the minimum thickness of ordinary stiffeners (3 + 0.015 L2). We will consider the Rule Change according to our interpretation	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
329	Ch 3/ 3	Question	cargo hold	2007/1/12	Corrosion deduction on cross deck beams between hatches: As per corrosion deduction table – Dry bulk cargo hold area with other members in upper part - the corrosion margin is 1.8mm on each side, i.e. 4.5 mm in total. Such corrosion margin for deck beams seems too severe. Is use of this corrosion margin mandatory or may an alternative be used?	CSR doesn't allow to use an alternative for corrosion addition table. The corrosion additions are to be considered as being mandatory.	
330	3/6.6.4.2	Question	UR S18	2007/1/12	The net thickness and material properties of the supporting floors and pipe tunnel beams are to be not less than those required for the bulkhead plating or, when a stool is fitted, of the stool side plating. This requirement is similar to that of UR18 in case where there is no lower stool. CSR extends it to the case where a lower stool is arranged. This extension could lead to up to +4mm for floors underneath deep tank stools on capesize bulkers whereas all assessments show that it is not necessary. Is this requirement possible to excuse when FEM calculation is satisfied? It should be cancelled, at least for L>150m for which FE is mandatory.	In general CSR doesn't allow alternative analysis. Alternative analysis such as direct calculation could be allowed in some cases for ships greater than 150 m in length. However, it is a general question for the totality of CSR (oil or bulk) and it should be discussed as a general matter.	
331	6/1.2.7.4 & 6/2.2.5.4	Question	uniform loads	2007/1/12	In [2.7.4] of Ch 6, Sec 1 for plating and in [2.5.4] of Ch 6, Sec 2 for ordinary stiffeners, for steel coil load with dunnage more than 5, it is stated that the inner bottom may be considered as loaded by a uniform distributed load. But CSR has no definition for uniform loads. So such definition of uniform loads should be introduced CSR.	A definition of uniform loads on inner bottom will be included in CSR for bulk carriers.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
333 attc	3/6.5.2 6/2.2.2 6/2.2.3 6/4.1.5	Question	Web Stiffener	2006/12/18	Web stiffeners of primary supporting members: (1) Because there is no definition for “primary supporting member”, the meaning of “web stiffener of primary supporting member” itself is unidentified. Please clarify the definition of “primary supporting members”. (2) Please see the attached summary table about rule applications for web stiffeners of primary supporting members based on our understanding. It shows that which requirements should be applied to web stiffeners. Please confirm. (3) We also would like to confirm that whether the web stiffeners fitted on watertight girders, e.g. watertight centre girder and floors, should be applied to the both requirements for primary supporting members of Chapter6/Section4 and for ordinary stiffeners of Chapter6/Section2 or not. (4) If there is any needs to satisfy both requirements for primary supporting members and for members subject to lateral pressure, I would like to know whether the web stiffeners fitted on the watertight bulkheads in the topside tanks and bilge hopper tanks are treated the same or not.	(1) Primary supporting member are defined as: members of the beam, girder of stringer type which ensure the overall structural integrity of the hull envelope and tank boundaries, e.g double bottom floors and girders, transverse side structures, web frames/diaphragms in hopper side tanks, topside tanks, lower stools and upper stools, side stringers, horizontal girders/transverse web frames, hatch side/end coaming. (2) The requirements in Ch 6, Sec2, [2.2] adn [2.3] are not applicable to web stiffeners but to ordinary stiffeners, The only requirements applicatle to web stiffeners in CSR for bulk carriers are the following ones:- Ch 3, Sec6 [5.2.1] for the net thickness of such stiffeners, which refers to the minimum net thickness of the primary members on which they are fitted, i.e. to Ch 6, Sec 4, [1.5.1], and - Ch 6, Sec 2 [4] for the net scantlings of web stiffeners of primary supporting members. (3) The same requirements as stated in (2) above apply to web stiffeners fitted on watertight side girders, centre girders and floors, i.e. Ch 3, Sec 6, [5.2.1]for the net thickness of such stiffeners (and so Ch 6, Sec 4, [1.5.1] and Ch 6, Sec 2, [4]. (4) See our comment in (1) as we consider that stiffeners on these bulkheads are considered as ordinary stiffeners and not as web stiffeners.	Y
334	7/2.3.4	Question	Measurements	2007/3/9	Would you please confirm which direction is the maxium relative deflection delta_ max between the double bottom and the afterward (forward) transvers bulk head? Z or the reluctant?	The maximum relative deflection has to be measured normal to a line, which connects the adjacent bulkheads at Bottom / CL.	
336 attc	9/5.5.5	Question	Section modulus	2007/2/8	We would like to confirm a way to apply the requirement of this sub-paragraph to a structural member shown in the attachment. (1) Which position, A, B or C, shown in Figure, is to be selected to calculate w0 and I0? We consider that position B is suitable for this requirement. Please confirm. (2) Which position, A, B, C or else, is to be considered when the requirement of net section modulus of ordinary stiffeners, w, is applied? We consider that position A is appropriate for this requirement. Please confirm.	According Fig. 1 a symmetrical beam with I_1 < 0.5 I_0 is the basis for this simplification. The example in the attachment is not covered by the assumptions of the requirement, i.e., a symmetrical beam. For an unsymmetrical beam as shown the attached document, the calculation should be carried out by direct calculations or beam analysis as stated in [5.4.1].	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
337	3/6.10.4.7 & 11/2.2.4.3	Question	S18	2007/2/22	For the weld of corrugations and stool side plating to the stool top plate, only full penetration is accepted in the requirement of Ch 3, Sec 6, 10.4.7. On the other hand, not only full penetration but deep penetration is accepted in the requirement of Ch 11, Sec 2, 2.4.3. It is considered that this requirement is based on IACS UR 18.4.1(a), as follows: The stool side plating is to be connected to the stool top plate and the inner bottom plating by either full penetration or deep penetration welds. Therefore, the requirement of Ch 3, Sec 6, 10.4.7 should be changed to be consistent with Ch 13, Sec 2, 2.4.3 and IACS UR. Please confirm.	We will consider the editorial correction according to UR S18. **Also Included in Corrigenda 5**	
339	Ch11/2	Question	allowable stresses value of leg length	2007/7/16	what is the design criteria (allowable stress value) when a leg length should be calculated according loads? which corrosion deduction gas to be used for such calculations?	The sizes of leg are determined based on the as-built thicknesses as per Table.1 but the net thicknesses are not the basis. In case the requirements in Chapter 11 should not be applicable the leg sizes should be subject to the Societies approval	
340 attc	7/2.3.2.3	Question	Stress Levels	2007/7/2	According to Ch.7 Sec.2 [3.2.3] “The reference stresses in FE model that does not include orthotropic elements, as specified in [2.2.4] are not to exceed 235/k N/mm2 (..)” We have 3 multiple questions. See the attached.	1. Your understanding that is the local plate bending is neglected is correct. 2. In principle stress levels of all elements should be within the allowable criteria. However, the averaged stress among smaller elements (e.g., quarter size or smaller) can be used when deemed reasonable by the Society. 3. All elements over the height of the girder should be within the allowable criteria when the difference of size of all elements in girder is relative small.	Y
341 attc	7/2.3.2.3	Question	Stress Assessment	2007/7/2	Section 3 Detailed stress assessment. Item [2.1.1] “Where the global cargo hold analysis of Sec.2 is carried out using a model complying with the modelling criteria of [2.2.4], the areas listed in Tab 1 are to be refined at the locations whose calculated stresses exceed 95% of the allowable stress as specified in Sec 2,[3.2.3]. Please review following related questions (see the attached).	1a. Your understanding is correct. 1b. Your understanding is correct. 2. According to 2.1.1 of Ch 7 Sec 3, as the refined areas are limited to the locations listed in Table 1 of Ch 7, Sec 3 and the stresses thereof obtained by coarse mesh FEA in Ch 7 Sec 2 exceed 95% of the allowable stress, the enlarged area to create the refine mesh is not required to the locations where the stresses obtained by coarse mesh FEA is below 95% of allowable stress. Therefore, The example given in "b" of your questionary document as attached is correct. 3. The example given in "a" of your questionary document as attached is correct.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
342 attc	8/4.2.3.6	Question	Transverse BHD	2007/5/22	Relative displacement of transverse BHD. See the attached question.	The relative deflection for double bottom is defined as follows. (1) On the bottom The base line is defined as the line between connecting points of the floors to bottom in way of fore and aft of lower stools. The relative deflection is defined as the deflection of the connecting points of the adjacent floors to bottom measured from the base line. (2) On side shell The case 2 as shown in your attached document is correct.	Y
343 attc	7/2.2.3.1	Question	Boundary conditions for FE analysis	2009/9/4	FE analysis of cargo hold structures - boundary conditions See the attached question	Your comments have been noted and we can advise that the boundary conditions have been changed accordingly in RCN No.1-5 to the July 2008 Rules.	Y
344	Ch.6, Appendix 1/1.3.4	Question	Corrugated BHD	2007/5/14	The current requirement is only considering the buckling strength from the local bending stress as it is only taken the maximum vertical stress without shear component. Therefore, the panel size is only taken as b times b for face plate and 2b times b for web plate. However it should be noted that the buckling strength should be considered not only from the local bending stress but from the global bending and shear stress. It is expected that the higher shear stress would be induced at the connection of corrugated bulkhead to side shell, hence the shear buckling should also be taken into account. To assess the shear buckling, the panel size should be taken separately from above, i.e. full length panel from top of lower stool to bottom of upper stool and the shear stress to be taken as mean shear stress of the large panel.	If a FE analysis derives signifcant shear stress in face plates of corrugated bulkheads you may take this stress into consideration according case b), described in 1.3.4.	
345	Text 6/Appendix 1/1.3.4	Question	The Maximum Vertical stress	2007/7/2	The current requirement states that “the maximum vertical stress in the elementary plate panel is to be considered in applying the criteria”. This results the severe requirement when the quality of the mesh was poor at the edge of corrugation where the connection of other structures to corrugation is relatively complex. To apply the maximum vertical stress to the “elementary plate panel” is considered unrealistic. This should be enhanced to be more practical.	Assuming a b x b or 2b x b buckling field (depending on the considered area) you may derive the vertical stress as an average value of elements inside this area. Lower part of the web plates prone to include bad shaped elements or triangular elements may be neglected. Each area with a different thickness is to be considered and checked separately.	
346	Chp 6/ Appendix1 /1.3.4	Question	The Edge constraint factor	2007/3/9	The current requirement, the edge constraint factor, F1 = 1.1. This should be 1.0.	As the correction factor F1 is not used for the buckling load cases 1 and 5, the lines "F1=1.1 is to be used" in (a) and (b) of 1.3.4 are not necessary. We will consider the editorial correction.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
348	5/App1.2.2	question	Hull girder ultimate strength	2009/9/4	1) In Ch 5, App 1, there are editorial errors in the formulae for critical stresses in the following requirements: [2.2.4] - Beam column buckling [2.2.5] - Torsional buckling of stiffeners [2.2.7] - Web local buckling of flat bar stiffeners The correction should be to delete the coefficient in the brackets in formulae giving critical stresses.Please confirm? 2) In Ch 5, App1, [2.2.8] - Buckling of transversely stiffened plate panels, the coefficient is missing in the second line of the formula giving the critical sress, between ReH and the first bracket. Please confirm?	Your observations were correct and the equations were amended in RCN No. 1 (Nov 2007), with further amendments in RCN No.1-1 to the July 2008 Rules.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
351	Ch 2/Sec 3	Question	PMA	2007/2/22	PMA is in principle a SOLAS matter. The cause of the probable argument is due to the following:- 1. The necessity of safe access is set out in CSR Ch1, S3, 2.5.1, however, it is not clear whether the requirements are relevant to SOLAS PMA or not. In this respect, the applicability of PMA appears more explicit in CSR-DHOT, S5, 5.1. 2. CSR is required for ships having L of 90 m or more, while PMA as part of SOLAS is required for ships having GT of 20,000 or more. 3. There must be many ships of which the particulars lie between the 90 m in length and 20,000 in gross ton, which is left unclear when interpreting for SAFCON purposes. 4. Taking this opportunity, it is worth consideration that reference to SOLAS, not as classification matters, be harmonised between CSR-BC and CSR-DHOT. The International Regulations are transcribed in CSR-BC, which is user-friendly while on the other hand may cause a possibility of unnecessary misinterpretations. CSR-DHOT appears simple and clear for that matter. 5. Could you please confirm if all the PMA matters are strictly SOLAS items, not a class requirement? The requirements of means of access are set out in Ch1, S3, 2.5 and Ch2, S3, however, it does not appear explicit that PMA is a class requirement. Is it that the stipulations in Italic are not class requirements but SOLAS or other international regulations? SOLAS Reg.II-1/3-6 requires PMA for ships of which the gross ton is equal to or greater than 20,000, while CSR is to apply to ships of which the length is equal to or greater than 90 m. Such being the case, the following question could arise with respect to SAFCON, which should cause a dispute. 1: Bulk Carriers >=90m but =<20,000GT --> Class item 2: Bulk Carriers >=90m and >=20,000GT --> Class & SAFCON item.	As suggested, the requirements for PMA arrangements and ship structure access manual should follow SOLAS II-1/3-6 and need not be applied to bulk carriers not more than 20,000 gross tonnage. As for Ch.2/Sec.3.1 and 3.2, all paragraphs are extracted from the corresponding section of Resolution MSC.158(78) in association with IACS UI SC191. Therefore, the stipulations in Italic character mean to follow SOLAS requirements. Accordingly, the 2nd and 3rd sentences of Ch.1/Sec.3/2.5.1 will be corrected and the clear application requirement will be added in the Ch 2 Sec 3.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
353 attc	5/1.2.2.2	Question	Hull Girder	2007/4/2	Multiple Questions on Hull Girder Shear Force Correction. See attached	Q1: (a) For the structures at forward and aft of transverse bulkhead the scantlings should be determined based on (symbol: delta)QCF and (symbol: delta)QCA respectively. (b) Permissible limits should be also based on (symbol: delta)QCF and (symbol: delta)QCA respectively for structures at forward and aft of transverse bulkhead. Q2: (symbol: delta)QC should be calculated for each non-homogeneous loading condition. Therefore the permissible shear force is different for each non-homogeneous loading condition. Q3: Shear force correction should be done at the bulkhead where adjacent holds are in non-homogeneous loading condition. Therefore shear force correction should not be done at other transverse bulkheads than those of No.4 ballast hold. Q4: (a) Total mass of cargo M may include deadweight such as water ballast and fuel oil tank in double bottom, bounded by side girders in way of hopper tank plating or longitudinal bulkhead, if this space is loaded for the non-homogeneous loading condition considered. (b) In [2.2.3] flooded water in the hold may be included into M. (c) Deadweight in double bottom which is as defined in (a) may be included into M. Q5: Yes.	Y
355	8/5.2.1.1	Question	Parameter correction	2007/3/20	In Chapter 8 Section 5,[2.1.1], the following parameters needs to be more specific: 1) "AQ" is the shear area of the cross deck: does it includes the shear area of all plates and of all ordinary stiffenerd, as shown on Figure 2 ? 2)"bS" is the breadth of the remaining deck strip beside the hatch opening: is it the total breadth on both sides or is it only on one side? If it is the latest case, it should be identical to "b" defined in [3.1.1]. 3) "LC" is the length of the cargo area, it should be noted LC, with "C" as and index.	1) The shear area "AQ" is the effective shear area of the whole section shown in figure 2 with respect to the ship's longitudinal direction. For the deternination of the effective shear area the consideration of only the plate elements is sufficient, and the stiffeners can be neglected. 2) "bs" is only the reamaining deck strip on one side, so it is identical to "b" in [3.1.1] 3) This is an editorial typo: "C" should be as an index in "LC". **Also Included in Corrigenda 5**	
356 attc	6/2.3.3.1	Question	Modulus	2007/3/16	Questions on the requirement for mid-span sectional modulus. See the attached.	(a) Yes, ps and pw in the formulas in Ch.6 Sec.2 [3.3] are pressures in intact condition. (b) Yes, Ch.6 Sec.2 [3.2.3] is to be applied to side frame only in way of ballast hold in heavy ballast condition. (c) Q1: The required section modulus by the formula in Ch.6 Sec.2 [3.2.3] should be applied to whole span of side frame. Please note that while the span l in Ch.6 Sec.2 [3.3.1] is to be determined without consideration to end brackets according to Ch.3 Sec.6 Fig.19, the span l in Ch.6 Sec.2 [3.2.3] may be with consideration to end brackets as specified in Ch.3 Sec.6 [4.2]. (d) Q2: The required net section modulus at end brackets is to be not less than twice the greater of the net section moduli required for the frame mid-span area obtained from Ch.6 Sec.2 [3.3.1] and Ch 6 Sec.2 [3.2.3] for ballat hold.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
357	6/2.4.1.1	Question	Web Stiffener	2007/5/14	Which value of k1 is to be used for a web stiffener on watertight primary supporting member ?	For a web stiffener on watertight primary supporting member, i.e. with full collar plate, k1 is to be taken equal to 0.2.	
358	4/5.4.2.1	Question	bottom slamming	2007/2/22	Ch4 Sec5 [4.2.1] specifies the design bottom slamming pressure. The pressure is defined from almost 0.5L to fore end. Ch9 Sec1 [5] specifies the required sturctural scantlings using the pressure. However the strengthening required by Ch9 is forward of 0.2Vx(root L) from fore perpendicular end.There may be a zone between abt. 0.5L and 0.2Vx(root L) where there is no requirement to structural scantlings in Ch6 using the slamming pressure. Please confirm that there is no scantling requirement in this zone using the slamming prressure.	Your undestanding is correct.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
359	8/4.2.3.4, 8/4.2.3.5 & 4.3.3.4	Question	Fatigue Calculations	2007/7/2	Please review the below questions related to Fatigue calculations. Q1: Loading conditions and assumptions. Fatigue calculation is performed in the following 4 load condition; Homogenous, Alternate, Ballast and Heavy ballast. The design loading condition for FEM is listed in Ch. 4 App.3. Are these conditions also applicable for prescriptive calculation of stiffener connection according to Ch. 8 Sec. 4? Following differences are fond between Ch.8 Sec. 4 and Ch. 4 App. 3: a.Filling height and density for Homogenous condition. According to Ch. 8 Sec. 4 [2.3.5] the definition of Ch.4 Sec. 6 [1.3] should be applied. That is □ = max(MH/VH,1) and filling to main deck. According to Ch.4App.3 the □ = MH/VH with filling height to main deck. b.Heavy fuel oil tanks(HFO). According to Ch.8 Sec.4 [2.3.4] the filling height of HFO tanks may be taken as “half height of the tank”. According to Ch.4 App.3 the HFO tanks is full. Q2: Partially filled ballast tanks. Please advice if all ballast tanks are 100% for the purpose of fatigue calculations? Q3: Still water bending moment We assume the actual still water bending moment in the Loading Manual for the respective loading conditions may be used for the fatigue calculations. Please confirm. Please also clarify which conditions to use, departure, arrival or max./average? Q4: Partially filled Heavy fuel oil tanks. According to Ch. 8 Sec. 4 [2.3.4] the HFO tanks are indicated as half full when calculating CNI factor. Please advise on the following related items: a.The dynamic pressure is calculated according to Ch.4 Sec.6 [2.2.1]. The equation is, as far as we can see, developed based on a full tank. How is this modified to account for filling height? Can this equation be used as is with respect to Ztop and reference point (xB,yB,zB). ? b.Mean stress and still water pressure according to Ch.8 Sec.4 [3.3.4]. The static pressure is calculated according to Ch.4 Sec.6 [2.1]. This still water pressure is assuming PBS = □ Lg(zTOP-z+0.5dAP) or □Lg(zTOP-z)+100PPV whichever is greatest. Minimum 25kN/m2. How is this modified to treat partially filled tanks? c.We assume ballast exchange operation is not applicable when doing fatigue calculations? Please confirm.	A1 The same loading condition should be applied to both direct strength analysis and prescriptive requirement for fatigue check. (a) rho_c = MH/VH and filling to upper deck may be applied to. (b) Fuel oil is always filled to half the height of FOT. A2: Tanks other than Water Ballast Tanks are considered as being filled at 50%. All Water Ballast Tanks are considered either full or empty. Even though such WBT are intended to be partially filled at the standard loading condition, the partial filling of such tanks is not considered for fatigue check. A3: (a) Yes, actual still water bending moment in the Loading Manual for the respective loading conditions may be used for fatigue strength assessment. (b) The requirement of Chapter 4 Section 3, 2.2.1 mentions that “The design still water bending moment, MSW,H and MSW, S, at any hull transverse section are the maximum still water bending moment calculated, in hogging and sagging condition, respectively, at that hull transverse section for the loading conditions, as defined in 2.1.1.”. Therefore, the loading condition is to be used which gives the maximum still water bending moment among the considered loading conditions, i.e., departure, arrival and intermediate conditions specified in Loading Manual. A4: (a) Yes, the equation in Ch.4 Sec.6 [2.2.1] may be used as is, provided; - Liquid surface level at mid-height of the tank may be assumed to remain unchanged relative to tank geometry even when hull motion should occur, - Ztop may be taken as the Z-coordinate, in m, of the Liquid surface level at mid-height of the tank, and - xB, yB and zB may be taken on the Liquid surface level at mid-height of the tank. (b) Ztop may be taken as mentioned in (a). (c) We confirm that ballast exchange operation is not applicable. Please note that Min.25kN/m2 is not applicable to fatigue strength assessment.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
360 attc	Table 6.3.2	Question	Rule Change	2007/7/1	Ch6 Sec3 We get different results for LC5 in Table 2 depending on whether we denote the longer side b and the shorter side alpha*b, or vice versa. This is an unexpected result. We suspect this is caused by an inaccurate definition of b. The definition of b should be similar to the definition of la in CSR Tank. We propose the following definition, which is in line with CSR Tank: b: length in mm, of the shorter side of the plate panel for Cases 1 and 2, or length in mm, of the side of the plate panel as defined for Cases 3-10. Further we suspect the formula for reference stress sigma_e in the List of Errata of April 2006 is incorrect. b, as defined above, should be used for the calculation, not b'. This means the formula as printed in the Rules of January 2006 is correct. By making the above described modifications we avoid the problem for LC5, and we are also in line with CSR Tank. Please comment.	Your conclusions are right. We will prepare a rule change proposal as follows: Definitions in Symbols a: Length in mm of the longer side of the partial plate field in general or length in mm of the side of the partial plate field according Table 2, BLC 3 - 10 b: Length in mm of the shorter side of the partial plate field in general or length in mm of the side of the partial plate field according Table 2, BLC 3 - 10 In accordance with these definitions of a and b the definition of the reference stress S_e of the CSR for Bulk Carrier 2006 is correct. We will reject the definition, given in the Corrigenda 1. *"Note: IACS Council expediated the rrule change required as a result of this question and on 19 July 2007 agreed that the correction in the attached file should be made to Ch.6, Sec.3 Symbols."* **Also Included in Corrigenda 5**	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
361 attc	1/3.2.2.2	Question	Flooding Scenario	2009/9/4	According to this functional requirement, we assume that flooding scenario should be taken care of for all ships. It is unclear how this is taken care of for BC-C vessels and for small ships with length below 150 m. It should be explained and included in the rules or if applicable, the functional requirement should be modified for sake of clarity. Meantime, please confirm if our understanding of the current CSR is correct as summarized in the table attached. In the following questions we also highlight our concerns.	1.Your comments have been noted and we will clarify the application of the flooding requirement in a future revision of the rules. 2.Regarding the summarized table as attached, the answer is as follows. (1)Design still water bending moment and shear forces, your understanding is correct. (2)Design wave bending moments and sheer forces, your understanding is correct. (3)Longitudinal strength (Yielding), your understanding is correct. (4)Longitudinal strength (Buckling), your under standing is correct. The answer to the question in the “Remark” box in the attached document is as follow. No, the axial buckling check according to UR S17 is not applied to. Hull girder ultimate strength check should be carried out in stead of the axial buckling check. (5)Hull girder ultimate strength, your understanding is correct. The answer to the question in the “Remark” box in the attached document is as follow. Yes, hull girder ultimate strength applies to BC-C ships. (6)Design loads for corrugations of transverse bulkhead: your understanding is correct. (7)Strength of corrugation of transverse watertight bulkhead: your understanding is correct. (8)Shear buckling strength of corrugation of transverse watertight bulkhead: this is applied to all ships according to “Corrigenda 2 approved by IACS Council on 27 January 2007.”. (9)Flooding scenario for double bottom: your understanding is correct. (10)Design load and strength of double bottom: your understanding is correct. (11)Design load for boundaries of dry compartment: your understanding is correct. The answer to the question in the “Remark” box in the attached document is as follow. Where sigma x is not defined for longitudinal members, sigma-x for intact condition is used. The MwH,f is not considered. Combination factor for intact condition is used. (12)Design load and strength of primary supporting members on the boundaries of dry compartment; your understanding is correct. There is no requirement in CSR. (UPDATED OCT 2009)	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
362	3/4.2.4.1	Question	hull girder	2007/3/20	"Longitudinal strength of hull girder in cargo hold flooded condition is to be assessed in accordance with Ch 5 Sec 2." Reference to Sec 1 should also be given for longitudinal strength in hold flooding, which is however limited to BC-A and BC-B. Sec.2 is about ultimate strength of hull girder for ships with length equal to 150 m in length L and above, i.e., including BC-C. Please confirm.	Yes, your understanding is correct.	
363	3/4.2.4.3	Question	cargo hold	2007/2/22	"Bulkhead structure in cargo hold flooded condition is to be assessed in accordance with Ch 6 Sec 4." Sec 4 does not give any requirement for bulkhead structure in flooding scenario. Is this a typo error of Sec 1 and Sec 2?	Yes, it is typo and the correct wordings are "Sec 1 and Sec 2" instead of "Sec.4".	
364	4/6.3.2.1	Question	Vertical Acceleration	2007/3/20	In flooding scenario, do we apply the vertical acceleration aZ for "intact" condition as defined in Ch 4 Sec 2 [3.2.1]?	Yes. The draft and total weight of ships in intact condition is slightly different from those in flooded condition. But the difference is very small and there is no significant effect due to flooding for the acceleration or the motion of a ship. Therefore, the vertical acceleration az for "intact condition" is applied to the formula in flooded condition specified in Ch 4 Sec 2 [3.2.1].	
365	Ch 5 Sec 1	Question	Strength of Hull Girder	2007/5/11	Longitudinal strength of hull girder in flooded condition is given in Ch 5 Sec 1 for BC-A and BC-B only. We assume that this is not required for BC-C and ships below 150 m in length. Please confirm.	Yes, your assumption is right. The current CSR requires to BC-A, BC-B and BC-C ships to check the hull girder ultimate strength under not only intact condition but also flooded condition but the yielding check of hull gider under flooded condition is required for BC-A and BC-B ships, and not required to BC-C ships. In order to resolve this discrepancy, it is decided that the yield check of the hull girder is to be performed for BC-A, BC-B and BC-C ships. This will be considered as a rule change.	
366	Ch 5 Sec 2	Question	Hull girder	2007/3/20	Longitudinal strength in flooding condition is given in Sec 1 and is limited to BC-A and BC-B ships only. We assume that the same limitation applies to Sec 2 for ultimate strength of hull girder in flooding condition. Please confirm. If so, please add the limitation in Sec 2 as well.	As mentioned in the requirement Ch 5 Sec 2 [1.1.1], the requirement on ultimate strength check of hull girder apply to ships equal to or greater than 150m in length (L), i.e., BC-A, BC-B and BC-C ships.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
367	6/1.3.1.5 & 6/2.3.1.5	Question	Flooding Requirements	2009/9/4	The definition of sig-x is unclear for longitudinal members in flooding condition. The MSW,F in Ch 4 Sec 3 [2.4] assumes flooding of individual cargo hold and is required only for BC-A and BC-B ships. Does the same MSW,F apply to any dry compartment, for instance, inner side and duct keel in double bottom space? How do we apply MWH,F and any of the load combination factors?	1) When hold flooding is considered for local scantlings check of a plate or a stiffener, MSW,F, MWV,F and MWH,F are to be used in lieu of MSW,MWV and MWH respectively for calculating sigma_x by the formulas in Ch.6 Sec.1 [3.1.5] and Ch.6Sec.2 [3.1.5], where MWH,F=0.8MWH. However in this case the same load combination factors CSW, CWV and CWH as those for intact condition are to be used. Notwithstanding the above, for a ship of length Ls <150m the sigma_x is to be calculated by the same formula as that in Ch.6 Sec.1 [3.1.5] or Ch.6 Sec.2 [3.1.5], as applicable." 2) When flooding of the compartment other than a hold is considered, sigma_x is to be calculated by the same formula as that in Ch.6 Sec.1 [3.1.5] or Ch.6 Sec.2 [3.1.5], i.e, only intact conditions should be used to determine Sigma_x, as applicable. This interpretation will be included in the Rules at a future revision.	
368	Ch 6 Sec1.3.1.5 & Sec2.3.1.5	Question	Calculation	2007/3/20	In order to calculate sig-x for BC-C ships and ships with length less than 150 m, do we have to calculate MSW,F by flooding individual cargo holds which is not required for longitudinal strength?	Sigma x for intact condition is used.	
369	Ch 6 Sec 1.3.2.2 and Sec 2.3.2.5	Question	corrugated BHD	2007/3/20	We assume that these requirements apply to stools of corrugated bulkheads with the design load as given in Ch 4 Sec.6 [3.2.1]. Flooding load given in [3.3] does not apply to the bulkhead stools. Please confirm.	Yes, your interpretation is correct.	
370	6/1.3.2.2 & 2.3.2.5	Question	Flooding Requirements	2009/9/4	The MSW,F is defined in Ch 4 Sec 3 [2.4] by flooding individual cargo holds. If the same design moment is applied to any dry compartment such as duct keel, the flooding requirements may, according to our calculation, give heavier scantlings than the intact requirements. This means that the flooding requirements may have to be applied to all structural boundaries as minimum. Please explain.	When flooding of the compartment other than a hold is considered, sigma_x is to be calculated by the same formula as that in Ch.6 Sec.1 [3.1.5] or Ch.6 Sec.2 [3.1.5], i.e, only intact conditions should be used to determine Sigma_x, as applicable.	
372	6/3.6	Question	corrugated BHD	2007/3/9	Shear buckling of vertical corrugated bulkhead is required for BC-A and BC-B only. The same limitation is stated in [1.1.2 b)]. This is inconsistent to other requirements for corrugated bulkheads which apply to all ships. Does this requirement apply to all ships as well, same as Sec 1 [3.2.3] and Sec 2 [3.2.6]? Please explain.	It is typo. The wordings "for BC-A and BC-B ships" are delted from the text in Ch. 6 Sec 3 [1.1.2] and the title of [6]should be deleted. This editorial corrrection is included in "Corrigenda 2".	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
373	6/4.1.3.1	Question	direct calculation	2007/3/5	In addition the primary supporting members for BC-A and BC-B ships are to comply with the requirements in (3) and (4)" The Sub-Section (4) is about buckling strength of pillars is this typo error?.	Yes, it is a typo error. The text of this requirement should be read as: For primary supporting members for ships having a length of 150 m or more, the direct strength analysis is to be carried out according to the provisions specified in Ch 7, and the requirements in [4] are also to be complied with. In addition, the primary supporting members for BC-A and BC-B ships are to comply with the requirements in [3]. **Also Included in Corrigenda 5**	
374	6/4.	Question	Flooding Requirements	2009/9/4	This section applies to primary supporting members in intact condition only. Do we not check primary supporting members on the boundaries of dry compartments against flooding load, such as those on a plane bulkhead at forward of foremost hold or aft bulkhead of aftermost hold? This is inconsistent to flooding requirements for local plates and stiffeners in Ch 6 Sec 1 and Sec 2 covering all ships. Please explain.	Your comments have been noted and further studies have been made to consider extending the requirements for flooding conditions, the outcome of which will be included in a future revision of the Rules.	
375	8/App.1, 1.3.1	Question	Calculation Change	2007/3/9	In Chapter 8, Appendix 1, [1.3.1], the following items needs some clarification: 1) it is understood that the stiffeners are not considered in the calculation of the properties of the cross section. Please confirm? 2) In table 1.4, for symmetric cross section, the parameter "yS" appears in the calculation of "Iz", but is not defined. What is the definition of "yS" in such a case? 3) in table 1.4, for symmetric cross section, it is understood that the parameters "Iwy" and "Iz" which appears in the definition of "zM" are thoseparameters defined just above in the table, and not those defined in the beginning of [1.3.1]. Please confirm? Using twice the same symbol for different definitions is confusing. The same understanding is considered for the parameter "Iwy", used in the definition of "Iw". 4) In Table 1.4, for symmetric cross secton, in the definitionof "Iw", it should be "zM" instead of "zm". 5) Below Table 1.4, it is stated that "S, Iw are to be computed with relation to shear centre M". What are the meaning of "s" and "Iw" in this statement? 6) The formula giving "Deltaw" is not clear. Please explain?	1) That is right: the stiffeners are not to be considered in the calculation of the properties of the cross section. Only the plates are to be considered as "partial area" (defined in [1.1.1]). 2) The parameter "yS" which appears in the calculation of "Iz" for symmetric cross section should be considered equal to zero. By defining it in the same way as for asymmetric cross section, it comes equal to zero, as "Sz" should be equal to zero for such symmetric cross secton. 3) We agree that using twice the same symbol for different definitions is confusing, It should be corrected. However, your understanding is correct: the parameter "Iwy" used in the definition of "Iw" is also the one defined in Table 1.4 4) That is right, this is a typo: in Table 1.4, for symmetric cross section, in the definition of " Iw", "zm" should be understood as "zM". 5) in the statement "S, Iw are to be computed with relation to shear centre M", "S" is to be understood as being "Sy", "Sz" and "Sw" in the list of formulae at the beginning of [1.3.1], and "Iw" is to be understood as being "Iw", "Iwy" and Iwz". It means that in such expressions the coordinates "yk", "yi", "zk" and "zi" are to be considered also in reltion with the shear centre M. 6) We agree that the formula giving "Delta w" is not clear. The formula should be replaced by: "Delta wi = zM * yi". In order to clarify all symbols in Chapter 8 Appendix 1, we will consider the rule change proposal. the coordinates "yk", "yi", "zk" and "zi" are to be considered also in reltion with the shear centre M. 6) We agree that the formula giving "Delta w" is not clear. The formula should be replaced by: "Delta wi = zM * yi". In order to clarify all symbols in Chapter 8 Appendix 1, we will consider the rule change proposal.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
376	Table 9/3.7.2 & Table 2	Question	net thickness	2007/1/24	Ch.9 Sec.3 [7.2] Table 2. We assume the bedplate net thickness is in mm, not m.	We agree with the comment and will consider a rule amemdment proposal.	
377	9/5.2.2	Question	formula	2007/1/24	Ch.9 Sec.5 [5.2.2] The first formula is incorrect? Should read t=10s, not t=0.01s	We agree with the comment and will consider a rule amemdment proposal.	
378	9/5.5.5.1	Question	formula	2007/3/12	Our understanding of this item is that the section modulus for a stiffener/PSM with variable cross section always is to be at least equal to the section modulus of a stiffener/PSM with constant cross section (w = wCS). This means there is nothing to gain by varying the cross section. Example: For a simply supported PSM with constant CS the section modulus at midspan, w0, will be governing. Our understanding is that for a PSM with varying CS, the minimum section modulus is w0, independent of the position along the axis (w = wCS = w0). We have the same problem for moment of inertia. Please clarify.	With respect to the names given in 9/5.5.5.1, considering wCS=w0 gives a section modulus of wCS=w0 only if w1>=0.8*w0, i.e only if the stiffener/PSM's cross section is not really varying. For 0=<w1=,0.8*w0, the section modulus to be considered is given by the second formula and is greater than the midspan section modulus w0. In addition, we can consider that the midspan section modulus w0 is not to be equal to the section modulus of an constant cross section stiffener/PSM for this calculation; it has to be used for the 9/5.5.5.1. A similar approach can be applied to inertias. Furthermore, these calculations can be replaced by a direct approach as it is usually made.	
379	9/5.6.3.1	Question	formula	2007/2/22	Ch.9 Sec.5 [6.3.1] What is the background for the factor 15.98 in this formula? Is it a misprint for 15.8?	This formula comes from IACS UR S21, S21.4.2. The constant value 15.98 is obtaind from muttiplying 14.9 by squareroot of 1.15 (=Scoam specified in UR S21.4.2). Therefore, the formula is correct.	
380	6/1.2.7.3	Question	Holds loaded with steel coils	2009/10/6	The results currently obtained show an important increase of the gross thickness for plating of hopper and inner hull when applying the formulas of Ch.6 Sec.1 [2.7.3] under steel coils loads. Should this calculation of hopper sloping plate and inner hull plating for steel coils loads be performed?	Your comment has been noted and this issue has been addressed in RCN No.1-3 to the July 2008 Rules.	
382	6/2.3.1.5	Question	stiffeners	2007/3/9	Could you please confirm how to determine the reference point of Z cordinates of stiffeners when calculating the normal stress sigma_x of stiffeners which contribute to the hull girder longitudinal strength? Is it the same as JTP?	The reference point for stresses and loads calculations is at the bottom and middle of its web, ie. where the stiffener joins the attached plating. This is different to the CSR Oil choice which base the reference point at the top.	
383	6/3.4.2.1	Question	The Normal Stress Sigma_n	2007/10/24	Could you please confirm how to determine the normal stress sigma_n which is based on the axial stress calculated at the attachment point of the stiffener to the plate? Is it the same as JTP?	We confirm that: 1)the normal stress sigma_n is the axial stress of longitudinal stiffener which is calculated at the attachment point of the stiffener to the plate, 2)it is the same way as JTP.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
385 attc	8/5/3.1.1	Question	Elliptic Corners	2007/3/9	We have some doubts on the correction factor for elliptic corners which appears in the formula of the stress concentration factor in Ch 8, Sec 5, [3.1.1]. We see on the knowledge centre under the answer to question 223 that "The requirement on hatch corner fatigue check will be revised as soon as possible, including a technical background". However, to help for this revision, we would like to ask you to consider the attached document. It shows that some misunderstanding has occurred between "ra" and "rb". Please consider this proposal?	Having considered your attached document, it seems effectively that “ra” and “rb” are not defined correctly. We will consider it at the time of revision of this requirement.	Y
386 attc	8/5.3.1.1	Question	Formula "Kgh"	2007/4/25	It seems that there is a mistake in the definition of the term “b” in the formula defining “Kgh”. We think that “b” should be twice the distance from the edge of hatch opening to the ship’s side. Please confirm our interpretation?	It is right, there is a mistake in the formula of “Kgh”. See the technical background attached, in which it is clearly shown on figure 1(b) that “b” should be twice the distance from the edges of hatch opening to the ship’s side. So, the definition of “b” may remains the same as it is, but the formula of “Kgh” should be modified accordingly by replacing the term “b” by “2b”. **Also Included in Corrigenda 5**	Y
388	3/5.1.2.2	Question	PSPC	2007/2/5	Since PSPC has been adopted by IACS as of Dec. 8, 2006, not by IMO, if the Builder and Ship owner agreed not to apply PSPC, is it acceptable to the Class or not?	On 8 December 2006, IMO adopted amendments to SOLAS by resolution MSC. 216(82) which mandate compliance with the new IMO "Performance Standard for Protective Coatings for dedicated seawater ballast tanks in all types of ships and double-side skin spaces of bulk carriers", (IMO PSPC, Resolution MSC. 215(82)). Compliance with the IMO PSPC is required by the IACS Common Structural Rules for Bulk Carriers and for Oil Tankers for ships subject to those Rules which are contracted for construction between ship builder and ship owner on or after 8 December 2006. The relevant Rule references are the following: - IACS CSR for Bulk Carriers Chapter 3, Section 5, 1.2.2; - IACS CSR for double hull oil tankers, Section 6, 2.1.1.2. Therefore, for such ships (i.e. ships subject to CSR) the answer is "PSPC is to be applied if they are contracted for construction between ship builder and ship owner on or after 8 December 2006". For other ships, the answer is that PSPC is to be applied in accordance with IMO Resolution MSC 215(82) and IMO MSC 216(82).	
389	Table 6.3.2	Question	Shear Buckling	2007/5/14	Case 6 of Table 2 for shear buckling is applicable only for da/a<=0.7 and db/b<=0.7. Then, how to calculate shear buckling where da/a>0.7 or db/b>0.7? Please advise particularly on the following points: 1) Presume that the formua of "r" yields conservative results. If so, is it acceptable to use the formula of “r” also for the case of da/a>0.7 or db/b>0.7? 2) In case of the panel with large aspect ratio with opening of da/a>0.7 or db/b>0.7, please advise any guidance/criteria of shear buckling calculation for the panel with one edge free (similar to Case 3 and Case 4 for axial compression).	If a cut out has a size beyond the limits of d_a/a<=0.7 or d_b/b<=0.7 only small stripes are left beside the opening. The whole shear is transformed in a S-shape deformation of the stripes. This behavior is not comparable to the assumption, that the elementary plate field acts as one buckling field. An extrapolation of the formulae of BLC 6 is not designated. Up to now we are not able to provide user of the CSR for BC with such an additional buckling load case.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
393	7/2.2.3.1	Question	Longitudinal Items	2007/6/11	1. Normally at neutral axis on centreline, there are no longitudinal items present,so to which "independent point" are the nodes on longitudinal members at both end sections to be linked ? 2. to which node is the total moment (still water & wave) to be applied ? 3. are boundary conditions to be applied only to the master node of coupling equations & not at all end nodes of longitudinal items ?	In general “independent point” does not locate in any members of the FE model but shall be produced additionally near the cross point of centerline and neutral axis. The nodes on the longitudinal members at the end shall be rigidly linked to the “independent point”. It might be common way to use the bulk data card “MPC” (Multi-Point-Constraint) in case of MSC/NASTRAN. The total moments (enforced moment for BM/SF adjustment) and boundary conditions are to be applied to the independent point only.	
398 attc	3/6.2.3.1	Question	Structural Design	2007/6/15	According to this requirement, structural members welded to the strength deck or bottom plating is to be made of the same higher tensile steel of strength deck or bottom plating. The same requirement is applicable for non continuous longitudinal stiffeners welded on the web of a primary member contributing to the hull girder longitudinal strength. However, it is not clear which member should be applied to this requirement. Please confirm if our understanding of this requirement is correct as summarized in the attached Table.	Ch 3, Sec 6, [2.3.1] could be considered as the requirements in general. If the stress level due to hull girder bending, in longitudinal member not contributing to hull girder longitudinal strength, should be verified as to satisfy the requirement in Ch 5, Sec 1, [3.1.1], application of the requirements in Ch 3, Sec 6, [2.3.1] might be mitigated. As a matter of opening the door, the word "generally" should be added between "The same requirement" and "is applicable...".	Y
400	3/5.1	CI	Ballast Hold	2007/3/16	1) In CSR for BC, Ch 3, Sec 5, [1.2], there are already mentioned areas which are to comply with IMO PSPC. This means that IMO PSPC shall be applied to all dedicated seawater ballast tanks and void double skin spaces in bulk carriers. Therefore, we believe that the cating for the ballast hold spaces described in [1.4.1] is not related to PSPC, we would like to request the background for the interpretation. (2) Additionally, the ballast hold spaces are keeping in dry condition as other holds in sea-going condition. also, after cargo unloading, the tank bottom will be damaged due to unloading action. Therefore, we would like to recommend that the coating for tank bottom of all cargo hold spaces sahll not be painted as described in [1.3] (3) Furthermore,please clarify whether the partially floodable hold spaces are the ballast hold spaces or mornal cargo hold spaces in respect of coating issues.	(1) Ballast hold used in heavy weather condition and partially floodable holds used in harbour condition for loading/unloading operations are not considered as dedicated sea water ballast tanks and need not comply with IMO PSPC. (2) Regarding [1.4.1], an effective protective coating is not required to inner bottom in ballast hold by the CSR/Bulker. (3) The partially floodable holds used in harbour condition for loading/unloading operations are not to be considered as ballast hold spaces in respect of coating issues.	

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401	4/7.3.4, 4/2.2.1.1, 4/App.2. Table 1	Question	Discription of Symbols of "Kr" and "GM"	2007/7/1	According to CH 4, Sec 7, 3.4 Cargo holds have to be loaded with a theoretical cargo mass [t] of M_HD + 0.1 x M_H with rho = 3 t/m. This loading condition has to be used for prescriptive requirements as defined in CH 6 and FEA. Such a concentrated load has a significant higher GM than in homogeneous full load condition. Table 1 of Ch 4, Sec 2 takes the different loading conditions (alternate / homogeneous) not into account. (1)Is it correct, to consider the described loading condition for prescriptive requirements? (2)If yes, the main influence for the dynamic loads are neglected by using the same GM and k_r values for homogeneous full loading condition and alternate loading condition. Do we have to use the GM value for the alternate full loading condition of the loading manual? (cargo masses are different!!!) (3)k_r values are not included in the loading manuals. Which formula can be used to derive k_r to the individual corresponding GM of the loading manual? (4)In case of FEA, concentrated loading conditions have to be evaluated according Ch 4, App. 2, Table 1 ff. In these cases the used GM values, derived with Table 1 of Ch 4, Sec 2 are wrong. It should be recommended, that only GM values defined in the loading manual have to be used for these analyses.	As specified in the description of symbols of “Kr” and “GM” in 2.1.1 of Ch 4 Sec 2, when the value of Kr and GM are not known, the values indicated in Table 1 may be assumed. This means that the actual values of Kr and GM in the loading manual should be used in the calculations of the ships motions and accelerations in Ch 4 Sec 2 as a principle. The values of GM and Kr indicated in Table 1 have been proposed as the typical and actual values for usual conditions such as the full alternate or homogeneous load condition (even distribution of mass in transverse section) in order to provide these values when they are not known at the initial stage.	
402 attc	6/1.3.1.3, 6/1.3.2.2, 6/2.3.1.3, 6/2.3.2.5	CI	Flooding Require-ments	2007/7/12	3 Questions related to flooding requirements in Ch.6, Sec.1 1 and 2	Question Q1: Your understanding is correct: Ch 6, Sec 1, [3.1.3] and Sec 2, [3.1.3] will be revised, as editorial correction to “The lateral pressure in flooded conditions pF is defined in Ch. 4 Sec. 6 [3.2.1]”. Question Q2: Ch 6, Sec 1, [3.2.2] and Sec 2, [3.2.6] are requirements coming from UR S18. The reference to the design resultant pressure in Ch 4, Sec 6, [3.3.7] only is fully in line with UR S18. Consequently, there is no need to add any reference to [3.3.6]. Question Q3: Your understanding of the summary of flooding requirements should take into account the answer to question Q2 above. **Also Included in Corrigenda 5**	Y
403	3/6.10.4.2	CI	Bending Radius	2007/4/10	According to CSR-Bulker Ch.3 Sec.6 [10.4.2], the bending radius R is not less than 3.0 t but using net plate thickness. If the intention is to control cold forming, is it reasonable to use as-built thickness? For sake of clarity, the bending radius R should be defined as the "radius of inner plate surface" as illustrated in Figure 3.6.28.	The intention of this requirement is to control the cold forming. As described in IACS Rec. No.47, the minimum bending radius is 3 x t, where t is the gross thickness. The definition of "R" is defined as he "radius of inner plate surface". Threrefore, we will consider the editorial correction according to your suggestion.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
406	4/6.3.3.2, Symbol 4.6, 4/6.1	CI	Pressure	2007/10/23	Questions related to interpretation of the pressure in Ch. 4 Sec.6 : Q1 Ch.4 Sec.6 [3.3.2] Please advise how to check the load scenario as stated in the last sentence of Ch.4 Sec.6 [3.3.2] which reads; "the maximum mass of cargo which may be carried in the hold is also to be considered to fill that hold up to the upper deck level at centreline." Cargo density is given in Ch.4 Sec.6 [Symbols] when the hold is filled up to the upper deck for BC-A and BC-B. This however assumes homogeneous loaded condition Mh at maximum draught. Q2 Ch.4 Sec.6 [Symbols] Do we not check alternate full hold in BC-A vessel filled up to upper deck? •As far as we understand, this is not in line with URS18 and Ch4 Sec.6 [3.3.2] •Regarding intact condition for BCA. Only rho = 3 is to be checked according to Ch.4Sec.6 [Symbols] E.g. for ships are set up with cement loading in alternate condition, at least two conditions should be calculated as they are decisive for different elements. Cond 1: M = MHD +10%MH with density, rho= 3 ReposeAngle=35 deg. Cond 2: M = MHD +10%MH with density, rho= 1.25 ReposeAngle=25 deg. Please consider revising. Q3: Ch. 4 Sec.6 [1] Equivalent cargo filling height hc is calculated according to Ch.4 Sec.6 [1.1.1] when the cargo hold is loaded "up to the top of hatch coaming". This does not correspond to the load scenario in [3.3.2] as mentioned above "to fill that hold "up to the upper deck level at centerline". The same applies for the filling height as defined in the last sentence in [1.1.2]. Please clarify. Q4: Ch. 4 Sec.6 [1] According to Ch.4 Sec.6 [3.3.3], the load scenario with cargo density 1.78 t/m3 at flooding level of 0.9D1 can be a dimensioning load case for bending capacity of vertical corrugation in flooded condition. In this load scenario, cargo hold is normally not loaded up to the upper deck. How to calculate hc according to Ch.4 Sec.6 [1.1.2] when the cargo hold (alternate full hold in BC-A vessel) is not filled up to upper deck. Cargo surface is close to upper deck touching the topside tank sloping bottom. This is not assumed in the formula as illustrated in Figure 4.6.2. Please clarify.	A1 For bulkhead strength check under flooded condition, the cargo mass, cargo density and cargo upper surface are as follows. (1)Homogeneous loading condition (a)Cargo density is less than 1.78 t/m3 Cargo Mass: The maximum cargo mass in case where the cargo is loaded up to the upper deck in homogeneous loading condition at maximum draught. Cargo density: According to loading manual Upper surface of cargo: Upper deck level at center line of cargo hold. However, for hold of cylindrical shape, the upper surface of cargo may be evaluated by the requirement of 1.1.1. (b)Cargo density is not less than 1.78 t/m3 Cargo Mass: The maximum cargo mass in case where the cargo is not loaded up to the upper deck in alternate loading condition at maximum draught. Cargo density: According to the loading manual Upper surface of cargo: The upper surface of cargo can be obtained by the formula specified in 1.1.2. (2)Alternate loading condition (a)Cargo density is less than 1.78 t/m3 Cargo Mass: The maximum cargo mass in case where the cargo is loaded up to the upper deck in alternate loading condition at maximum draught. Cargo density: According to loading manual Upper surface of cargo: Upper deck level at center line of cargo hold. However, for hold of cylindrical shape, the upper surface of cargo may be evaluated by the requirement of 1.1.1. (b)Cargo density is not less than 1.78 t/m3 Cargo Mass: The maximum cargo mass in case where the cargo is not loaded up to the upper deck in alternate loading condition at maximum draught. Cargo density: According to the loading manual Upper surface of cargo: The upper surface of cargo can be obtained by the formula specified in 1.1.2. A2 The 2nd sentence in Ch.4 Sec.6 [3.3.2] reads:"The most severe combinations of cargo induced loads and flooding loads are to be used for the check of the scantlings of each bulkhead .....". Accordingly if the cement loading in alternate loading should be the severest, transverse vertically corrugated watertight bulkheads needs to be checked in such condition. Therefore there is no need to change the current rules. (Continues to the next page)	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
406	4/6.3.3.2, Symbol 4.6, 4/6.1	CI	Pressure	2007/10/23	(Refer to the former page)	(Continuation of the former page) A3 The filling height specified in the requirement of 1.1.1 of Ch 4 Sec 6 is based on the experiments and their findings to evaluate the cargo load under intact condition. Hence, it is different from the load scenario for flooded condition which the permeability should be considered in addition to the cargo filling height. But in order to estimate the cargo filling height for non-cylindrical shape by ample and easy procedure, the last sentence of 1.1.2 can be accept the same procedure on cargo filling height under flooded condition. A4 When the cargo is not loaded up to the upper deck but close to upper deck touching the topside tank sloping plate, the cargo filling height can be obtained by the requirement of 1.1.2 neglecting the topside tank.	
408	6/1.2.2.1	Question	scantling determina-tion	2007/3/12	In the determination of the minimum net thickness of side shell plating in paragraph [2.2.1] of Chapter 6, Section 1, which draught is to be used in the formula ? The moulded draught or the scantling draught ?	Since the moulded draught can change during the ship's life, the draught to be used in the formula is the scantling draught.	
409	6/1.2.2.1	Question	formula	2007/3/2	In the determination of the minimum net thickness of side shell plating in paragraph (2.2.1) of chapter 6, section 1, can you recdefine more clearly the extent of side shell where the formula is to be applied.	The formula is to be applied from the minimum design lowest ballast waterline amidships to 0.25 Ts (minimum 2.2m) above Ts.	
410 attc	1/1.1.2	Question	Lime Stone Ship	2007/3/15	Is CSR/Bulker applied to the attached self-unloading lime stone ship ?	No, the CSR is not applicable to the concerned design of the self-unloading lime stone ship.	Y
411	7/2.2.5	Question	Horizontal Bending Moment	2007/6/12	Handling of horizontal moment induced by P1-Loadcase: Loading conditions with load case P1 create horizontal bending moments, which increases from "0" at one model side to a maximum value at the other side. We adjust these horizontal bending moments with counter shear forces and bending moments at the model ends analog to the horizontal bending moment in the R1 load case. The target value for the horizontal bending moment in P1 load case is "0" at mid of cargo hold model.Please confirm.	We confirm that the target value for the horizontal bending moment in P1 load case is “0” at the mid of cargo hold model.	
413	Table 9.3.2 & 9/3.7.2	CI	Net Sectional area of bedplates	2007/10/8	Ch.9 Sec. 3 [7.2] Table 2 The requirement for net sectional area of bedplates is significantly exceeding current designs, in some cases by more than 50%. The requirement for a typical Handymax vessel with current design has P=9500kW, nr = 130, LE=8.5m The required bedplate net area is 640cm2. Current design is about 430cm2, which is a nearly 50% increase.	It was not intended to increase the scantlings compared to current design. We noted your comment. The following interpretation are prepared and will be submit it to the Hull Panel for review. "The net scantlings of the structural elements in way of seatings are to be determined by the engine manufactures. They are to be checked on the basis of calculation result supplied by the engine manufacturers. If these calculations are not supplied, the net scantlings of the structural elements in way of the internal combustion engine seatings are to be obtained from the formulae in Table 2."	

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414	3/6.1	CI	Cargo hold areas	2007/7/11	Ch.3Sec.6 [1] The requirements in section [6] are only applicable for the cargo hold area. Our opinion is that the subsections dealing with general principles, plating, stiffeners and primary supporting members should also apply to other structures, as we can not find any corresponding requirements in Ch.9. Please advise.	The requirements in Ch.3 Sec.6 are applicable to not only cargo hold area but also other areas, where the application is appropriate, including the areas related to Ch.9 in general, as defined in Ch.1 Sec.1 Table.1. Actually some subsections in Ch.3 Sec.6 specify the requirements to the structures outside of cargo hold area. However where the requirements in Ch.9 should contradict those in Ch.3 Sec.6 the former should govern.	
415	3/6.2.2.5	CI	Plating Thickness	2007/4/2	A change in plating thickness is not to exceed 50% of thicker plate thickness for load carrying direction." Please specify whether the requirement is based on gross or net thickness.	In this case, Plating thickness means the as-built thickness of plating. We will consider the Editorial Change.	
416 attc	3/6.10.5.1 & 3/6.5.2.1	CI	Depth of Stiffener	2007/5/14	Ch.3Sec.6 [10.5.1] and Ch.3Sec.6 [5.2.1]. The requirement "Depth of stiffener is to be more than 1/12 of stiffener length". Case 1: Typical web spacing is (3x800mm) = 2.4meter. A flat bar on longitudinal girder is then required to be 200mm. With a ship length of 200meters, utilizing the interpretation KC#328 in a typical pipe duct (tc=2), the required thickness is (3+0.015x200+2=) 8mm. That is minimum FB 200x8. Current comparable design is FB150x12. Case 2: Wash bulkhead in way of ER with a height of 4.5 m. Minimum height of supporting stiffeners is 375mm. Current comparable design is HP200x9. Q1: Please explain background of these requirements. Q2: With reference to Case1. The minimum required scantling is high and slender. Compared to current design the cross sectional area is smaller, (200x8 =)16cm2 vs. (150x12=) 18cm2. The slender profile will be more prone to tripping . It is also outside the slenderness requirement for ordinary stiffeners listed in Ch. 6 Sec. 2 [2.3.1]. We consider the original scantling to be a better choice. Please advise. Q3: With reference to Case 2. The dimensions required for the wash bulkhead stiffeners will be larger than for a comparable water tight bulkhead. This does not seem reasonable.	A1. The requirement of 5.2.1 has been based on the modified one of the current classification rules, taking into account the net scantling concept. This requirement is provided to ensure the appropriate scantling and rigidity of web stiffener for the purpose of avoiding the buckling of web plate of primary supporting member based on the experiences. Please refer to the attached documents for the background of the requirement of 5.2.1 of Ch 3 Sec 5. A2 and A3: Such stiffeners as described in the question are to be considered as ordinary stiffeners, with application of the full requirements of Ch 6, Sec 2.	Y
417	Ch 3 Sec 6/ 10.5.1	CI	Bulkhead Stiffener	2007/5/14	The requirement "The net thickness of bulkhead stiffener is not to be less than the minimum thickness required for the considered bulkhead plate" . With reference to KC #328 approved 22/01/07 regarding web stiffeners on primary supporting members. Can the same interpretation be applied to [10.5.1]?	Yes, the same interpretation specified in KC 328 can be applied to [10.5.1]. This interpretation is the following one: It is agreed that the requirement asking that "the net thickness of bulkhead stiffener is not to be less than the minimum net thickness required for the considered bulkhead plate" seems quite severe. The interpretation is that "the net thickness of bulkhead stiffener is not to be less than the minimum net thickness defined in Ch 6, Sec 2, [2.2.1]", i.e. the minimum thickness of ordinary stiffeners (3 + 0.015 L2). We will consider the Rule Change according to our interpretation.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
418	6/2.4.1.2	CI	Net Sectional Modulus of web Stiffeners	2007/1/14	Ch.6 Sec.2 [4.1.2] Net sectional modulus of web stiffeners of primary supporting members. Should the net sectional modulus be calculated with or without attached plating? If the answer is "with the attached plate", then what is the effective width to be considered? Please consider clarifying the section.	The net section modulus of web stiffener of non-watertight primary supporting member should be calculated without the attached plating.	
419	Ch.6 Sec.2	Question	Ordinary Stiffiners	2007/4/25	What is the definition of “ordinary stiffener”? Are web stiffeners of primary supporting members to be considered “ordinary stiffener”?	Web stiffeners of primary supporting members are not to be considered as "ordinary stiffeners".	
422	3/5.1.2.2	CI	Measurements	2007/3/7	What is the interpretation of whether under CSR the ballast tanks and the double side skin spaves of bulk carriers is for length of 150m and upwards. CSR say".. For ships contracted the coating of internal spaces subject to the amended SOLAS regulations are to satisfy the requirements of the IMO performance standard". this would indicate that this is applicable to 150 L for both the ballast tanks and the double side skin spaces of bulk carrier; although the CSR for bulk carriers si for 90m and upwards	IMO PSPC is applicable for all ballast tanks of new ships of 500gt above and double side skin spaces of new bulk carriers of 150m above. CSR BC makes IMO PSPC effective for CSR bulk carriers contacted for construction on and after 8 Dec 06. Therefore, under CSR BC, IMO PSPC is applicable for all ballast tanks of bulk carriers of 90m above and double side skin space of bulk carriers of 150m above. If double side skin space is of ballast tank, PSPC is applicable for such space of bulk carriers of 90m above. If double side skin space is of void space, PSPC is applicable to such space of bulk carriers of 150m above.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
424	3/6.10.4.2, 3/6.10.4.4 & 3/6.10.4.8	CI	definition of corrugation span “l”:	2007/3/9	[Q1] “Note” in IACS UR S18 Figure 2b indicates the following restrictions for the definition of corrugation span “l”: “For the definition of l, the internal end of the upper stool is not to be taken more than a distance from the deck at the centre line equal to: - 3 times the depth of corrugation, in general - 2 times the depth of corrugation, for rectangular stool “ Instead, neither CSR for BC Ch.3 Sec.6 /10.4.4 nor Figure 29 has such restrictions. If the intent of CSR is the same as IACS UR S18, such restrictions should be clearly indicated in the Rules. [Q2] On the other hand, CSR for BC Ch.3 Sec.6 /10.4.4 indicates “For the definition of lc, the height of the upper and lower stools may not be taken smaller than the values specified in [10.4.7] and [10.4.8]”. This is just the opposite from IACS UR S18. Presume that this sentence should read “For the definition of lc, the height of the upper and lower stools may not be taken GREATER than the values specified in [10.4.7] and [10.4.8]”. Please confirm. [Q3] If the restrictions in [Q1] are applicable to CSR, please further advise on the relation 'between the upper stool width at top and maximum 'effective depth for the calculation of corrugation span “lc”. CSR Ch.3 Sec.6/10.4.8 indicates “The stool top of non-rectangular stools is to have a width not less than twice the depth of corrugations”. In this connection, in case of a non-rectangular upper stool has a width at top of 1.5d and height of 3d, where d is the depth of corrugation, how to measure the corrugation span? There may be two options as follows. Which option (or any other else) is to be applied? Option 1: Treat this as a rectangular stool since the width at top is less than 2d, and take into account 2d for the calculation of “lc”. Option 2: Calculate “lc” by linear interpolation between rectangular stool and non-rectangular stool having a width at top of 2d. In case of this example, 2.5d is used for the calculation of “lc”. [Q4] CSR Ch.3 Sec.6 /10.4.2 indicates that the thickness of the middle part of corrugations is to be maintained for a distance from the deck (if no upper stool is fitted) or the bottom of the upper stool not greater than 0.3lc. In case “lc” is adjusted by [Q1], is “0.3lc” to be measured from the upper end of corrugation span “lc” or may be measured from the actual upper stool bottom? Please advise.	The intent of these requirement is the same as IACS UR S18. Namely,for the definition of lc, the lower end of the upper stool is not to be taken more than a distance from the deck at the center line equal to: - 3 times the depth of corrugation, for non-rectangular stool - 2 times the depth of corrugation, for rectangular stool. [A2]Same reply as in [A1]. [A3] Option 1 should be used for calculation "lc". [A4] "0.3lc" should be measured from the upper end of corrugation span "lc". **Also Included in Corrigenda 5**	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
425 attc	6/1.2.7.3 & 2.2.5.3	CI	Steel coil loading	2009/10/6	Please see enclosed document "Ch6. Sec. 1 [2.7.3] Steel coil loading on hopper plate.doc" regarding steel coil loading on inner side/hopper plate. Q1: Please comment on enclosed document regarding acceleration formulation for steel coil on hopper sloping/inner side. Please note that the hopper normal acceleration calculated directly based on the fundamental accelerations is smaller than the rule accelerations. Dependent on the term sin(alpha-theta2) , the roll acceleration will work towards the gravity acceleration. Please note that the acceleration is sensitive to the definition of COG. The procedure to define COG should be clearly defined in the rules. With reference to IACS KC #380 please consider above acceleration calculations. Q2: DNV have noted that the results of eq. [2.7.3] give very strict results for the hopper sloping plate. The thickness of the hopper sloping plate is in many cases in excess of the requirement of the inner bottom. The force on the hopper is larger than the force for the inner bottom. This is caused by the Ck factor which is 4 for 2 tiers stowage. Could you please give details regarding the background of this term. According to our steel coil experts the stowage is, even though it is shored, quite flexible. Have there been attempted any test to account for the amount of force taken by the hopper plating?	Your comment has been noted and this issue has been addressed in RCN No.1-3 to the July 2008 Rules.	Y
426	3/5.1.2.1	CI	Double side Skin Space	2007/5/14	Ref. Ch. 3 Sec. 5 [1.2.1] "All dedicated seawater ballast tanks and void double side skin spaces are to have an efficient corrosion prevention system (..)" Please advice on below related questions. Q1:Could you please clarify "double side skin spaces". Is this only covering cargo hold area or entire ship? Q2: If a ship is arranged with double side in machinery space enclosing void spaces, should such spaces have corrosion prevention according to [1.2]? Q3: If you have a top wing tank that is a fuel oil tank the new Marpol require that you add a cofferdam toward the side skin, will this then be considered as a double side skin space in bulk carriers? Or when you have fuel oil tanks in the engine room that is, for the same reason fitted with a coffrdam towards the side, is this a double side space in bulk carriers?	A1. Chapter 1 Section 1 [1.1.1] of CSR for Bulk Carrier describe “With bulk carrier ……..and with single or double side skin construction cargo length area …..”. Accordingly, the double side skin spaces specified in Ch 3 Sec 5 [1.2.1] are covering the cargo hold length spaces. A2. The double side spaces in machinery space is not necessary to apply to the requirement of [1.2] A3. Yes, such spaces arranged in cargo length area are considered as a double side skin spaces but such spaces arranged in spaces other than cargo length area are not considered as a double side skin spaces.	
428 attc	5/App1.2.2.8	Question	Formula	2007/4/19	In Ch 5, App 1, [2.2.8], it could be some interpretation on “l” in the formula giving “sigmaCR5”, and of “s” in the formula giving “betaE”.In order to apply such formulae in the right way, it could be useful to specific the exact definition of the parameters “l” and “s”.	For a more clear application of the formulae of the requirement Ch 5, Appendix 1, [2.2.8], please refer to the file attachement "Draft Answer Ch 5, App 1, [2.2.8].doc". **Also Included in Corrigenda 5**	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
429	3	Question	Port ballasting	2009/10/6	Currently CSR Bulk has no requirement/mention of port use ballasting of ordinary dry cargo holds which is a common practice of large bulk carriers typically Capesize. In our opinion, the following items (may not be exhaustive) should be clarified urgently: 1. In the past, acceptable filling height was determined for the given scantlings and based on design formula and criteria for ballast tanks. The same approach may be used in CSR for local plates and stiffeners, hold frames and all internal members, i.e., boundaries of topside and hopper tanks, inner bottom and bulkhead stools. 2. In an extreme case, the hold in question may have to be filled up to the hatchtop, then we definitely should check the strength of various members bounding the hold in question unless it is a dedicated heavy ballast hold. 3. How much dynamic load to be considered? 4. For corrugations and primary support members, scantlings have to be verified by a hold FEA with a separate “intact-harbour” load case because there is no formula for corrugation in intact condition vaide for ships above 150 meters. (Ref. Ch. 6 Sec. 2 [3.2.4]) 5. Any requirements against over filling, alarms, etc. if partial filling? 6. Should tank test be required? 7. What should be stated in the Loading Manual? 8. According to Chapter 3, Section 5 [1.4.1], all internal and external surace of hatch coamings and hatch covers, and all internal surfaces of ballast holds are to have an effictive protective coating. Is Chapter 3, Section 5 [1.4.1] applicable to port filled ballast holds?	We note your comments and requirements for the treatment of port use ballast hold will be included in the rules at a future revision.	
436 attc	1/1.1.1.2	Question	Self-unloading bulk carrier	2007/4/6	Is the self-unloading bulk carrier, showed in the attached file, NOT a CSR-bulk carrier like the lime stone carrier of question #410?	Your interpretation is right. This self-unloading bulk Carrier is not a CSR-bulk carrier as defined in Ch 1, Sec 1, 1.1.2.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
439	Text 2/1.1.1.2	Question	Additional Bulkheads	2007/6/20	In Chapter 2, section 1.1.1.2 "Additional bulkheads" it is stated that "For ships not required to comply with subdivision regulations, transverse bulkheads adequately speced, and not less in number than indicated in Tab 1, are to be fitted." Would you like to explain "subdivision regulations"?	The Subdivision regulations" is the damage stability required by SOLAS in Chapter 11-1, Part B-1 and Chapter XII, regulation 4. All bulker with CSR notation are required to comply with subdivision regulations. Consequently, the Table 1 will not enforce on the CSR bulkers.	
444	3/6.7.2.1	CI	Structural Design	2007/6/11	In Chapter 3, Section 6, [7.2.1] it is stated that "Where the double side space is void, the structural members bounding this space are to be structurally designed as a water ballast tank according to Ch.6. In such case the corresponding airpipe is considered as extending 0.76m above the freeboard deck at side" Does this requirement apply to both scontling and welding design?.	Yes, this requirement applies both to the scantling and welding designs.	
445	3/6.10.4.4	RCP	Span of corrugations	2007/7/11	In Chapter 3, Section 6, [10.4.4]- Span of corrugations", it is stated that "The span lc of the corrugations is to be taken as the distance shown in Fig 29. For the definition of lc, the height of the upper and lower stools may not be taken smaller that the values specified in [10.4.7] and [10.4.8]". On the basis of UR S18-fig 2b and its note, it seems that the word "smaller" could be replaced by "greater".	The intent of these requirement is the same as IACS UR S18. Namely,for the definition of lc, the lower end of the upper stool is not to be taken more than a distance from the deck at the center line equal to: - 3 times the depth of corrugation, for non-rectangular stool - 2 times the depth of corrugation, for rectangular stool. The draft Corrigenda for clarification of this requirement will be issued. **Also Included in Corrigenda 5**	
446	3/6.2.3.1	Question	Hull Girder Bending	2007/6/11	According to the answer of question #208 of IACS CSR KC,is the material of mild steel for the flat bar on the double bottom girders accepted?	It is accepted, provided that the stress level due to hull girder bending in such flat bar complies with the requirements in Chapter 5, section 1, [3.1.1]	
447	3/6.5.2.1	CI	Depth of Stiffener	2007/7/11	The last sentence "Depth of stiffener is to be more than 1/12 of stiffener length". What is the definition of "depth of stiffener"? Does it mean the web height + flange thickness if any?	Answer: In order to be in line woth the Chapter 6,section 2, [2.3] the depth of stiffener should be considered as only the height of its web.	
450 attc	3/6.10.4.7	CI	Net Thickness & Corrugation Flange	2007/5/14	Would you give me a clear interpretation for CSR BC Rule Ch.3 Sec. 6, 10.4.7. The quoted para. is as below. "The net thickness and material of the stool top plate are to be not less than those required for the bulkhead plating above. The thickness and material properties of the upper portion of vertical or sloping stool side plating within the depth equal to the corrugation flange width from the stool top are to be not less than the required flange plate thickness and material to meet the bulkhead stiffness requirement at the lower end of the corrugation." My interpretation is (t_S_TOP)net >= (t_BHD)net and (t_S_SIDE)gross >= (t_BHD)gross. (refer to the attached picture) It is because lower stool side plate has lower corrosion addition that transverse BHD plate. Do I interpret correctly?	First, all the requirement (coming from UR S18.4.1) should be given in net thickness. Secondly, the word "flange" in the text means "flange of the corrugation of the transverse bulkhead". Consequently, the text should be modified as: "The net thickness and material of the stool top plate are to be not less than those required for the bulkhead plating above. The net thickness and material properties of the upper portion of vertical or sloping stool side plating within the depth equal to the corrugation flange width from the stool top are to be not less than the required corrugation flange net plate thickness and material to meet the bulkhead stiffness requirement at the lower end of the corrugation."	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
452	Table 8.1.1 & 8/1.1.3.1	RCP	fatigue strength assessment	2009/10/6	It is requested from interpretation point of view that the members and locations to be assessed for fatigue strength can be waived with a proviso. It is considered unnecessary to assess fatigue strength by FEM analysis for every location in Table 1 in particular any taken as less significant. Fatigue assessment by FEM should be streamlined to be more practical to focus on critical locations such as lower hopper corners and lower stool connections with inner bottom considering selective cargo holds. The matter leads to a rule change proposal. As a result of our detailed fatigue strength calculation based on simplified method for lower hopper corners and lower stool connections with inner bottom of a panamax bulk carrier, it is found that the fatigue life of these locations is impractically too short. Moreover, it is found that the fatigue life calculated for lower hopper corners in the empty hold is shorter than that in the ballast hold in both cases of bent and welded corners, which is in serious contradiction of the ubiquitous fact of experience. The least fatigue life calculated is only a few years at a lower stool connection in the ore hold for which no way of designing to achieve the prescriptive fatigue life of 25 years could be possible.	We noted your comment and this issue has been addressed in RCN No.3 (issued September 2008).	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
453 attc	Ch.5 Sec.1	Question	Shearforce correction	2007/6/12	According to a draft reply to KC #353, hull girder shear force correction is only considered at bulkheads where adjacent holds are in non-homogeneous loading. In our opinion, this is valid when permissible limits Qp is established according to [5.1.3] considering shear force correction Delta-Qc. Q1: In our opinion, such shear force correction should only be considered to the permissible limit giving the same sign to actual shear force at that bulkhead position and the permissible limit of opposite sign need not be corrected. Please confirm. Q2: For the determination of the required scantlings according to [2.2.2], however, shear force correction Delta-Qc should in principle be considered at every bulkhead for non-homogeneous loading conditions. As explained last time, hull girder shear force will increase after shear force correction, in case of heavy ballast conditions, at the aft bulkhead of the hold aft of the heavy ballast hold thereby requiring larger scantlings. See Point-A in the attached figure. Same issue at the forward bulkhead of the hold forward of the heavy ballast hold. In our opinion, this reflects physics behind shear force correction. In case of a large Capesize bulk carrier, this effect is not negligible giving impact on the required scantligs. Please confirm.	A1:The understanding is correct. A2:Shear force correction is to be considered only at the bulkhead where adjacent holds are in non-homogeneous loading condition. Therefore shear force correction should not be done at other transverse bulkheads than those of No.4 ballast hold. In that case, shear force correction in point A is not relevant.	Y
454	Ch11/ Sec.2 Table 1	CI	Adjustments to the weld length due to corrosion	2007/5/1	According to the proposed Background document for CSR Bulk, no adjustments to the weld length due to corrosion should be made to plates with tC = 4mm. This is not in line with note 2 in Table 1, which specifies that for tC=4 the leg length is to be increased by 0.5mm. Please explain.	As you mentioned, no adjustments to the weld length due to corrosion should be made to plates with tc=4mm. Until the rule change proposal is adopted by IACS, the interpretation of the note 2 in Table 1 is as follows. +1.0mm for tc>5 +0.5mm for 5=>tc>4 0 for 4=>tc>3 -0.5mm for 3=>tc	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
456	4/6.2.2.1	CI	Ballast water exchange	2007/7/13	It is considered literal that Ch.4, Sec.6-2.2.1 ruling out the inertial pressure is framed on the assumption that a ballast water exchange by means of flow-through method is carried out in calm sea and dynamic pressure (inertial pressure) is ignored. In that case, the following interpretations to be clarified arise when calculating lateral pressures due to liquid. (1) External pressure When considering external (sea) and internal (ballast water) pressures simultaneously according to Ch.6, Sec.1-1.3.1, it should be possible that the external dynamic pressure (hydrodynamic pressure) is similarly ignored both for prescriptive Rule calculations and Direct Strength Assessment (DSA). (2) Wave bending moment It should be possible that vertical and horizontal bending moments are ignored both for prescriptive Rule calculations (e.g. Ch.6, Sec.1-3.1.5) and DSA. (3) Question ID:226 Should the above interpretations be the case, it is considered necessary that the Q&A ID:226 about DSA as quoted below is reviewed. ^^^^^QUOTE^^^^^ Question ID: 226 Approved: 12/01/07 Rule Ref.: Text 4/6.2.1.2 Question: When checking the condition under the ballast water exchange operation by means of the flow through method, static pressure for direct strength analysis is specified in Ch 4, Sec 6, 2.1.2, but there is no description of dynamic pressure. 1. Should the loading cases and wave conditions under consideration comply with the requirements of Ch 4, App 2? 2. The inertial pressure due to ballast is not to be considered according to the requirement in Ch 4, Sec 6, 2.2.1. Does this mean that only static pressure due to ballast defined in Ch 4, Sec 6, 2.1.2 and external pressure defined in Ch 4, Sec 5 are to be considered for direct strength analysis? Answer: 1. There is no need to comply with the requirements of Ch4App2. In the loading case specified in the loading manual with regard to ballast exchange, the static load is considered for direct strength analysis. 2. Yes, the dynamic external pressure should be considered for direct strength analysis. Where the ballast water exchange is carried out on the flow through method, the direct strength analysis will be separately required on the ballast water exchange condition in additional sea going ballast loading condition, taking into account all EDWs. *****UNQUOTE*****	Unless the external dynamic pressure and hull girder wave moment are considered for local scantling check and DSA as you mentioned, all scantlings of hull structure are not determined in such load conditions. Then, we made the answer specified in KC 226. On the other hand, in tanker CSR, all dynamic loads are considered based on the assumption that a ballast water exchange by means of flow-through method is carried out in sea going condition. We think this assumption should be harmonized between tanker CSR and bulker CSR. Therefore, the interpretation is not necessary and the answer specified in KC 226 is kept as it is, till harmonization work will be done.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
457	6/2.3.2.3	CI	Formula	2007/7/16	According #356 the span "l" in the formula of CH6, Sec3, 3.2.3 has to be calculated taking the brackets into consideration according CH3, Sec6, 4.2. In case of a ballast cargo hold frame of a SSS-BC the side frame brackets are not comparable to the ones shown in Fig. 3 of CH3, Sec6, 4.2.1. The brackets of a side frame elongate the side frame more than that they shorten it. How should we take the brackets of a side frame in a ballast cargo hold into consideration?	For the application of Ch6, Sec2, 3.2.3 in case of a ballast cargo hold frame of a SSS-BC, the way to consider the brackets is clearly defined in the fourth sketch of Fig 2 of Ch3, Sec6, 4.2.1.	
459 attc	5/1.5.1.2, 5/1.5.1.3 , 5/1.5.3.2, & 5/1.5.3.3	CI	Shear Stresses & Shear Forces	2007/7/2	Please see the attachment for question containing several figures. Note that reference is made to KC #353 and to the supplementary questions KC #453 submitted on 20 April 2007.	In CSR for bulk carriers, they are two different ways of assessing shear stresses and shear forces: 1 - using direct calculation, as stated in 2.2.1, and in such a case the permissible still water shear force is obtained through 5.1.2, OR 2 - using simplified calculation with correction of shear force as stated in 2.2.2, and in such a case permissible still water shear force is obtained throgh 5.1.3. Both approaches are not to be mixed, and generally the direct calculation approach is used.	Y
460	6/3, 5/2	CI	Ordinary Stiffeners & Stiffened Panels	2007/7/13	Ch. 6 Sec. 3 Bucking & ultimate strength of ordinary stiffeners and stiffened panels. According to [1.1.2] buckling assessment of longitudinal material is not required for flooding conditions. According to URS 17 buckling check is required for flooding condition. Quote: S17.5 - Strength criteria The damaged structure is assumed to remain fully effective in resisting the applied loading. Permissible stress and axial stress buckling strength are to be in accordance with UR S11.Unqoute. The Ch. 5 Sec. 2 HULS is calculating axial stress buckling of hull girder due to flooding bending moment. Q1. We assume that CSR fulfils URS17.5 by HULS check of Ch. 5 Sec.2. Please confirm Q2. We assume that buckling according to Ch. 6 Sec. 3 need not be calculated in flooding condition as outlined in [1.1.2]. Please confirm.	1)Yes. Your assumption is correct. 2)Yes. Your assumption is correct.	
462	Table 10.3.1 & 10/3.2.1.1	RCP	Rule Change	2007/6/12	In Chapter 10, Section 3 of CSR for bulk carrier para 2.1.1 refers to ships with equipment number EN greater than 16000, however the data range in 'Table 1: Equipment' only covers EN up to a value of 4600. Requirements for vessels with equipment numbers in the range 4600 to 16000 need to be added to the tabular information. This appears to be an editorial omission in the CSR for bulk carriers. The data tables in the LR Rules for Ships, CSR for tankers and the IACS Mooring & Anchoring requirements (UR A) all cover the full data range up to 16000.	The "Corrigenda" will be issued.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
465 attc	4/7.2.2.1	Question	Ballast Conditions	2007/7/12	According to Background document for CSR BC, Page 26 – Ch 4: Design Loads, it is said the regulation on ballast tank capacity and disposition is in accordance with IACS UR S25. IACS URS25: 4.4.1(b) Heavy ballast condition: ii. at least one cargo hold adapted for carriage of water ballast at sea, where required or provided, is to be full. CSR BC, Ch 4, Sec 7:Heavy ballast condition: Heavy ballast condition is a ballast (no cargo) condition where: at least one cargo hold adapted for carriage of water ballast at sea is to be full. My understanding to UR S25 is that cargo hold for water ballast is just an option or choice, not definitely/mandatorily required by UR S25. But if required or provided as necessary, then it is to be full in heavy ballast condition. While according to CSR BC, the condition clause "where required or provided" in UR S25 was deleted in CSR BC, then at least one cargo hold for water ballast should be arranged. Do you think this requirement in UR S25 is consistent with that in CSR BC? As to BC of Double Side Skin Structure, if ballast tank with enough capacity, should at least one cargo hold also used as water ballast tank? The attached is the typical section of a ship, normally considered as multi-purpose container vessel. In my opinion/understanding, CSR BC does not apply to such a kind of ship, but shipowner want to have the notation of BC and CSR. If as required by CSR BC, at least one cargo hold should be as water ballast. There are double rows of hatches in weather deck, then how to calculate the internal pressure on weather deck and hatch cover? Can we calculate the internal pressure on weather deck and hatch cover seperately for each hatch assuming the central longitudinal box girder as longitudinal bulkhead? It's very difficult to arrange the locking device to resist the upward force due to internal pressure.	In CSR for Bulker, a heavy ballast condition is considered as a ballast condition where at least one cargo hold adapted for carriage of water ballast at sea is full. If a ship does not have a cargo hold for carriage of water ballast, heavy ballast condition does not exist in such a ship in CSR for Bulker. In addition, providing a cargo hold for carriage of water ballast to a ship is not mandatory in CSR for Bulker. Regarding the multi-purpose container vessel, CSR for Bulker does not apply to such a kind of ship.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
468	9/4.4.1.1, 4.2.1, 4.5.1 & 5.3.2	CI	Scantlings of s/structures & deckhouses	2009/10/6	According to Ch 3 Sec 2 [2.1.1], the scantling of superstructure and deckhouses specified in Ch 9 Sec 4 is based on the gross scantling concept. Also, according to Ch 9 Sec 4, [1.2.1], all scantling and dimensions refered to in [4] and [5] are gross. In the requirement of [4.1.1], [4.2.1], [4.5.1] and [5.3.2], the thickness formulae are given as follows. [4.1.1] t=1.21s*(k*pSI)^0.5+tc, [4.2.1] t=1.21s*(k*PD)^0.5+tc, [4.5.1] t=8s*(k)^0.5+tc, [5.3.2] t=0.9s*(kpA)^0.5+tc Where, tc is defined as corrosion addition defined in Ch 3, Sec 3, specified in "Symbols". To refference to the corrosion addition defiend in Ch 3 Sec 3 means that the scantling is based on the net scantling concept. This is inconsistet with the requirement in Ch 3 Sec 2 [2.1.1] and Ch 9 Sec 4 [1.2.1]. According to Technical Background, these formulae are based on the current GL Rules. In the original formula, tk instead of tc is used and tk is taken equal to 1.5mm. Please consider revising the text.	As you pointed out, the reference to the corrosion addition, tc, defined in Ch 3 Sec 3 in the formulae is inconsistent with the requirements in Ch 3 Sec 2 [2.1.1] and Ch 9 Sec 4 [1.2.1]. These requirements have come from the current GL Rules and there are no intention to modify the scantling approach concept specified in Ch 9 Sec 4 [1.2.1]. Therefore, the value of tc used in these formulae is taken equal to 1.5mm as an interpretation, according to the current GL Rules. This has been reflected in RCN 1-7 to the July 2008 Rules.	
470 attc	6/3.3.2.4	Question	Compression Stress	2008/7/2	What kind of compression stresses have to be used in the buckling check formulae for the individual compression stresses in 3.2.4 of CH6, Sec3?	We will consider the rule change proposal.	Y
471	4/6.1.1.1 & 4/6.1.1.2	Question	CSR-BC internal pressure	2007/7/11	Could you confirm that for CSR-BC internal pressure: 1. The total pressure (pcs+pcw) should not be negative 2. For loading condition where the cargo hold is loaded to the upper deck (Chapter 4, section 6, 1.1.1), for the point above the local height HC, (i) The static pressure PCs is zero (ii) The vertical dynamic pressure az KC aZ (hC + hDB − z) is zero (iii) Therefore PCW =ρC *0.25aY (y − yG) 3. For loading condition where the cargo hold is not loaded to the upper deck (Chapter 4, section 6, 1.1.2) for the point above the local height HC, (i) The static pressure PCS is zero (ii) The dynamic pressure PCW is zero.	A1. Your understanding is correct: the total pressure (pcs+pcw) should not be negative. A2. For loading condition where the cargo hold is loaded to the upper deck (Ch 4, Sec 6, 1.1.1), for the point above the local height HC: the static pressure and the inertial pressure pCW are equal to zero. A3. For loading condition where the cargo hold is not loaded to the upper deck (Ch 4, Sec 6, 1.1.2) for the point above the local height HC, the static pressure and the inertial pressure pCW are equal to zero.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
473 attc	1/1.1.1.2	CI	Structural arrangement of bulk carrier in midship hold and hold adjacent to engine room.	2007/10/24	Ch.1 Section.1 1.1.2: Please see attachment for structural arrangement of bulk carrier in midship hold and hold adjacent to engine room. Please note: - Vessel has no hopper tank in parallel midship area - Vessel has a sloped hopper-like shape in bilge area due to hull shape. Hopper shape is extending the entire cargo hold. Please advice if the vessel falls within the category "hybrid bulk carrier" as stated in 1.1.2. and whether or not CSR is mandatory for this design. Common guidelines urgently needed	According to the clause in Ch.1, Sec.1 [1.1.2], the subject design needs to comply with the CSR for Bulk Carrier.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
474	Ch.4 App.1	CI	Determining the hold mass curves	2007/7/2	Ch. 4 Appendix 1: 1) When determining the hold mass curves according to Appendix 1 we assume that weight of masses concealed in the double bottom in between margin girders are to be considered both when generating the hold mass curves and when utilizing them in operation phase. (E.g. Heavy fuel oil, water ballast) Please confirm. 2) Please advise how to handle ship trim both when generating the hold mass curves and later when utilizing the curves. Please consider a rule clarification.	A1) CSR regulates to determine the maximum allowable mass and the minimum required mass of the hold mass curve on basis of strength estimation in Ch4 Sec7, App1 and App2. The maximum allowable mass refers to the loading mass at the strength estimation in full load condition. Filling rate in the double bottom in full load condition tanks is regulated as follows; a. FOT: Full b. WBT: Empty a. Carriage in DBFOT in full loading condition in the strength estimation is assumed full as the most severe situation. The mass in DBFOT is not necessary to be considered when generating and utilizing the hold mass curve. b. Carriage in DBWBT in full loading condition in the strength estimation is assumed empty as the standard loading pattern. If water ballast is carried in DBT in full loading condition, the strength estimation including such loading condition should be carried out also. Namely full loading condition with full DBWBT, should be considered in the strength estimation as the most severe condition. In such case, the mass in DBWBT is not necessary to be considered when generating and utilizing the hold mass curve. A2)Trim should be taken into account as follows as similar to UR S1A.2.1 requirements: (i)Maximum allowable and minimum required mass of cargo and double bottom contents of each hold to be as a function of the draught at mid-hold poistion (ii)Maximum allowable and minimum required mass of cargo and double bottom contents of any two adjacent holds to be as a function of the mean draught in way of these holds. This mean draught may be calculated by averaging the draught of the two mid-hold positions.	
475	6/1.2.3.3	CI	Net Thickness of the Bilge plating	2007/7/27	Ch. 6 Sec. 1 [2.3.3]: This section requires that the “net thickness of the bilge plating is to be not less than the actual net thicknesses of the adjacent 2 m width bottom or side plating(..)” Is this requirement referring to: 1. As built thickness; 2. Thickness required by Ch. 6; 3. All thickness requirements in CSR. (Ch. 7 FEM requiremtns, 9 sec. 1 Strengtheing of bottom forward etc). Please advise.	This requirement is referring to the net thickness offered of the adjacent bottom and side plating.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
476 attc	9/5.1.5.1	CI	Allowable stress on hatch covers	2007/8/23	Ch. 9 Sec. 5 1.5.1. Allowable stress on hatch covers: Reference in the rule text is made to ILLC Reg.15(6) and 16(5). Regulation 15(6) is relevant for “Hatchways closed by portable covers and secured weathertight by tarpaulins and battening devices”. The allowable stress for pontoon hatch covers given as Sigma_A = 0.68ReH is originating from Reg. 15(6). Regulation 16(5) is relevant for “Hatchways closed by weathertight covers of steel or other equivalent materials. The allowable stress for “weathertight hatch cover” Sigma_A = 0.8 ReH is originating from Reg. 16(5). It is our interpretation that 15(6) is not relevant for modern bulk carriers. UR S21 and UI LL70 are both covering Reg. 16 and relevant for pontoon hatch covers. We assume that Pontoon hatch covers in modern bulk carriers should be treated as “weathertight hatch covers” with allowable stress Sigma_A = 0.8ReH. This is not clear as Table 2 is written in the current rules.	The Common Interpretation is as follows: - If hatch covers are considered weathertight by construction, and without the need of tarpaulins and battening devices, the allowable stresses to be used are those corresponding to the line "Weathertight hatch cover" in the Tab 2, i.e. 0.8ReH for sigma. This is in line with ILLC Reg.16(5). - If hatch covers are considered weathertight by using tarpaulins and battening devices, the allowable stresses to be used are those corresponding to the line "Pontoon hatch cover" in the Tab 2, i.e. 0.68ReH for sigma. This is in line with ILLC Reg.15(6).	Y
477	9/5.5.2.3	Question	Critical buckling stress	2007/10/4	Ch. 9 Sec. 5 5.2.3 Critical buckling stress check. Last sentence of the requirement states: “In addition, the bi-axial compression stress in the hatch cover plating, when calculated by means of finite element analysis, is to comply with the requirements in Ch.6 Sec.3” We assume the sentence originates from UR S21 3.6. In case of FEM analysis, please advise if biaxial buckling in accordance with requirement of Ch. 6 Sec. 3 is additional or instead of the uniaxial buckling requirement in 5.2.3.	The Common Interpretation is as follows: - If no finite element analysis is performed for the buckling of the hatch cover plating, only the criteria for buckling for uniaxial compression is to be checked. - If a finite element analysis is performed for the buckling of the hatch cover plating, criteria for buckling for bi-axial compression are to be checked.	
478	4/5.3.4.1	CI	Minimum Lateral pressure	2007/8/3	In Table 9, Minimum lateral pressure, P_Amin, is defined for the 4th tier with P_Amin=2.5kN/m. In the GL-Rules this minimum pressure has a value of 12.5kN/m. Is this a typo?	This is a typo. The correct minimum pressure for the 4th tier and above is 12.5kN/m2. **Also Included in Corrigenda 5**	
479	4/5.3.4.1	CI	Definition of "n"	2007/8/23	Please explain in the definition of "n", what is the actual distance?	This is a typo. The complete sentence reads as follows: "However, where the actual distance (D-T) exceeds the minimum non-corrected tabular freeboard according to ILLC as amended by at least one standard superstructure height as defined in Ch 1, Sec 4, [3.18.1], this tier may be defined as the 2nd tier and the tier above as the 3rd tier." This definition based on the definition, given in IACS UR S3. **Also Included in Corrigenda 5**	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
483 attc	Table 6.3.3	RCP	Buckling and reduction factors for curved plate panels	2007/8/28	Regarding the buckling and reduction factors for curved plate panels in Ch 6, Sec 3, Table 3, there is a partition line in the first column between buckling load cases 1a and 1b. However, in the original GL rules, there is no such line, see attached. This partition line is likely to cause incorrect values of Sigma x, hence should be deleted.	Yes. This is typo. We will issue the "corrigenda" soon. **Also Included in Corrigenda 5**	Y
484	7/2.3.3	Question	Buckling and Ultimate strength assessment	2007/7/2	Regarding buckling and ultimate strength assessment in a global strength analysis, an increase in thickness of each panel satisfying requirements will be obtained by iteration. As there is no clear process in the current rules, it is considered appropriate that the stress may be used as it is with no reductions associated with thickness ratios in each iteration step. Is this correct? If not correct, some known approches are considered available, for example, (i) all component stresses are reduced with thickness ratios, (ii) the same as (i) but stresses in the global X direction are not reduced, (iii) only the stress due to local loads is reduced with thickness ratios and the stress due to hull girder loads is not reduced. Please advise a common process to apply proper stresses for required thickness calclations.	CSR only requires that the results of DSA are to comply with the strength criteria in Chapter 7. There is no need to specify the iteration procedure to confirm the reinforcement of structure in CSR because it is considered that the responsibility of reinforcement of structure which does not comply with the strength criteria is up to designers not classification societies. Classification society only confirms that the results of DSA carried out for the given scantlings of structure comply with the strength criteria specified in the Rules.	
485 attc	Table 4.4.3	CI	Load combination factor	2007/7/16	“Load combination factors, LCF in Ch 4, Sec 4, Table 3, in the case that the encounter wave comes from the starboard side are left unspecified thus there is a possibility of unnecessary confusion unless they are clarified, especially for ships having unsymmetrical hull sections. Pease see the attachment and confirm if the signs marked in red from what we understand are correct. If not, please supply correct signs together with technical backgrounds.”	When the starboard is the weather side, the reference hull girder loads and motions of ship and load combination factor are shown in the attached file.	Y
486	Ch 4 Sec 7	CI	Loading conditions	2007/8/7	The loading conditions which are required by Ch.4 Sec 7 are only for checking the longitudinal strength, direct strength analysis and for capacity and disposition of ballast tanks and stability purposes as mentioned in 1.2.4. Therefore, these loading conditions will not included the loading manual but shall be just submitted for assessment of structure-wise. Above conditions will not be applied to hold flooding calculation and intermediate condition calculation. Our understanding is that the loading condition required Ch.4 Sec 7 and Sec 8 have different concept. So when we check the hull structure strength, loading conditions required by sec 7 should be necessary. And then the loading conditions should be prepared in loading manual within permissible limit which is result of hull scantling	1 - The loading conditions which are required by Ch 4, Sec 7 are "artificial loading conditions" considered for the check of strength. 2 - Regarding flooding conditions, our interpretation is that they should have to be considered only for loading conditions defined in Ch 4, Sec 8, as they are really navigation conditions. 3 - Regarding intermediate conditions required in Ch 4, Sec 3, [2.1.1], if considered more severe, they are to be considered for loading conditions defined in Ch 4, Sec 7 and Sec 8. **" This answer is superseded by the anwswer to KC ID 622. Please refer to KC ID 622"**	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
489	4/6.1.3.1, 4/6.2.2.1, 4/5	CI	Inertial Pressures	2007/8/2	Inertial pressures Chapter. 4 Section 6 Reference is made to Ch. 4Section. 6 [1.3.1] “Inertial pressure due to bulk cargo” and [2.2.1] “Inertial pressure due to liquid”. Both items have a statement that the longitudinal term may be “freezed” in x direction at two points in the tank. According to [1.3.1] “ (x-xg) is to be taken at 0.25lH in the load case H1 or -0.25lH in the load case H2..(..)” Pressures from these two points may be utilized for local scantling according to Ch.6 and Ch.8. Q1: Please advise if this statement is valid also for scantling of transverse tank boundaries such as cargo hold bulkheads and plane bulkheads separating BW tanks according to relevant requirements of Ch.6. Q2: According to Ch. 6 Sec.1 [1.3.1] and Sec.2 [1.3.1] “(..) If the compartment adjacent to the outer shell is intended to carry liquids, this still water and wave internal pressures are to be reduced from the corresponding still water and wave external sea pressures.” When the internal pressure is constant in x-direction according to Ch. 4 Sec. 6 [2.2.1] what is the correct application of Ch.6 Sec. 1 [1.3.1] and Sec.2 [1.3.1]? Note. Ch. 4 Sec. 5 “External pressures” have no statement fixing the x location.	A1: This requirement is also valid for scantling of tank boundaries. A2: According to the Rule, “a” is correct.	
490	Symbol 4.6	CI	Design Density for fuel oil	2007/7/13	a.Combine the internal pressure according to Ch. 4 Sec. 6 [2.2.1] with the sea pressure at the x location considered	CSR for bulk carrier does not specify the minimum design density for fuel oil. The design density for fuel oil shall be determined by the designer or shipbuilder with agreement of the owner.	
491	4/7.2.1.1	CI	Determination of the maximum cargo mass in cargo holds	2007/7/2	b.Combine the internal pressure according to Ch. 4 Sec.6 [2.2.1] with the sea pressures located at (x-xB) = 0.75 (H2) and -0.75 (H2) ?	According to the provision of [2.1.1] maximum cargo mass Mh or Mhd should be obtained from loading conditions at full scantling draft and with 50% consumables. In general the maximum cargo mass (Mh) for an empty hold (Mh) corresponds to the cargo mass in homogeneous full condition at scantling draft and with 50% consumables. Hence Mhd corresponds to the cargo mass in alternate loading condition at scantling draft and with 50% consumables. Mfull is an artificial cargo mass and the maximum permissible cargo mass for an empty cargo hold in connection with the determination of hold mass curve.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
492	4/7.2.1.4	Question	Loading conditions	2007/7/13	Ch. 4 Section 7 2.1.4 BC-A Please consider following example. 1.BC-A vessel with minimum loading conditions as per Section Which comply with both [2.1.1] and [2.1.4]. 2.Additionally, vessel's loading manual has a short voyage alternate condition with more severe filling than prescribed by minimum conditions as defined by the item 1 above. For strength verification of 2), should same rate of filling and cargo density as per [2.1.4] be required for such short voyage condition?	Sea going condition and harbour condition are specified in CSR. A short voyage condition is not specified in CSR but it is obvious that it is not a harbour condition. Therefore, where a short voyage alternate loading condition with more severe filling than the minimum loading condition in [2.1.1] and [2.1.4] is specified in the loading manual, strength check for such more severe loading condition should be carried out in accordance with the CSR requirements.	
493 attc	6/2.4.1.1	CI	Correct application of the formula with respect to pressure on ordinary stiffeners.	2008/1/9	Ref. Ch. 6 Sec. 2 [4.1.1] Q1: Please advice what is the correct application of the formula with respect to pressure on ordinary stiffeners: a.External and internal pressures are to be considered separately. b.Combined effect of pressures to be considered. In case of b.) please advice how to combine pressures (see attached drawing) Q2: We assume correct interpretation of “Web stiffener mid height” is “Web stiffener mid length” . Please advise..	A1. The requirement of Ch 6 Sec 4 [4.1.1] is provided for checking the scantling web stiffener and web connection with ordinary stiffener. Therefore, the checking formula is provided as a function of the pressure acting on the ordinary stiffener with coefficient depending on the web connection with ordinary stiffener. In case of web stiffener attached to floor in double bottom which is used for water ballast, the pressure p is to be calculated as follows: A: Web stiffener and the web connection with the bottom longitudinal: The considered pressure is the greater of: (1) Pressure acting on bottom longitudinal due to external sea water in full load condition, or (2) Pressures acting on bottom longitudinal due to internal pressure due to ballast water in double bottom tank and external sea water in ballast condition, in line with Ch 6 Sec 2, 1.3.1 B: Web stiffener and web connection with the inner bottom longitudinal: The considered pressure is the greatest of: (1) Pressures acting on inner bottom longitudinal due to bulk cargo in full load condition, or (2) Pressures acting on inner bottom longitudinal due to ballast water in ballast condition, or (3) Pressure acting on inner bottom longitudinal due to ballast water in ballast hold, if applicable, in heavy ballast condition. The required net sectional areas of web stiffener are to be calculated independently for the foregoing connections A & B. The final required net sectional area of the web stiffener is the greater the calculated areas for A & B. A2: “Web stiffener mid height” means “Web stiffener mid length”.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
494	Table 9.1.1 & Table 9.2.1	CI	Fore part & Aft part	2007/9/13	Ref. Ch. 9 Sec. 1 "Fore Part" Table 9.1.1 and Ch. 9 Sec. 2 " Aft Part" Table 9.2.1. Q1: Tables 9.1.1 and 9.2.1 are referring to "Platform". It is assumed that this is a non-watertight horizontal member. Please confirm. Q2: Tables 9.1.1 and 9.2.1 are extracts of Table 6.1.2. Tables 9.1.1 and 9.2.1 are incomplete with respect to horizontal and vertical watertight boundaries. Please advise if relevant items of Table 6.1.2 may be used for watertight items in fore/aft part. Please consider completing the Tables 9.1.1 and 9.2.1 with watertight divisions.	A1:Platform referred in tables 9.1.1 and 9.2.1 are effectively non-watertight horizontal member. A2:Tables 9.1.1 and 9.2.1 are incomplete with respect to horizontal and vertical watertight boundaries, and relevant items of Table 6.1.2 may be used for watertight items in fore/aft part.	
495	9/1.3 & 9/2.2	CI	Fore part & Aft part load model	2007/9/28	Ref. Ch. 9 Sec. 1 "Fore Part – load model" [3] and Ch. 9 Sec. 2 [3] "Aft Part - load model" Following pressures are explicitly given for calculation: 1.External pressure according to Ch. 4 Sec.5 2.Internal lateral pressure in testing condition according to Ch.4 Sec. 6 [4] Internal pressures due to liquid ps+pw according to Ch. 4 Sec. 6 [2] is not specified for Fore/Aft regions. Please advise if Ch. 4 Sec. 6 [2] pressures need to be considered for fore and aft regions or if only testing pressures should be applied.	it is quite clear that internal pressures defined in Ch 4, Sec 6, [2] need also to be considered for fore and aft regions in addition of testing pressures. **Also Included in Corrigenda 5**	
497 attc	6/1.1.5	Question	Pressure point for scantling check of corrugation web	2007/10/9	Where is the pressure point in the attachment to be used for scantling check of corrugation web ? Please note that option 1 is inside the gusset/shedder. Therefore, eventually there is no pressure.	For the determination of the net thickness of the web plate according to Ch 6, Sec 1, [3.2.1], the load point for the pressure is taken at the bottom of corrugation (e.g., Option 1 in the attached sketch). The reason is that the effect of shedder and gusset plates is not considered to insure that the calculation is conservative.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
498 attc	3/6.5.7.4	Question	Primary Support Members	2007/8/2	[A] Where opening is provided, as per the attachment, in primary supporting members such as double bottom girders, etc., should Ch.3, Sec.6, [5.7.4] be interpreted as follows regarding distances between the opening and slot openings for longitudinals ? 1) at the mid-part within 0.5 times of the span of the primary supporting members: l <= d1, d2, d3 and d4, 2) at the ends of the span, l<=0.25x(d1, d2, d3 and d4). [B] If Ch.3, Sec.6, [5.7.4] should not be applicable to the distances between the opening in primary supporting members and the slot openings, isn't there any restrictions to the distances ?	A) Your understanding is correct. You may see Fig.15 of Ch 3 Sec 6 that the example without collar plate in cut-outs is shown. B) According to the 1st sentence of 5.7.5, the reinforcement of such openings is required.	Y
499 attc	Tanker - App A/2.2.2.3 & 2.2.2.4; & Bulker- - Ch.5, App 1. 2.2.2	CI	Hard corners in the Hull Girder Ultimate Strength	2007/10/9	The CSR for Oil Tankers and for Bulk Carriers need to have the same definition of hard corners in the Hull Girder Ultimate Strength. The attachment is a proposal for a common interpretation in this respect. The differences between the Rules in force are: CSR for Oil Tanker:The area on which the value of the buckling stress of transversely stiffened panels applies is to be taken as the breadth between the hard corners, i.e. excluding the end of the hard corner if any. Refer to KC CSR for Bulk Carriers: The definition is too vague and needs improvement through this CI.	The hard corners in the hull girder ultimate strength is defined as shown in the figure of the attached file “Fig._KC499.pdf”.	Y
500	9/1.5.4.1 & 9/1.5.4.2	CI	Loaded area between the supports of the structure considered	2007/9/28	In Ch 9, Sec 1, (5.4.1] and [5.4.2], a parameter A defined as "Loaded area between the supports of the structure considered" is used in the determination of the net thickness of girders and floors in flat bottom forward area. The definition of this parameter is not clear enough and needs interpretation, or formula to calculate it.	In 5.4.1,Girders A is given by the following formula. A=S*l Where, S: Spacing of center or side girders under consideration, in m. l: Span of floors under consideration, in m. In 5.4.2, Floors A is given by the following formula. A=S*l Where, S: Spacing of floors under consideration, in m. l: Span of center or side girders under consideration, in m. **Also Included in Corrigenda 5**	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
501	4/7.1.2.4, 4/7.1.2.2, & 4/7.2.3.1	Question	Loading conditions	2007/8/2	Q1: In Ch.4 Sec.7 [1.2.4], it is stated that "the loading conditions listed in [2] are to be applied for the check of longitudinal strength ----, for capacity and disposition of ballast tanks and stability purposes". Are these loading conditions, which satisfy the departure and arrival conditions as stated in [2.3.1], intended to fulfil the requirements as stated in Sec.8 [2.2.2] and shall be included in the vessel's Loading Manual? Q2: In Ch.4 Sec.7 [1.2.2], it is stated that "these requirements are not intended to prevent any other loading conditions to be included in the loading manual ---." Does this mean that loading conditions required in Sec.8 [2.2.2] can be different from those stated in Sec.7 [2]? Q3: According to SOLAS Reg.V/22, navigation bridge visibility is required minimum "two ship lengths or 500 m, whichever is less". Is it required for the design loading conditions as stated in Ch.4 Sec.7 [2], which satisfy the departure and arrival conditions as stated in [2.3.1], to fulfil the bridge visibility requirements? We assume that any other loading conditions as stated in Ch.4 Sec.7 [1.2.2] shall satisfy the visibility requirements. Q4: In connection with the above, please also clarify what is meant by "Unless other wise specified" as stated in Ch.4 Sec.7 [2.3.1]. Who specifies what and where?	1 - The loading conditions which are required by Ch 4, Sec 7 are "artificial" loading conditions" considered for the check of strength. 2 - Regarding flooding conditions, our interpretation is that they should have to be considered only for loading conditions defined in Ch 4, Sec 8, as they are really navigation conditions. 3 - Regarding intermediate conditions required in Ch 4, Sec 3, [2.1.1], if considered more severe, they are to be considered for loading conditions defined in Ch 4, Sec 7 and Sec 8. A3: It is not necessary. A4: This requirement is the same of IACS UR S25 [4.5]	
502	Table 3.1.4	Question	Steel grade of lower bracket, of hold frames, of single side BCA/BCB bulk carriers	2007/8/2	Steel grade of lower bracket of hold frames of single side BCA/BCB bulk carriers. Reference is made to Chapter 3 Section 1 Table 4. The requirement is originating from SOLAS XII/6.5.3. Please advice if the requirement should be applied to lower bracket web and flange or web plate only.	This requirement is applied to web plate of lower bracket only. It is considered that this answer is an interpretation but there is no change of technical background and no scantling impact. Therefore, in order to clarify this matter, the corrigenda will be issued. **Also Included in Corrigenda 5**	
507	11/2.2.6.1	Question	The leg length of the fillet weld	2007/9/28	The leg length of the fillet weld is regulated in Ch11 Sec2, 2.6.1 and this section stipulates to refer to Table 1. Bulker CSR has no indication whether rounding treatment is to be applied or not, even though Tanker CSR has rounding treatment in Sec6/5.7.1.1 of Tanker CSR. Please confirm which of the following leg length is to be applied: a. leg length as specified in Table 1; b. rounded leg length as specified in Table 1, nearest half millimetre. For example, if the leg length according to Table 1 is 7.2mm, then the required leg length would be: - 7.2 mm for a; - 7.0mm for b.	We noted your comments.The draft interpritation will be submitted to Hulll Panel for their view. **Also Included in Corrigenda 5**	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
508	11/2.2.6.2	RCP	Continuous fillet welds	2007/10/9	The CSR of Ch.11,sec.2,2.6.2 is unreasonable considering other category. Therefore the 2.6.2 might be reconsidered as below: "Where double continuous fillet welds in lieu of intermittent welds are applied, leg length of fillet weld is to be of Category F3."	We noted your comment. We will consider the edditorial correction. **Also Included in Corrigenda 5**	
510 attc	3/6.7.2.1	Question	Upper and Double side Void Space	2007/8/3	In the attached document is a cross section of a DSS-BC shown, which has a void space in the area of the top wing tank to separate a FOT from the side shell. Is this upper part of the void spaces a double side void space according CH3, Sec6, 7.2.1, which has to be treated like a water ballast tank?	the area dashed in red in the attached document should be designed as a water ballast tank, as specified in the text of Ch 3 Sec 6 7.2.1.	Y
511 attc	1/1.1.1.2	Question	Midship section & Sections in cargo holds	2007/9/25	The midship section and sections in cargo holds other than NO.1(Foremost) cargo holds are as per No.1) Midship in the attached sketches. There are 5 kinds of designs of NO.1 cargo hold as shown in No.2) through No.6) in the attached sketches. Please advise whether the respective designs No.2) through No.6) need to comply with the CSR requirements.	In case of designs as per the sketches No.3) thru 6) for No.1 cargo hold section CSR needs not be applied. However CSR needs to be applied for the case of sketches No.2.	Y
514	1/4.2.1.1	CI	Definition of Ship's speed V	2007/8/28	Ship's speed, V, is defined in Ch1 Sec4, 2.1.1 as Maximum ahead service speed, in knots. My understanding is that the definition of V in CSR is same as the one in 2.1.1 of UR S10, namely maximum service speed (knots) with the ship on summer load waterline. Is my understanding correct?	Yes, your understanding is correct. **Also Included in Corrigenda 5**	
515 attc	4/A1.3.1.2	RCP	The correct formula to deal with different cargo mass in each hold	2007/10/22	Please see the attached file.	The correct formula is as follows. Wmax(Ti) = MHD,fore + 0.1*MH,fore + MHD,aft + 0.1*MH,aft Wmax(Ti) = MFull,fore + MFull,aft whichever is the greater, for Ts $\geq$ Ti $\geq$ 0.67*Ts in order to deal with possibly different cargo mass in each hold.	Y
516	6/3.1.1.3	Question	elementary plate panels	2007/7/26	Regarding to Ch 6 Sec 3/1.1.3, "The boundary condition for elementary plate panels". We normally consider that cases 3, 4 and 7 to 10 of Table 2 are applicable where one or two plate edges are supported by solid floors, bottom girders, non-tight/tight bulkhead plates (bottom/inner bottom plate), side web frames, side stringers, deck plates, non-tight/tight bulkhead plates (side shell) and Transv. webs, deck girders, non-tight/tight bulkhead plates (deck plate). Please advise an example of structures for the application of case 3.4., and 7 to 10 of tables 2 for clarity of the requirement in 1.1.3	BLC3 and BLC 4: These BLCs can be applied for a typical plate field, where the plate is not continuous at one side. This side may be stiffened with a profile without flange (e.g. Flat bar) or not stiffened. Structural examples are plate fields located at manholes or plate fields of the hopper transverse web frame. BLC7: The edge of an elementary plate panel can only be treated as a clamped edge, when the rotation about its axis is prohibited. Therefore, this BLC can be applied for in a web buckling check of stiffeners without flanges which are attached to a very thick plate, e.g. a Flat Bar 400*20 mm attached to a 50mm thick plate. BLC8 to BLC 10: These BLCs are mostly theoretical cases included for the sake of completeness of the Table. There is no case to be applicable for an actual structure.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
517	2/1.1.1.2	CI	Number of watertight bulkheads	2007/8/20	Number of watertight bulkheads Minimum number of bulkheads is indicated in Ch2, Sec1, Table 1. Does it include bulkheads required in 1.1.1 such as collision bulkhead, after peak bulkhead and E/R bulkhead(s)?	Yes, it includes bulkheads required in 1.1.1.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
518	6/1.2.5.3	CI	Definition of the length of "long superstructures"	2007/8/30	Please advise the definition of the length of "long superstructures" specified in Ch6 Sec1, 2.5.3 .	Long superstructures are effective superstructures as defined in Ch.9 Sec.4 [1.1.5], i.e. located within 0.4L amidships and having a length greater or equal than 0.15L or 12 m. **Also Included in Corrigenda 5**	
519 attc	Ch5 App1 2.2	CI	Ultimate Strength by Incremental - iterative	2008/2/7	With regard to calculation procedure for ultimate strength by incremental-iterative approach, please be clarified three questions as follows. Q1. Shortening curve for a stiffened plate element where material of plate and stiffener are different. Q2. Shortening curve for an element where thickness of plate are different. The element can be stiffener or plate. Q3. Shortening curve for an element where material and thickness of attached plate are different. (Attachment included)	(A1) Where materials of plate and stiffener are different, two calculations are carried out: 1) for the stiffener: by adding to the stiffener an attached plating of the same material as the one of the stiffener, then determine the shortening curve and the stress σ to be applied to the stiffener. 2) for the attached plating: by adding a stiffener made of the same material as the one of the attached plating, then determine the shortening curve and the stress σ to be applied to the attached plating. (A2):An average thickness by the area of each considered plate is used for the considered element. (A3): An average thickness and yield strength by the area of each considered plate is used for the considered element.	Y
520 attc	Ch5 App1/ 2.1.1.,	CI	Plates Stiffener	2007/10/23	For plates stiffened by not longitudinally continued stiffeners such as girders in double bottom, how to divide the plate to calculation elements. Should the stiffeners be neglected and considered as plate elements? (Attachment included)	If the stiffener is not continuous it does not participate to the hull girder ultimate strength and thus it is not to be taken into account. But it divides the plate into elementary plate panels which are calculated independently.	Y
521 attc	Bulker Ch5 App1/2.2	CI	Length of Stiffeners	2007/10/23	For stiffeners where one side of web are supported by bracket which space less than the space of primary supporting members, which is length of this element, space of brackets or supporting members? (Attachment included)	The length of the stiffener is taken as the space of primary supporting members as it cannot be considered that a bracket on one side of the stiffener's web is enough to reduce this length.	Y
522	6/2.1.4.2	CI	Pressure calculation positions	2007/8/28	The pressure calculation positions would be clearly defined for vertical stiffeners where spans are corrected according to Ch3 Sec6 4.2.1. Positions for pU and pL need not to be considered the corrected upper and lower points of the span. Or positions for pU and pL should be also corrected 4.2.1. According to Sec3 5.2.2.3 of Tanker CSR, corrected span need not to be considered.	The pressures pU and pL are to be calculated at the ends of the vertical stiffener - i.e. without considering any correction of span - as it is stated in the definition of pU and pL in Ch 6 Sec 2 [1.4.2] and in accordance with the practice.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
524	Ch.9, Sec.1 & 2	RCP	Scantlings of Fore Part and Aft Part structures	2007/9/28	1) The question relates to scantlings of Fore Part and Aft Part structures in flooding condition(Ch.9, S.2, 1.1.2). It being noted that there is no specific paragraph in Fore Part referring to need of scantling assessments in case the fore part is arranged with floodable spaces other than the fore peak tank, it is requested that the requirement in Ch.9, S.2,1.1.2 be incorporated in Fore Part, as well. 2) In Ch.9, S.1 and S.2, there is no requirement of net minimum thickness of plating for watertight bulkhead, while CSR Tanker Rules specify. It is requested that net minimum thickness of plating for watertight bulkhead in Fore Part and Aft Part be specified.	1) We noticed your advice and will prepare a rule change accordingly. 2) Tables 9.1.1 and 9.2.1 are incomplete with respect to horizontal and vertical watertight boundaries, and relevant items of Table 6.1.2 may be used for watertight items in fore/aft part.	
525	6/4.1.1.1	RCP	Primary Support Members	2007/10/2	Regarding Ch.6, Sec.4-1.1.1 (Primary supporting members - Application), the conjunction 'and' in the passage quoted below is equivocal hence it is requested to change it to 'and/or' to be such that transverse members to be also applied are cleary referred to. Quote; 'subjected to lateral pressure and hull girder normal stresses' Unquote; Without the proposed change, there would be a risk of being read that the requirement can be applied only to longitudinal primary supporting members (PSM) such as bottom girders. The requirement, in particular minimum net thickness of webs of primary supporting members (Ch.6, Sec.4-1.5.1), should be applied to transverse PSM as well such as transverse web in hopper tank.	The requirements of this Section apply to the strength check of pillars and primary supporting members,subjected to lateral pressure and/or hull girder normal stresses for such members contributing to the hull girder longitudinal strength. **Also Included In Corrigenda 5**	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
529 attc	6/3.4.2.2 & 6/3.5.1.1	RCP	Buckling requirement for longitudinal and transverse stiffeners	2008/6/19	Regarding the buckling requirement for longitudinal and transverse stiffeners (6/3.4.2.2, 6/3.5.1.1), it is requested that the Rule sub-paragraphs below are given editorial review in respect of the comments/questions attached thereto. If these be found justifiable, a corrigendum would be considered necessary. 1. Nominal lateral load (Pzy) for transverse stiffeners (6/3.4.2.2): In the equation, sigma_xl should be changed to sigma_x , since the sigma_x in this case is not axial stress of the transverse stiffeners and hence the attached area will not be necessary. 2. Elastic support provided by the stiffener (cf) for transverse stiffeners: (6/3.4.2.2): Cs depends upon a degree of fixity at the ends of the stiffener sustaining lateral pressure and is independent of any elastic support due to in-plane stresses working in the attached plate. The Cs should therefore be deleted in the relevant equation. 3. Effective width of attached plating for transverse stiffeners (6/3.5.1.1): The effective width of the attached plate is considered part of the stiffener space and depends upon working stress along the stiffener. In this connection, kappa_y in the formula should read kappa_y' which is calculated in Ch. 6, Sec. 3, Table 2 as kappa_x in Buckling Load Case 1 with a in place of b. It should be noted that kappa_y itself in Buckling Load Case 2 depends upon the stress working normal in the case of application to transversely stiffened stiffeners.	A1 - It is agreed that in the equation giving the nominal lateral load (Pzy) for transverse stiffeners (6/3.4.2.2), sigma_xl should be changed to sigma_x. A2 The parameter c_s defines the degree of fixation for the transverse stiffener. In case of a structure as defined in Fig. 1 the transverse stiffener will collapse between the longitudinal girder and not between the longitudinal stiffeners. In this case c_s reduces the buckling length of the stiffener according the Euler buckling case (partially restrained). If it can be assumed that the transverse stiffener will collapse between the ordinary longitudinal stiffener c_s =1. Therefore no modifications of the formulas are necessary. A3 The effective breadth has to be calculated under the assumption that the neighbouring elementary plate field is buckled under loads, acting parallel to the stiffener. Therefore the effective plate breadth has to be reduced to the effective width. The formulae in 4.2.2 are connected to the co-ordinate system, defined in Figure 1. In this figure a transverse ordinary stiffener (n=1) is located on the shorter edge of the elementary plate panel. In case of an ordinary stiffener, located normal to the ship's x-axis, but at the longer side of the attached elementary plate field, this stiffener is a LONGITUDINAL stiffener in terms of buckling! Therefore the formula for p_zx has to be used with the effective with a_m and S_x= transverse stress is ship co-ordinate system. But this translation has not to be done in the rules text. Therefore no modifications of the formulas are necessary.	Y
533	4/5.4.1.1	RCP	Flare angle "a"	2007/9/19	With regard to the flare angle α, "α" is not defined in this paragraph. So, please explain how to determine the "α" and add the definition of it.	The flare angle alpha at the load calculation point is to be measured in plane of the frame between a vertical line and the tangent to the side shell plating. **Also Included in Corrigenda 5**	
534 attc	3/6.6.1.3	CI	Position of the main propulsion machinery	2007/10/23	The position where the main propulsion machinery is seated is normally recessed from the main double bottom structure in engine room. And the baseline of this seating can be located at which the height from the baseline is less than required. Please refer to the sketch as an example (Moulded of this ship is 45m). In this circumstance, we would like to have your confirmation whether the above arrangement is acceptable or not for the SOLAS and CSR points of view. In addition, we would like to have your general interpretation on the above regulations such as the extent of exemption, necessity of bottom damage calculation, etc.	The minimum height for the double bottom is defined in CH9, Sec3, 2.1.2. The proposed arrangement with a reduced double bottom height in way of the main engine is acceptable provided the lateral extent is limited to the M/E breadth and by lateral tight girders for the CSR for bulk carriers view point and provided the Administration agrees for SOLAS view point. The rigidity of the engine seating and the surrounding bottom structure must be adequate to keep the deformations of the system due to the loads within the permissible limits, given by the engine manufactures. In special cases, proof of deformations and stresses may be required.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
535	9/5.5.3.2 & 9/5.5.4.2	RCP	Minimum thickness of web of primary supporting member and ordinary stiffeners	2007/10/26	1. Ch 9 Sec 5 [5.3.2] and [5.4.2] We think it is wrong in Ch 9 Sec 5 [5.3.2] and [5.4.2] to link both minimum thickness of web of primary supporting member and ordinary stiffeners with tnet = 6 mm & tnet = 10s of hatch cover top plate on Ch 9 Sec 5 [5.2.2] in the following reasons. (1) The minimum net thickness specified in Ch 9 Sec 5 [5.2.2] is required for steel plating forming the tops of hatch covers by ILLC Reg.16 (5) (c) which is only applied to the top plate, not to the web of primary supporting members and ordinary stiffeners. (2) If the current ordinary stiffener size L 125*75*7 or stiffener with a U-profile are satisfied with the strength requirement specified in IACS UR S21, the stiffener spacing is required to be reduced to 450 to 500 from 600 or 700 mm so that it complies with the minimum net thickness [tnet = 10s] specified in Ch9 Sec5 [5.2.2]. In addition, the web thickness of such stiffeners is increased by 1 to 2mm due to the minimum net thickness of 6mm. The stiffener weight of the hatch cover will be increased about 40% compared to the current one which satisfies the requirements of IACS UR S21. Therefore, we propose to revise the requirement for minimum net thickness requirement for webs of primary supporting members and ordinary stiffeners specified in Ch 9 Sec 5 [5.3.2] and [5.4.2], respectively.	In Ch 9, Sec 5, [5.3.2],the web minimum net thickness of the ordinary stiffener, in mm, is to be not less than 4 mm. In Ch 9, Sec 5, [5.4.2],the web minimum net thickness of the primary supporting member, in mm, is to be not less than 6 mm.	
536	9/5.1.4.1	Question	Stiffeners with a U-profile	2007/10/26	Ch 9 Sec 5 1.4.1 Corrosion additions (1) Box type stiffeners such as stiffeners with a U-profile are used in many hatch covers. The internal environment in a stiffener with a U-profile is similar to the one for internal structures of double skin hatch covers. Therefore, we consider that the total corrosion addition for such stiffeners should be 1.5mm for single skin hatch covers. Please clarify the requirement on the corrosion addition of such stiffeners. (2) In applying a finite element analysis in order to evaluate the stresses in the primary supporting members of hatch covers, are FE models considered a full corrosion addition or a half corrosion addition? (3) In calculating the net moment of inertia of a primary supporting member, does a full corrosion addition subtract from the gross offered thickness of a primary supporting member?	1) As pointed out by the questioner, the corrosion environment inside of a box-type stiffener may be the same of the inside of double skin hatch cover, but the corrosion environment outside of a box type stiffener is the same of the cargo side of a hatch cover. Therefore a corrosion addition of 2mm has to be applied. 2) We think that full corrosion addition has to be considered, because in comparison of the hatch cover to the bulk carrier hull it can be assumed, that the whole hatch cover structure may corrode simultaneously, because the environmental conditions are not so different. 3) When calculating the net moment of inertia of a primary supporting member, full corrosion addition has to be considered to be in line with S21.3.5 and the design approach in Ch6.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
537	Table 9.5.2	Question	Weathertight hatch covers and pontoon hatch covers	2007/10/19	3. Ch 9 Sec 5 Table 2 (1) The allowable stress for weathertight hatch covers and pontoon hatch covers subjected to external pressure are 0.80 ReH and 0.68 ReH, respectively, in accordance with Reg.15 and Reg.16 of ILLC, but the allowable stress for both weathertight hatch covers and pontoon hatch covers subjected to other loads is the same. Why does the same allowable stress apply to the different types of hatch cover? Please clarify. (2) According to ILLC, external pressure is only external wave pressure acting on the hatch cover. As CSR considers 4 load cases, i.e., H, F, R and P, the external pressure for R1, R2, P1 and P2 at any point of an exposed deck is considered, in addition to the external pressure for load cases H1, H2, F1 and F2, that is the same as IACS UR S21. Therefore, we understand that “External pressure, as defined in Ch 5 Sec 5, 2” means the external pressure specified in Ch 4 Sec 5 [2.2] and [2.3] and does not include “Load carried on exposed deck” specified in Ch 4 Sec 5 [2.4]. We also understand that other loads in Table 2 mean “load carried on exposed deck” and internal pressure due to liquid in ballast hold specified in Ch 4 Sec 6 [2] Please confirm.	A1: For loads which are different from ILLC sea loads, the practice of some classification Societies, since many years, is to consider an allowable stress different from the one indicated by ILLC and applicable for all types of hatch covers. A2: This is related to question 527 and your interpretation is correct: - external pressures are sea pressures - other loads are those defined in Ch9 Sec5 [4.1.3] to [4.1.6].	
538	9/5.5.2.3	CI	Stresses in the primary supporting member	2008/4/11	4.Ch 9 Sec 5 [5.2.3] (1) Where the stresses in the primary supporting member are evaluated by FEA, the uni-axial buckling check can be omitted since the buckling strength check using the bi-axial compression stress in the hatch cover plating is carried out in accordance with the requirements of Ch 6 Sec 3. Please confirm. (2) As there is no stiffener buckling factor "c" or F1 in Table 1 of Ch 6 Sec 3 for special shape stiffeners such as a stiffener with a U-profile, please make an interpretation for the buckling factor of a stiffener with a U-profile.	A1 The Common Interpretation is as follows: - If no finite element analysis is performed for the buckling of the hatch cover plating, only the criteria for buckling for uniaxial compression is to be checked. - If a finite element analysis is performed for the buckling of the hatch cover plating, criteria for buckling for bi-axial compression are to be checked. A2 According to the stuffiness of the stiffener with U-profile, we think the coefficient factor F1 is acceptable to the same value for girders specified in Table 1 of Ch 6 Sec 3, i.e., F1 = 1.30. However a higher F1 value than 1.30 may be accepted provided the buckling strength of panel stiffened by U-beams is verified by non-linear buckling analysis using FEA.	
540	3/6.6.5.2	Question	The bilge keel length	2007/10/19	The last sentence in the 1st paragraph of Ch.3 Sec.6 [6.5.2] reads:" The bilge keel with a length greater than 0.15L is to be made with the same grade of steel as the one of bilge strake." In this connection please confirm that the intermediate flat is not required to be made with the same grade of steel as the one of bilge strake regardless of the length of the intermediate flat.	The intermediate flat is also to be of the same steel grade as the bilge strake and the bilge keel in case of a bilge keel length > 0.15L.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
542	7/2.3.3	RCP	Thickness iteration procedure for buckling strength assessment	2007/10/24	Whilst an answer has been given in IACS KC484 to the question on thickness iteration procedure for buckling strength assessment, it is still requested that a common iteration procedure or a Rule stipulation be specified. Question: Regarding buckling and ultimate strength assessment in a global strength analysis, an increase in thickness of each panel satisfying requirements will be obtained by iteration. As there is no clear process in the current rules, it is considered appropriate that the stress may be used as it is with no reductions associated with thickness ratios in each iteration step. Is this correct? If not correct, some known approaches are considered available, for example, (i) all component stresses are reduced with thickness ratios, (ii) the same as (i) but stresses in the global X direction are not reduced, (iii) only the stress due to local loads is reduced with thickness ratios and the stress due to hull girder loads is not reduced. Please advise a common process to apply proper stresses for required thickness calculations. Answer: CSR only requires that the results of DSA are to comply with the strength criteria in Chapter 7. There is no need to specify the iteration procedure to confirm the reinforcement of structure in CSR because it is considered that the responsibility of reinforcement of structure which does not comply with the strength criteria is up to designers not classification societies. Classification society only confirms that the results of DSA carried out for the given scantlings of structure comply with the strength criteria specified in the (m) proposed amendments to structure where necessary, including revised assessment of stresses, buckling and fatigue properties showing compliance with design criteria", it is considered necessary for CSR-BC to implement a harmonised iteration process for determining amended scantlings by thickness iteration.	The report of the FE analysis has to demonstrate that the ship structure has been designed according CSR-BC.	
543	Ch.9 Sec.1, Sec.2 and Sec.3	CI	Scantlings of PSMs in Fore Part, Aft Part & E/R	2007/10/23	Although scantling of PSMs in Fore part, Aft part and E/R are regulated in Ch9 Sec1 through Sec3 in CSR, scantling requirement for not all the PSMs are regulated in Ch9. Scantling requirements of some of the PSMs, such on decks or deep tank bulkheads, refer to Ch6 Sec4. In Ch6 Sec4, scantling formulas are regulated for ships having ship's length L less than 150m, and direct strength analysis is required for ships having L=150m or more according to provisions in Ch7. However, Ch7 regulates direct strength analysis of cargo hold structures only. Please advise how to determine scantling of PSMs in Fore part, Aft part and E/R for ships having L=150m or more.	According to the agreed answer of question #312, PSM in the fore and aft part of the vessel may be designed according Ch6, Sec4, 2.6. We will consider the further rule development about the determination of the scantling of primary supporting members outside midship cargo regions for ships of 150m in length and above.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
544 attc	12/ 1.2.1	CI	Inner bottom plating	2008/4/25	Our interpretation of 2.1.1 to 2.1.3 of CH12, Sec1 is the following: a) the whole inner bottom plating has to be dimensioned according 2.1.2 b) the sloped hopper tank plating and the sloped or non-sloped lower stool plating have to be dimensioned according 2.1.3 up to a height of 3m above the inner bottom (vertically measued) c) in case of a hybrid-bulker the inner longitudinal wall, welded directly on the inner bottom wihout a hopper plate, has to be dimensioned according 2.1.3 up to a height of 3m above the inner bottom d) The coaming, deck girders below coaming, top wing sloping plate and upper stool plating have not be increased due to the GRAB-notation Please confirm these interpretations.	A1) Yes the whole inner bottom plating has to be dimensioned according to Ch.12 Sec.1 [2.1.2]. A2) The interpretation of Ch.12 Sec.1 [2] is as follow: Ch.12 Sec.1 [2.1.1] is applicable to plating of inner bottom, hopper, lower stool side plating and inner hull up to a height of 3m above inner bottom. Ch.12 Sec.1 [2.1.2] is applicable to the plating of inner bottom. Ch.12 Sec.1 [2.1.3] is applicable to plating of hopper, lower stool side plating, inner hull up to a height of 3m above inner bottom. A3) Yes, inner longitudinal walls of an hybrid bulker have to be dimensioned with respect to Ch.12 Sec.1 [2.1.3]. A4)No, coaming, deck girders below coaming, to wing sloping plates and upper stool plating are not concerned by Ch.12 Sec.1.	Y
546	6/1.2.7.4 & 6/2.2.5.4	CI	Weight of the Steel Coil	2008/2/7	JBP rules Chapter 6,Section 1.2.7.4 and Chapter 6,Section 2.2.5.4 (steel coil). In this requirement it is stated that where the number of load points per element plate panel n2 is greater than 10 and/or the number of dunnages n3 is greater than 5, the inner bottom may be considered as loaded by a uniform distributed load. The question is how to calculate the above uniform distributed load. Is it the weight of the steel coil divided by the diameter and length of the steel coil as the uniform load, or the weight of the steel coil divided by the length of the steel coil only?	A similar question was asked under KC ID #331. The approved answer (on 12/01/2007) was "A definition of uniform loads on inner bottom will be included in CSR for bulk carriers. Considering your specific proposals, the interpretation is that the uniform load is the weight of the steel coil divided by the diameter and length of the steel . We will consider the rule change proposal based on the output of the Hull Panel.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
547	6/3.1	CI	The Sequence of Buckling Assessment	2008/1/9	What is the right sequence of performing the buckling assessment according CH6, Sec3?	The sequence of the buckling checks follows the arrangement of Chapter 6, Section 3. In case of the buckling check for a typical ship structure (e.g. longitudinal stiffened bottom) the elementary plate panel has to be dimensioned first according the plate buckling criteria. In the following lateral buckling check of the stiffeners the net moments of inertia is derived including the effective width of the attached plating. This effective width depends on the thickness of the plate field. If this thickness is not sufficient for plate buckling, the effective width and also the moment of inertia of the stiffener is too small. As a result a larger stiffener would be required to pass the lateral buckling check. And this larger stiffener gives no bonus for the plate buckling check. Therefore it is important to make the plate buckling check before performing the lateral buckling check.	
548	1/1.1.1.2	Question	Ship not being Hybrid-BC	2007/10/9	If a ship is not an hybrid-BC according to CSR definition in Chapter 1, 1.1.2 (i.e. for the considered ship no one hold has hopper tank and topside tank), it is not required to apply the CSR. In case an owner intends to build a ship longer than 90 m having all cargo holds of box type and expected to carry cargo in bulk for a number of travels a year, i.e. a bulk carrier according to SOLAS chapter XII, the following questions are to be answered: 1.if the Shipyard or Ship-owner asks - for any commercial reason - to classify the ship (which is not hybrid because all the holds are without hopper and lower tanks) as Bulk Carrier, can each Society decide to classify the ship as Bulk Carrier without applying the CSR? Applicable Rules would be each Society's Rules for BC and the URs to Bulk Carriers. 2.if the Shipyard or Shipowner asks to classify the ship (which is not hybrid because all the holds are without hopper and lower tanks) as Bulk Carrier with scantlings according to CSR, can each Society decide to classify the ship as Bulk Carrier applying the CSR even if Chapter 1, 1.1.2 does not require it? The CSR can be applied, because in 1.1.2 is stated that "The structural strength of members in holds constructed without hopper tank and/or topside tank is to comply with the strength criteria defined in the Rules.", meaning therefore that the CSR scantling can be applied to such holds. It is to be noted that in no case ESP will apply as this is not required under SOLAS XI-1 Reg.2.	The questions are considered to be outside of PT1's scope of work. It is requested to Hull Panel to provide answer to your questions.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
549	Table 4.6.2	Question	Testing Load height of a ballast hold	2007/10/9	In table 2 of CH4, Sec6 the following formula is given for the testing load height of a ballast hold: z_st = z_h + 0,9 In the GL-Rules the same formula is the constant 2,5 instead of 0,9. What is the basis of the additional height of 0,9m? Mean height of a hatch cover, experimental results, sloshing effects?	0.9m head is based on the item number 4 of Table 1 in IACS UR S14.	
551	Symbol 6.1	Question	Countermeasure for panel buckling	2007/10/24	As a countermeasure for panel buckling, a carling with snipped ends is fitted on a slender panel so as to reduce the aspect ratio of the panel. Can the reduced aspect ratio of the panel which is calculated by (s/l) be used in determining the thickness of such panel according to Ch 6 Sec 1? Where s and l are defined in "Symbols" in Ch 6 Sec 1.	Yes, the reduced aspect ratio of the panel which is calculated by (s/l) may be used in determining the thickness of such panel according to Ch 6 Sec 1.	
557 attc	6/1.2.3.2, 6/1.3.2.1, & 6/1.3.2.4	Question	Bilge Plate Thickness	2008/1/28	Regarding bilge plate thickness, Q1: Is always C6/S1/[2.3.2] to be applied regardless of the spacing (sb) of floors or transverse bilge bracket vs chord length (l)? Q2: Is C6/S1/[3.2.1] to be applied regardless of the spacing (sb)of floors or transverse bilge bracket vs chord length (l)? Q3: Is C6/S1/[3.2.4] to be applied regardless of the spacing (sb)of floors or transverse bilge bracket vs chord length (l)? Q4: If C6/S1/[3.2.4]is to be applied,is cr to be calculated as follows; (a) when sb < l: cr=1-0.5sb/R=1.0 assuming that R=infinitive, (b) when sb>=l: cr=1-0.5l/R?	A1: The requirement of Ch6 Sec 1 2.3.2 applies only to bilge plating which are transversally framed. A2: The requirement of Ch 6 Sec 1 3.2.1 is applied to bilge plating regardless of the framing system. A3: The requirement of Ch 6 Sec 1 3.2.4 is applied to bilge plating regardless of the framing system. A4: The additional stiffness of a panel due to curvature is given by the parameters radius and chord length. If sb>=chord_length, the elemenatry plate panel is longitudinal stiffened, hence cr=1-0.5*s/r. If sb<chord length, the elementary plate panel is transversally stiffened, Cr is taken equal to 1.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
558	10/1.3.3.2	RCP	Unit displacement due to torsion	2007/10/9	With reference to the technical background document, the requirement Ch10, Sec1, 3.3.2 is according to C.3.2, Sec. 14, Chapter 1, Part 1 of the GL Rules, and based on IACS UR S10, however coefficient of ft, unit displacement due to torsion, differs as follows; GL & UR: 3.14 CSR: 3.17 We think that the value in CSR is not correct. Therefore, we propose the value should be changed to the one in IACS UR S10.	Your comment is noted. We will consider the edditorial correction. **Also Included in Corrigenda 5**	
559	Text 9/3	CI	Longitudinal strength and local strength of plates and stiffeners in machinery space	2008/4/10	Regarding the requirements of longitudinal strength and local strength of plates and stiffeners in machinery space, our interpretations are as follows; 1. Longitudinal strength 1-a. Longitudinal bending and shear strength are checked according to Ch5, Sec1. 1-b. Hull girder ultimate strength is checked according to Ch5, Sec2. 2. Local strength of plate and stiffener 2-a. Flooding requirements in Ch6, Sec1, 3.2.2 and Ch6, Sec2, 3.2.5 are applied with considering longitudinal stress sigma_x as similar to cargo area 2-b. Buckling requirements in Ch6, Sec3 3.1.2 and 4 are applied with considering longitudinal stress sigma_x and tau as similar to cargo area Please clarify above interpretations.	1. Longitudinal strength in machinery space 1-a. Longitudinal bending and shear strength are checked according to Ch5, Sec1, provided flooding in machinery space needs not be considered . 1-b. Hull girder ultimate strength is checked according to Ch5, Sec2, provided flooding in machinery space needs not be considered . 2. Local strength of plate and stiffener in machinery space 2-a. Requirements in Ch6, Sec1, 3.2.2 and Ch6, Sec2, 3.2.5 are applied with considering longitudinal stress sigma_x in intact condition. 2-b. Buckling requirements in Ch6, Sec3 3.1.2 and 4 are applied with considering longitudinal stress sigma_x and tau as similar to cargo area.	
560	3/6.5.7.2	RCP	Lightenign holes in primary supporting members	2008/4/11	The first sentence of Ch 3, Sec 6, 5.7.2 states: "Where openings such as lightening holes are cut in primary supporting members, they are to be equidistant from the face plate and corners of cut-outs." Even though the above, the distance from the opening to the face plate of the primary supporting member is larger than the ones to the corners of the cuts-out as "a" indicated in Fig 15. At the same time, the location of the opening is restricted by the note, "h<=d/2", as indicated in Fig 15. We consider that this requirement is obviously impractical. Therefore, the word "the face plate and" should be deleted from the 1st sentence of 5.7.2. Furthermore, we would like to confirm the following: (a) this requirement is not applicable to the access hole; (b) "phi" in the figure means the width of the lightening hole, not the height of the hole; (c) even if the arrangement of holes in primary supporting member does not meet Ch 3, Sec 6, 5.7.2, it can be accepted based on the results of DSA.	We will consider a rule change with considering your comment. The answers to the items (a) to (c) in the question are as follows. (a) This requirement is not applicable to the access hole. (b) “phi” is the diameter of lightening hole, neither height nor width of openings. (c) As there are too many locations to be assessed, it is considered impracticable to determine the arrangement by FEA. Therefore, the arrangement of holes in primary supporting member meets this requirement as a principle. However, since it might be possible to determine the arrangement of hole in primary supporting member based on the results of FEA, it could be accepted based on the FEA at the discretion of the Classification Society.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
563 attc	3.6.19, 6/2.3.3.3 & 6/2.3.3.4	Question	Modulus of the Lower or upper Bracket	2008/2/7	According to Ch.6 Sec.2 [3.3.3] and [3.3.4], section modulus of side frame+bracket is required at the level of lower or upper bracket as shown in Ch.3 Sec.6 Fig.19. According to the Fig.19, it is unclear how to measure the height of the bracket for the purpose of section modulus calculation. For the purpose of hLB/tLB ratio the height of the bracket is defined in Ch. 3 Sec. 6 figure 22, which is also unclear. We assume hLB for section modulus and hLB for hLB/tLB ratio is calculated in the same way. Please confirm. Attached please find two alternative approaches for calculation of hLB. A. hLB is measured perpendicular to bracket flange. B. hLB is measured perpendicular to the projection of the lower bracket slope. Please confirm correct approach for measuring bracket height hLB.	In Ch 6, Sec 3, [3.3.3] and [3.3.4], for the purpose of calculating the actual section modulus of the lower (respectively upper) bracket, the web height is to be measured at section noted "lOWER BRACKET" (respectively "UPPER BRACKET") on Fig 19 of Ch 3, Sec 6. In Ch 6, Sec 3, [3.3.3], for the purpose of hLB/tLB ratio the height hLB of the bracket is measured according to the definition in [3.3.3] and so according to Ch 3, Sec 6, Fig 22. It is corresponding to the Figure B of your attached document.	Y
564	3/6.8.3.1	Question	Side Frames - General	2007/11/2	Reference is made to Ch. 3 Sec. 6 [8.3.1] Side frames – general This requirement is originating from UR S12.5. In CSR the formula states r= 0.3 x (..) while in UR S12.5 r = 0.4 x (..). Is this a typo? If not, what is the reason for the formula change.	We will consider the rule change in order to be in line with IACS UR S12. **Also Included In Corrigenda 5**	
565	4/6.3.3.6 & 4/6.3.3.7	CI	Net thinkness of corrugations	2008/4/24	Reference is made to KC#402 Q2. Quote: Q2:Ref. Ch. 6 Sec. 1 [3.2.3] and Sec. 2 [3.2.6] The item Ch. 6 Sec. 1 [3.2.2] is giving “Net thickness of corrugations (..) for flooded conditions” and Sec. 2 [3.2.6] is giving “Bending capacity and shear capacity (..) for flooded conditions.” Both items refer to the design resultant pressure and resultant force as defined in Ch. 4 Sec. 6 [3.3.7]. Ch. 4 Sec. 6 [3.3.7] is defining the resultant pressure in combined bulk cargo water flooding. [3.3.6] is defining the pure water flooding pressures on corrugations. This pressure seem to be overlooked in Ch.6. We assume that the reference to [3.3.6] is missing in Ch. 6. Please consider revising the definition of p in Ch. 6 Sec. 1 [3.2.3] and Sec. 2 [3.2.6] to "(..)either [3.3.6] or [3.3.7] whichever greater". Q2 Answer: Ch 6, Sec 1, [3.2.2] and Sec 2, [3.2.6] are requirements coming from UR S18. The reference to the design resultant pressure in Ch 4, Sec 6, [3.3.7] only is fully in line with UR S18. Consequently, there is no need to add any reference to [3.3.6]. Unquote. Please advise how Ch. 4 Sec. 6 [3.3.6] is accounted for when calculating the resultant pressure in [3.3.7]" or any other scantlings requirements. According to Ch. 4 Sec. 6 [3.3.2], the 2nd sentence reads; "In any case, the pressure due to the flooding water alone is to be considered" and the 4th line from the bottom reads; "For the purpose of this item, holds carrying packed cargoes are to be considered as empty." We understand that the pf and Ff of [3.3.6] deal with such cases but we can not find if they are referred to anywhere in CSRB. Please advise.	We agree that the pressures and forces on a corrugation on flooded empty hold specified in Ch 4, Sec 6, [3.3.6] should be considered for scantling check of corrugation in Ch 6, Sec 1, [3.2.3] and Ch 6, Sec 2, [3.2.6]. We will consider the rule change proposal in order to be in line with the 2nd sentence of Ch 4, Sec 6, [3.3.2].	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
566	Ch.4/3.2.4, Ch.4/7 & Ch.4/8	CI	Single Hold Flooding	2008/4/11	Reference is made to IACS KC #501 (CSR Bulk Ch. 4 Sec. 3 [2.4], Sec.7 and Sec.8) Regarding the single hold flooding as required by CSR Ch4 Sec.3 [2.4] and URS17. According to current URs: •URS25.2.2 “The loading conditions listed under Section 4 are to be used for the checking of rules criteria regarding longitudinal strength(2), local strength, capacity and disposition of ballast tanks and stability.(..)” •Note 2: “As required by URs S7, S11 and S17” According to current CSR: •URS25 Conditions are enclosed in Ch. 4 Sec. 7 •URS1 Loading manual conditions are enclosed in Ch. 4 Sec. 8 •SW bending loads in general is given in Ch. 4 Sec. 3 [2.1.1] “(..) The shipbuilder has to submit for each of the loading conditions defined in Ch. 4 Sec. 7 a longitudinal strength calculation” •SW flooding bending moments are given in Ch. 4 Sec. 3 [2.4] In [2.4.3] “(..) The loading conditions on which the design of the ship has been based are to be considered..” Q1: We assume that the conditions referred to in Ch. 4 Sec. 3 [2.4.3] are the conditions listed in Ch. 4 Sec. 7. That is, the same loading conditions as stated in URS25. Please confirm. Q2: The answer given to IACS KC #501 is indicating that only Ch. 4 Sec. 8 conditions have to be considered for flooding purposes. In our opinion, also Ch. 4 Sec. 7 should be considered for flooding purposes. Please consider changing the wording in KC #501 in order to avoid confusion.	A1. The loading conditions specified in Ch. 4 Sec. 3 [2.4.3] are the conditions listed in Ch. 4 Sec. 7. That is the same as stated in URS25. A2. According to the first bullet of Ch 4 Sec 8 [2.1.2], the loading condition is the condition specified in Ch 5 Sec 1, which refers to Ch 4 Sec 3, and the loading conditions specified in Ch 4 Sec 3 are the conditions listed in Ch 4 Sec 7. Therefore, the answer in KC 501 is kept as it is. However, to avoid the confusion, we may chenge the link in "CH4, Sec8, 2.1.2" from "Ch5, Sec1" to "Ch4 Sec3".	
567 attc	6/1.2.3.3	Question	Net thickness offered of the adjacent bottom and side plating	2007/10/26	Reference is made to IACS KC#475. Quote This thickness requirement is referring to the net thickness offered of the adjacent bottom and side plating. Unquote Please advise how to define the bilge plating for fwd and aft parts of the cargo hold region. E.g. - attached sketch is showing a cross section in the fore part of a bulk carrier. - Bottom is strengthened for bow impact - bilge plating is to comply with KC#475. Please advise bilge extent.	Within 0,4L amidship the definition of bilge plate is the same as defined in Table 4.1.1 of Section 4, CSR for DH oil tanker. That is: “The area of curved plating between the bottom shell and side shell. To be taken as follows: From the start of the curvature at the lower turn of bilge on the bottom to the lesser of, the end of curvature at the upper turn of the bilge on the side shell or 0.2 D above the baseline/local centerline elevation.” Outside of 0.4L amidships the bilge plate scantlings and arrangement are to comply with the requirements of ordinary side or bottom shell plating in the same region. Consideration is to be given where there is increased loading in the forward region.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
568	10/1.5.1.4	Question	bending stress	2008/10/27	Reference is made to Ch. 10 Sec. 1 [5.1.4] Strength of rudder body. We assume ths stresses is originating from UR S10.5.1b) Please advice technical bacground for the increase of bending stress form 75 to 90N/mm2.	The technical background for the increase of bending stress form 75 to 90N/mm2 is to consider the bending stress and shear stress due to torsion. However, as the data to verify this increment can not be available. Therefore, we would like to consider the RCP to be in line with the requirements of UR S10, in order to avoid the confusion.	
569	10/1.5.2.1	RCP	Thickness of Rudder plating	2007/10/2	Reference is made to Ch. 10 Sec. 1 [5.2.1] Plating thickness of Rudder plating. “The influence of the aspect ratio of the plate panels may be taken into account according to Ch.3.” The reference to Ch. 3 is wrong. Please advice if Ca according to Ch. 6 Sec. 1 Symbols may be utilised for this purpose. The requirement of Ch. 10 Sec. 1 [5.2.1] is originating from URS10.5.2. Please note that the aspect ration formulation of UR S10.5.2 is different from that of Ch.6 Sec. 1 Symbols. Please updated the rule formulation and references of Ch. 10 Sec. 1 [5.2.1].	Thank you for your note. We will consider the editorial change in order to be in line with IACS UR S10.5.2. **Also Included In Corrigenda 5**	
571 attc	Ch4 App3 and Ch7 sec 4	Question	fatigue strength assessment	2008/8/9	Please answer to the attached question for fatigue of Bulker CSR.	A1. For fatigue strength assessment, the cargo density used is to be as much “realistic” as possible. Therefore, the cargo density according to Ch 4 App.3 should be used for fatigue strength assessment not only by direct analysis specified in Ch 8 Sec 3 but also simplified method specified in Ch 8 Sec 4. We will consider the rule change proposal accordingly A2. We think that Ch 7 Sec 4 3.3.2 referred in the question is Ch 7 Sec 4 3.2.2 correctly. The the definition of lamda for "welded intersection between plane plates" is applicable for intersection of two plates and intersection of plating and bracket. A3 The correction factor of Ch 7 Sec 4 [3.2.2] is applicable to the case where the stress at the 0.5 t from the hot spot is slightly greater than the stress at the 1.5 t from the hot spot.	Y
579	6/3.2.1.3	Question	Shear force for buckling	2008/5/30	Total shear force for buckling check is to be obtained by following formula Q = Q_SW + C_QW x Q_WV. Then the distribution of total shear force is discontinuing at midship since the sign of C_QW is to be change at midship according to the foot note of Table 3 in Ch4 Sec 4. This discontinuity will cause scantling change between midship, especially for H1, H2, F1 and F2 load cases. Is it correct and expected?	Yes, it is correct but the scantling discontinuity is not expected. We will consider the rule change proposal in order to eliminate or minimize the scantling discontinuity, considering the answer in KC 685.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
580 attc	6/2.3.2.4	CI	The line Supported by girders or welded directly to decks or inner bottoms	2007/10/26	In Ch 6, Sec 2, [3.2.4], it seems that in Table 4 (case with lower stool), the line "Supported by girders or welded directly to decks or inner bottoms" should not be mentioned in the table since this case is a case without any lower stool. Please confirm our interpretation. Furthermore, both Table 4 and Table 5 should not mention the column "Supported by girders" since it is not applicable to bulk carriers.	We agree with your interpretation: in Table 4, the only case to be taken into account is the "Welded to stool efficiently supported by ship structure" one. Also, the "supported by girder ends" do not correspond to bulk carriers but other type of ships. Consequently, the column "Supported by girders" should be deleted in Table 4 and 5. Corrected table 4 and 5 are given in attached file.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
581	6/2.3.2.4	Question	Span "l" to be considered for the calculation of pressures	2007/10/25	In Ch 6, Sec 2, [3.2.4], what is the span "l" to be considered for the calculation of pressures (p_mid-span, p_u , P_L)? Is it the span defined in figure 6 or the span between upper level of lower stool and lower level of upper stool?	The span “l” to be considered for the calculation of pressures (p_mid-span, p_u, p_L) is the span as defined in figure 6.	
582 attc	9/3.2.1.9	CI	Manhole Dimensions	2008/2/7	Chapter 9, Section 3. [2.1.9]: 1) The 2nd paragraph has the general requirements for the manhole size in floors. We note that many ships are designed with two separate tanks vertically in way of main engine bed. The access manholes exceeding the above size limit due to lower floor height in way are designed in each upper and lower tanks as shown in the attachment. We understand that such arrangement may be acceptable provided the shear area of the floor is not less than that with the hole of 40% of floor local depth based on minimum required thickness in way and the local strength is satisfied. Please confirm or otherwise advise. 2) We understand that the requirements in paragraph 2 of 9-3/2.1.9 is not applicable to girders. Please confirm.	A1 - Where access manholes dimensions exceed the size limit in Ch 9, Sec 3, [2.1.9] due to lower floor height in way, such arrangement may be acceptable provided that the shear area of the floor is not less than that with the hole of 40% of floor local depth based on minimum required thickness in way and that the local strength is satisfied. A2 - The requirements in paragraph 2 of 9-3/2.1.9 are also applicable to girders.	Y
583	Ch.9 Sec.3/4 & 5	RCP	scantlings for platform structures and pillars	2007/3/23	9-3/4 and 9-3/5: The platforms and pillars will support the loads of machinery, independent tanks etc.. However there is no loads specified in CSR for determining the scantlings for platform structures and pillars. It is also impracticable to obtain the dynamic loads for each machinery weight due to lack of information. Therefore, based on current CSR , it is impracticable to determine the scantlings of platforms and pillars in engine room except the minimum plate thickness specified in CSR. As an alternative, we think that each Class Society Rules may be used for determining the scantlings of platforms and pillars in addition to the minimum plate thickness requirements specified in CSR. Please confirm. Also suggest CSR to specify the loads for platforms in engine room and pillars.	1) There are no specific loads in CSR BC for determining the scantlings of platforms in machinery spaces. There is only a minimum plate thickness requirement. 2) For determining the scantlings of platforms and pillars in addition to the minimum plate thickness requirements specified in CSR for BC, a Rule Change will be considered in future.	
584	6/4.4.1.1	CI	Compressive stress of pillars	2007/10/23	We understand that the compressive stress of pillars mentioned in 6-4/4.1.1 is the stress by the static loads and the dynamic loads. However, there is no clear statement in CSR how to calculate the loads on pillars. The clear interpretation on this is to be developed. As an alternative, we think that the current Class Society Rules may be used for determine the pillar scantlings. Please confirm.	Yes, the stress to be checked is the one induced by the static and dynamic loads that are acting onto the decks above the considered pillar. These loads are to be calculated accordingly to chapter 4.	
586 attc	1/1.1.1.2	CI	Longitudinal Bulkhead	2008/4/24	In case we have an inclined longitudinal bulkhead, is it possible to consider there is no hopper tank and therefore not to apply CSR Rules? If this inclined longitudinal bulkhead is made with small change with two slopes, is it possible to consider there is no hopper tank?	A few similar questions have already raised to IACS KC. IACS works on an entire answer for the application of the CSR-BC for different ship designs, considering a clear definition of the hopper tank.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
587 attc	1/1.1.1.2	CI	Structure of bulk carrier in midship, aft and fore body hold	2007/10/24	Please see attachment for structure of bulk carrier in midship hold and aft and fore body hold. In this case, whether or not is CSR mandatory?	A few similar questions have already raised to IACS KC. IACS works on an entire answer for the application of the CSR-BC for different ship designs, considering a clear definition of the hopper tank.	Y
589	Table 10.1.1	RCP	The definition for Coefficient Kappa_2 for each rudder profile	2007/10/28	Coefficient kappa_2 for each rudder profiles is defined in Ch10, Sec1, Table1. However, the definition of each rudder profiles is not cleary mentioned. Therefore, it is requested that rudder profiles indiated in Table1 be defined clearly such with figures of Table1 in UR S10.	Your comment is noted. We will consider the editorial correction.	
590 attc	3/6.5.4.1	Question	Definition of Attached platins of primary members	2008/5/28	The main concern is on the definition of ATTACHED PLATINGS of primary members (girders/ webs etc). I have been using a LOGICAL spreadsheet to calculate the Effective width of attached plating for Primary members (as for secondary members the effective width is the normal frame spacing and is well defined).The spreadsheet I have been using for the same is attached for your reference. Based on the Latest ABS CSR 2006 requirement the definition says…" effective breadth of attached plating of primary supporting member to be considered in the actual net section modulus for the yielding check is to be taken as the mean spacing between adjacent primary members." This would mean that the primary would be stronger if the spacing of the primary is higher (in some cases). I have attached a case study on the Effective Width of plating considered based on IACS requirement and earlier Ship Rules. The summary is also attached in the same. I would request if you could arrange to clarify my little query on the same.	The definition of the effective breadth in CH3, Sec6, 5.4.1 is an antagonism to the definition, given in CH6, Sec4 Symbols. In this paragraph it is clearly stated that the effective breadth b_p is defined according CH3, Sec6, 4.3, which is b_p = min(s, 0.2l). The definition given in CH3, Sec6, 5.4.1 will be corrected accordingly.	Y
594	6/1.2.3.3	Question	The Thickness of the Bilge Strake	2008/2/7	The thickness of the bilge strake is determined according CH6, Sec1. The scantling check includes also a buckling check of the longitudinal or transverse framed curved plating. Nevertheless it is required, that the thickness of the bilge strake is not less than the greater thickness of the bottom and the side shell plating. What is the reason, that the thickness of the bilge strake has to be increased, if the bilge strake with a thickness smaller than the bottom and the side shell passes all design checks (Yield, Buckling, FE-Analyses). The GL-Rules (I-Part 1, Sec6, 4.1) allows a smaller thickness, if the shear strength is sufficient and if the bilge plate panels passes the buckling check including buckling of curved panels.	In order to have no large discrepancies in thicknesses for welding, it is a normal building practice to provide a continuity of thicknesses between bottom, bilge and side shell. That is the reason of the requirement that the thickness of the bilge strake is not less than the greater thickness of the bottom and the side shell. However, provided all the design criteria have been fullfilled: - minimum thickness, - yield, - buckling, - FE analyses, a smaller thickness of the bilge strake may be accepted.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
598	3/6.6.3.3	Question	Ordinary stiffener spacing	2008/1/10	According to CH3, Sec6, 6.3.3 a spacing of MIN (4.5m; 5x ordinary stiffener spacing) is required DB side girders in case of longitudinal framed double bottom. According to the GL rules and our experience, a spacing of maximum 2x ordinary stiffener spacing is appropriate in the strengthening forward area of a vessel. According CH9, Sec1, 5.4.1. the spacing "S" is not limited. is this limitation missing for the strengthening forward part?	In CSR of BC, the scantlings of girders and floors in the strengthened bottom forward are determined by the scantling formulae which in turn define the spans and spacing of the floors and girders. Therefore, by using the scantling formulae, there is no need to separately define the spacing of the girders and floors in the strengthened bottom forward.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
601	1/1.1.1.2	Question	Application to convert ships	2008/3/14	CSR Application to converted ship; In response to the recent demands of the bulker market, there are many conversion plan of the existing tanker into bulk carrier. The most of such plans indicate that hull envelope (i.e., bottom, side and portions of deck structures) of the existing ship is retained as original and inner bottom structures and TST/hopper tank shaped structures (void) are newly installed for satisfactorily comply with the grain stability. Such conversion is considered as a "major conversion" under the statutory requirements. However, it is not clear in application of CSR for bulk carrier. Please advise of your views for the following inquiries: Q1: In line with the definition of "alterations and modifications" of the statutory requirements, such as SOLAS II-2Reg. 1.2.3.2.(FP), is CSR for bulk carriers required to be applied to the converted bulk carrier? Please advise your views. Q2: There is no clear statement in the current text on applicability of CSR for bulk carriers which undergo alterations and modifications or conversion from other type of ship into bulk carrier. We would think such statement should be indicated in the text. Q3: Is such applicability related to the extent of conversion ? If yes, we would think that definition of "(Minor) Conversion" or "Major Conversion" should be defined in the application of CSR for bulk carrier with the clear extent of conversion, e.g., new cargo hold structures replace the existing cargo area construction for XX% of the entire hull structures	The issue is being discussed at Hull Panel for Council decision on the IACS procedures to be followed.	
603 attc	8/4.2.3.6	CI	Displacement of transverse bulkhead.	2008/4/18	JBP rules Chapter 8,Section 4.2.3.6 Stress due to relative displacement of transverse bulkhead. There are 3 questions: Q1. Is the relative displacement an absolute value or with a sign? Q2. If it is not absolute value, how to decide the sign of them? Q3. We understand that this additional stress is only applied at the transververse bulkhead. This additional stress is not required for the rings adjacent to the transverse bulkhead.	Regarding the requirement in Ch 8, Sec 4, [2.3.6], please find our answers. A1: The relative displacements are not absolute value. They should be calculated with signs (+ or -); A2: The signs of the displacements are decided as per the rules in the attachment; A3: Your understanding is correct and comfirmed.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
604	1/4.2.1.1 & 4/3.2.4	Question	Longitudinal Strength Calculation	2008/5/6	It is mandatory to make Longitudinal Strength Calculation for one flooded hold for Bulk Carriers having length of 150 m or above; according to SOLAS Ch. XII Reg. 5. For that calculation the length of the ship is to be taken as Loadline Length according to SOLAS Ch. XII Reg. 1 SOLAS Rule Reference: SOLAS Ch. XII Reg. 1 (for length definition) & SOLAS Ch. XII Reg. 5 (for Strength Calculation). According to CSR for Bulk Carriers the same calculation for flooded hold should be carried out but in CSR it is stated that the length of the ship is to be taken as the Rule Length. CSR Rule Reference: CSR Ch.1 Sec. 4 2.1.1 (for length definition) & CSR Ch.4 Sec. 3 2.4 (for Strength Calculation) In our project, the Rule Length < 150 m while the Loadline Length > 150 m. Would you please advise what kind of application should be followed? Should the strength calculation be made in this particular case? Which length should be taken into consideration?"	The rule length as defined in Ch 1, Sec 4, [3.1.1] should be used for the determination of still water bending moment and still water shear force in flooded condition according to Ch 4, Sec 3, [2.4].	
609 attc	6/1.2.7.1& 6/2.2.5.4	RCP	Steel Coil Loading	2008/2/7	Reference is made to Ch. 6 Sec. 1 [2.7.1] and Sec. 2 [2.5.4] Steel coil loading and related KC# 331 and 546. Ch. 6 Sec. 1 [2.7.1] and Sec. 2 [2.5.4] Quote “Where the number of load points per elementary plate panel n2 is greater than 10/or the number of dunnages n3 is greater then 5, the inner bottom may be considered as loaded by a uniform distributed load. In such a case, the scantling of the inner bottom ordinary stiffeners is to be obtained according to [3.2.3]” Unquote We understand that “distributed load” is sometimes interpreted as P = WCoil/(lcoil x dcoil) where lcoil and dcoil is the length and diameter of coil respectively. DNV have investigated the effect of such interpretation with the stiffener scantling as example. Our conclusion is that such a interpretation is unsafe and should be changed to distributed load over one elementary plate panel as described below. Please find enclosed DNV report and rule change proposal enclosed for your consideration.	This question is identical to KC ID#546, and the answer is that the uniform load of due to steel coil is the weight of the steel coil divided by the diameter and length of the steel . A rule change proposal will be considered based on the output of the Hull Panel.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
610	Ch.6, Sec.3 4.2.	RCP	Buckling Assessment of stiffended panel	2008/5/30	1. Lateral buckling assessment of stiffened panel including side frame is treated as longitudinally stiffened panel which has a stiffener arranged on the direction of the longer side of the panel. Please confirm it. 2. In case that shear stress on side shell as attached plate of side frame is large, shear stress is the dominant load of lateral buckling of side frame. It is not understandable for us. Please show the technical background in this regard. Even though the thickness of side shell plates comply with Ch5 Sec1, 2.2 & Ch6 Sec3, 2.1.3, the side shell plate thickness should be increased due to the result of lateral buckling assessment of side frame. It is necessary to reconsider the above requirements which require increase of scantling of hull girder members due to the result of local strength check. 3. We request to reconsider the requirement of lateral buckling assessment for side frame in connection with above 1. and 2.	A1) Confirmed. Comment on 2) and 3) It is obvious, that for transverse members the axial stress component is zero in the formula for the criteria and the equation for p_z (nominal lateral load). The remaining stress component is the hull girder bending stress with its zero crossing and shear. And so shear becomes dominant. We support to reconsider the requirements for lateral buckling.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
612	3/6.9.6.3 & Figure 3.6.25	Question	Extreme corners of end hatchways	2008/5/30	[Q1] C3S6[9.6.3] reads in its 3rd last paragraph: "For the extreme corners of end hatchways,…" Please clarify the location of "the extreme corners of end hatchways". [Q2] According to C3S6[9.6.3], for the extreme corners of end hatchways, the thickness of insert plates is to be 60% greater than the actual thickness of the adjacent deck plating. Is this requirement also applicable to hatch corners with the elliptical or parabolic profile? [Q3] For the dimension requirements of hatch corner inserts as specified in Fig.25 of C3S6[9.6.3], is this requirement also applicable to the corner inserts with the elliptical or parabolic profile? If yes, how to determine the value of "R" as indicated in Fig.25 for the elliptical or parabolic profile? [Q4] With regard to the question [Q3], since the required material class of hatch corner plating is Class III and that for adjacent deck plating is Class II, the insert plate may be required in some cases even if the corner profile is an elliptical or parabolic profile. In this case, are there any dimension requirements for such inserts? Are the requirements in Fig.25 of C3S6[9.6.3] applicable and if yes, how is the value of "R" shown in fig. 25 determined?	[A1] The extreme corners of end hatchways are: a) the fore end hatch corners of foremost hatch, and b) the aft end hatch corners of aftmost hatch. [A2] Please refer to 4th paragraph in Ch.3 Sec.6 [9.6.3] which reads:"For hatchways...insert plates are, in general, not required .....where the plating cut-out has an elliptical or parabolic profile and the half .... ● twice the transverse dimension, in the fore and aft direction." According to this paragraph "60% greater" requirement needs not be applied if the afore-quoted condition of 4th paragraph is satisfied. In case the condition is not satisfied a strake or an insert plate containing the hatch corner needs to comply with the requirements of thickness in [9.6.3] including "60% greater" requirement. [A3] Dimension requirements of Fig.25 needs not be applied to the elliptical or parabolic profile which complies with the half axes and half lengths requirements of 4th paragraph of C3S6[9.6.3]. In case the foregoing 4th paragraph requirements are not satisfied a strake or an insert plate containing the hatch corner needs to comply with the dimension requirements of Fig.25. In such a case the starting points of d2 and d3 are to be taken from the radii's ends of the elliptical or parabolic profile. [A4] Please consider separately the steel grade from insert plate. In case a strake or an insert plate within 0.4L amidship includes the hatch corner, grade III or grade E/EH is to be applied. In case a strake or an insert plate does not contain the hatch corner and is not the stringer plate, grade II is to be applied. Dimension requirements for insert plate need not be applied to an elliptical or parabolic profile which complies with half axes and half length requirements of 4th paragraph of C3S6[9.6.3]. Fig.25 needs to be applied only when insert plate is required by [9.6.3].If elliptical or parabolic profile does not satisfy the requirements of half axes and half length requirements, a strake or an insert plate containing the hatch corner needs to comply with the dimension requirement of Fig.25. Then the steel grade of the strake or the insert plate within 0.4L amidship to be III or grade E/EH.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
613	Symbol 9.5 & 9 Sec.5	CI	Hatch Cover of ballast hold	2008/4/24	Reference is made to Ch.9 Sec. 5 Q1 Requirement for hatch cover of ballast hold In Chapter 9 Sec.5 Symbols, it is stated that "FS = 0 and FW = 0.9 for hatch covers of the cargo ballast hold". It is our understanding, these coefficients are applicable to ballast pressure only and not sea pressure or cargo pressure. If so, please consider rephrasing the paragraph to "FS = 0 and FW = 0.9 for ballast pressure of hatch covers on the cargo ballast hold". Q2 Ballast pressure calculation When calculating ballast pressure according to Ch.4 Sec.6 [2.2] we assume that the fixed value of (x-xB) may be utilized. (0.75lh or -0.75lh) Please confirm and if relevant, update rules accordingly. Q3 Structural calculation a. When ballast pressure or dry cargo pressure is considered for the hatch cover, please advise the formula to use in order to calculate the required plate thickness, section modulus and shear area of stiffeners? Can the formula in Ch.6 Sec.1 [3.2.1] and Ch.6 Sec.2 [3.2.3] or the formula in Ch.9 Sec.5 5.3.3 be used? b. In Ch.9 Sec. 5 bending stresses of primary supporting members are accounted for when calculating scantlings of local structures such as plate and stiffeners. If we use the formulas of Ch. 6 Sec. [3.2.1] and Ch. 6 Sec.2 [3.2.3], shall primary bending stress be accounted for? (Ref. lambdaP and lambdaS factors) Please clarify the rules.	A1. Your understanding that the coefficient FS = 0 and FW = 0.9 are applicable to ballast pressure only is right. A2: This fixed value has to be used in prescriptive assessment of structure. A3:Formulae as per Chapter 9, Sec.5 should be used.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
614 attc	3/5.1.2.1	Question	Coating requirements of double-side skin spaces of bulk carriers	2008/5/6	Comment to the answer, A3 of KC#426 Since coating requirements of double-side skin spaces of bulk carriers in regulation 3/5.1.2.1 of CSR for Bulk Carriers are developed based on the former SOLAS regulation XII/6.3, definition of “double-side skin” should be in accordance with SOLAS regulation XII/1.4. ***quote*** Former SOLAS Regulation XII/6.3 (Resolution MSC.170(79)) Double-side skin spaces and dedicated seawater ballast tanks arranged in bulk carriers of 150 m in length and upwards constructed on or after 1 July 2006 shall be coated in accordance with the requirements of regulation II-1/3-2 and also based on the Performance standards for coatings* to be adopted by the Organization. SOLAS Regulation XII/1.4 (Resolution MSC.170(79)) Double-side skin means a configuration where each ship side is constructed by the side shell and a longitudinal bulkhead connecting the double bottom and the deck. Hopper side tanks and top-side tanks may, where fitted, be integral parts of the double-side skin configuration. ***unquote*** Accordingly, the said regulation 3/5.1.2.1 is only applicable to void spaces when located within cargo length area in bulk carriers of double-side skin construction. Therefore, the asked void spaces arranged as a part of top-side tank, when provided in bulk carriers of single-side skin construction, need not to be considered as a double-side skin space. The attached interpretation would be effective to the amended SOLAS regulation II-1/3-2 (resolution MSC.216(82)). Please clarify the above again.	We agree to your interpretation.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
615	10/1.5.1.4	Question	The effective cross sectional area under consideration	2008/3/5	In the definition of e: lever for torsional moment in Ch10 Sec1 [5.1.4], a-a: is defined as the centre line of the effective cross sectional area under consideration. Please clarify the definition of “the effective cross sectional area under consideration”.	This requirement is refered to the centre of the horizontal cross section where the stress levels are evaluated. Hence, the structural weakest horizontal section of the rudder-blade considered i.w.o. the cutout for the rudder-horn.	
616	10/1.5.3.4 & 10/1.5.3.5	CI	Thickness of the horizontal web plates	2008/6/19	1. Ch10 Sec1, 5.3.4 regulates the thickness of the horizontal web plates in the vicinity of the solid parts. Please clarify the definition of "the vicinity of the solid parts". 2. Ch 10 Sec 1, 5.3.5 regulates the thickness of verical web plates welded to the solid part. (1) Please clarify the extent of the vertical web plates to be applied to this requirement. (2) Can different thickness be accepted when justified on the basis of direct calculation as specified in [5.3.4]?	A0: For the horizontal webplates; "in the vicinity" should be interpreted as to extend to the next vertical web from the solid piece. The goal is to assure proper integration of the solid-piece, hence torsional forces are to be properly distributed by means of shear to the next structural members in the rudder-blade. A1: The vertical extend should be interpreted as to extend to the next horizontal web from the solid piece. A2: A thickness reduction due to direct analyses is not allowed.	
617	3/1.2.3.9	CI	Welded attachments on hull plating	2008/5/30	Ch3, Sec1, 2.3.9 states as below; "Rolled products used for welded attachments on hull plating, such as gutter bars, are to be of the same grade as that used for the hull plating in way." Is it applicable to small members, such as coaming plates fitted around mooring winch on upper deck? Please clarify the applicability of this requirement.	This requirement applies to the longitudinal members attached to hull plating except internal members and which are considered in the longitudinal strength calculation such as gutter bars.	
618	10/1.5.5.1	RCP	Maximum pintle diameter	2008/5/13	(1) Ch10 Sec1, 5.5.1 refers to 4.4 and 4.6, however, the references to Ch10 Sec1, 4.4 and 4.6 are not appropriate. It seems that the correct references are to Ch10 Sec1, 5.4.4 and 5.4.6. Please clarify the above. (2) According to IACS UR S10, the length of the pintle housing in the gudgeon is not to be less than the maximum pintle diameter. However, such a requirement is not mentioned in CSR. Please add a requirement regarding the length of the pintle housing to [5.5] of CSR for Bulker.	A1: Your understanding is right. We will make an editorial correction. The references will be changed from [4.4] to [5.4.4] and from [4.6] to [5.4.6]. A2: This requirement is given in CH10, Sec1, 5.4.6. which combines URS10.7.1 and URS10.8.2.	
620	9/5.5.4.6	Question	Error in the formula giving kt	2008/5/12	In Ch 9, Sec 5, [5.4.6], it seems that there is an error in the formula giving kt, which is not in accordance with UR S21. Please confirm?	It is right. The formula of kt should be modified from kt=5.35+4*(a/d)^2 to kt=5.35+4/(a/d)^2, to be in accordance with UR S21.3.6.3. This editorial correction will be issued as a Corrigenda.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
621	6/3-4.2 and 5.1	CI	Ultimate Strength in lateral buckling mode of side frames	2008/4/11	Regarding ultimate strength in lateral buckling mode of side frames of single side bulk carriers in Ch.6, Sec.3-4, our interpretation is that 'transversely arranged' side frames should be treated as 'longitudinal stiffeners' in Ch.6, Sec.3-4.2 and -5.1 since the ends of side frames can be considered as fixed ends taking account of the requirements of upper and lower connections of side frames as stipulated in Ch.6, Sec.2-3.4. Confirmation is requested as to whether the above interpretation is correct or not.	Yes, side frames of single side bulk carriers are longitudinal frames in context of CH6, Sec3. The definition "longitudinal" is given in CH6, Sec3, Symbols and Fig. 1. This is independent from the fixation of the ends of the frames.	
622	Ch.4, Sec.7	Question	Loading conditions	2008/4/11	With regard to loading conditions used for flooding, KC ID. 486 says 'Regarding flooding conditions, our interpretation is that they should have to be considered only for loading conditions defined in Ch 4, Sec 8, as they are really navigation conditions.' This reply seems to mean that loading conditions define in Ch 4, Sec 7, which comes from UR S25, does not need to be applied to flooding. However, UR S25-2.2 and Note (2) clearly says that the loading conditions listed in UR S25-4 are to be used for the checking of rules criteria regarding longitudinal strength required by UR S17. It is our understanding that the requirements of the CSR BC Rules have to be the same as those of UR S25 since both are IACS requirements. Hence it is requested to clarify the discrepancy above.	As you pointed out, CSR requirements for flooding conditions are the same as those requirements of IACS UR S25 and S17. The loading conditions defined in CSR Ch 4 Sec.7 [2], which come from IACS UR S25.4, are to satisfy the requirement of the longitudinal strength in flooded condition. The loading conditions for local strength defined in CSR Ch 4 Sec.7 [3], which come from IACS UR S25.5 need not satisfy the requirement of the longitudinal strength in flooded condition. Accordingly, the answer in KC ID #486 has now been modified as follows. 1. The loading conditions which are required by Ch 4, Sec 7 [3] are "artificial loading condition" considered for the check of local strength only and need not satisfy longitudinal strength. 1bis. The loading conditions specified in Ch 4, Sec 7 [2] are required to check the longitudinal strength and are to be described in the loading manual specified in Ch 4 Sec 8. 2.Regarding flooding condition, the loading conditions in Ch 4 Sec 7 [2] are required to check the longitudinal strength. 3.Regarding intermediate conditions required in Ch 4, Sec 3, [2.1.1], if considered more severe, they are to be considered for loading conditions defined in Ch 4, Sec 7 and included in the loading manual specified in Ch 4, Sec 8.	
623 attc	6/A1.1.3.2	RCP	Buckling Panel idealization for d) General Triangle	2008/4/24	Regarding the buckling panel idealization for d) General triangle in Ch 6, Appendix 1, 1.3.2, it is mentioned that general triangle is treated according to a) "Quadrilateral panels" above. However, in the case of a triangle with all acute angles, a rectangle with the smallest area cannot be specified as the three rectangles that completely surround the general triangle have the same area, see attached. Just the original paragraph cannot result into a final rectangular panel with the smallest area represented by the dimensions, a, b and panel angle Theta. As such, an alternative stipulation covering both obtuse triangles and acute triangles is requested.	Neither the DIN18800 nor the GL-buckling rules, which are the basis for CH6 Sec3 of the CSR-BC, consider triangular elementary plate panels as described above. The appendix of CH6 describes general approaches for an engineer to evaluate non standard geometry. Remeining items are up to engineering judgement.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
624 attc	Symbol 6.3 & 6/3.1.1.2	CI	Application of buckling requirements	2008/5/12	This question relates to application of buckling requirement (Ch.6, Sec.3) and SOLAS XII/6.5.3. (A) According to IACS Unified Interpretation of SOLAS XII/6.5.3 (SC209, June 2006), safety factor of 1.15 for buckling requirement should be applied to longitudinal and transverse ordinary stiffeners for the following areas: - hatchway coaming, - inner bottom, - sloped panel of topside tanks and hopper tanks (if any), - inner side (if any), - top stool and bottom stool of transverse bulkhead (if any), - stiffened trasnverse bulkhead (if any), and - side shell (if directly bounding the cargo hold). (B) According to Symbols in Ch.6, Sec.3 of CSR-BC Rule, safety factor (S) for buckling requirement refers to the same members as stated in above (A) except stiffened transverse bulkhead, e.g. collision bulkhead and aft bulkead in an aftermost cargo hold. (C) According to Ch.6 Sec.3-1.1.2 (a) of CSR-BC Rule, the application of the buckling requriement is to 'ordinary stiffeners in a hull transverse section analysis'. We think the interpretation of 'hull transverse section analysis' is 'longitudinal members and hold frames'. If the interpretation is correct, locations to be checked are the same as stated in above (A) except stiffened transverse bulkhead and top/bottom stools. Considering the above situation, it is considered necessary that the following elements be inserted: in Safety factor (S) in Symbols in Ch.6, Sec.3, 'stiffened transverse bulkhead, if any', in Ch.6, Sec.3-1.1.2(a), 'ordinary stiffeners on stiffened transverse bulkhead and on top and bottom stools, if any'.	Your interpreation (A) to (C) is correct. We will consider the Rule Change proposal or Edditorial correction for clarification of the application.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
625	Ch.4, Sec.5	CI	Ambiguity found in determining x/L	2008/4/11	This question relates to the ambiguity found in determining x/L in the following cases as x is on the global co-ordinate system whereas L is Rule length. (i) In Ch.4, Sec.5, 1.3.1, clarification is requested in case x/L lies at a position less than 0 or more than 1.0 in calculating kl. (ii) In Ch.4, Sec.5, 1.3.1, clarification is requested in case |x-0.5L| lies at a position less than 0 or more than 1.0 in calculating kp. (iii) In Ch.4, Sec.5, 2.2.1, Table 4, clarification is requested in case x/LLL lies at a position less than 0 or more than 1.0 in calculating pw.	A-1 If x/L is less than 0 or greater than 1.0, x/L is taken equal to 0 or 1.0, respectively. A-2 If x is less than 0 or greater than L, x is taken equal to 0 or x=L, respectively. A-3 If x/LLL is less than 0 or greater than 1.0, x/LLL is taken equal to 0 or 1.0 respectively.	
626	4/5.1.3.1	CI	pHF When the relevant hull section is totally above the waterline	2008/2/21	This question relates to pHF(Ch4. Sec.5, 1.3.1) when the relevant hull section is totally above the waterline. It is noted that there are some totally above the waterline in the aft and fore parts of ships in normal or heavy ballst condition. Bi at the location in the above condition is regarded as 0. When considering external pressure under H1, H2, F1 and F2, clarification on how to calculate pHF is requested when Bi=0. Is |2y|/Bi=1 applicable?	When the considered location is above the waterline, Bi is regarded as 0. In this case, the pHF at the considered waterline is calculated assuming |2y|/Bi=1 and then the pressure at the considered location is corrected according to 1.6.1 of Ch 4 Se 5.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
627 attc	4/6.3.3	CI	Flooded conditions for Transverse vertically corrugated watertight bulkheads	2008/2/21	Regarding lateral pressures and forces in flooded conditions for Transverse vertically corrugated watertight bulkheads (Ch.4, Sec.6-3.3) originated from IACS UR S18, it should be that the density of dry bulk cargo (ρc) and cargo filling level (hc) in Ch.4, Sec.6-3.3 are the same as for those in UR S18. In calculating scantling of corrugated transverse bulkheads in flooded conditions for BC-A ships, it is interpreted that the Rules are requiring scantlings using the ρc defined in Table 1 of Ch.4, Sec.6 (probably, 1.0 for homogeneous load condition and 3.0 for alternate load condition) and an imaginary hc defined in Ch.4, Sec.6-1.1. If this is the case, the likelihood is that a required net scantling determined by bending capacity is less than that required by UR S18 as in our experienced cases where it is shown that a density such as 1.5 resulting from M_HD/V_H with the cargo filling to deck at centre has frequently been critical. As shown in our calculation attached, the required net bending capacity by the CSR BC Rules is less than that by UR S18 by around 10 %. Such being the case, it is considered neccessary to avoid a case where scantlings less than those determined by applying UR S18 is accepted. To this end, any density of dry bulk cargoes (ρc) and cargo filling to deck at centre should be considered for flooded conditions.	We will consider the rule change proposal regarding flooding condition.	Y
628	4/5.2.2.1 & 4/5.5.2.1	Question	External pressures on exposed forecastle deck	2008/5/28	With respect to external pressures on exposed forecastle deck and a hatch cover if arranged thereon, it is requested that the following are clarified. 1. External pressures on freeboard deck and forecastle deck are explicit as set out in Ch.4, S.5, 2.2.1. Tables 4 and 5, would lead you to believe that the pressure Pw on forecastle will be linearly increased to a maximum at the fore perpendicular. 2. It is our understanding that this is not the case as the linear increase in pressures is only applicable to exposed freeboard decks iaw Reg 16.2 of the 1988 Protocol to the ILLC 1966 (Loadline Convention) 3. If the coefficients in Tables 4 and 5 were applied the pressures on the forecastle would grow to such a disproportionate extent such as 90 kN/m2 as compared to the constant pressure of 34.3 kN/m2 on a hatch cover applicable as set out in Ch.4, S.5, 5.2.1 and Regulation 16 (2) (d) in the 1988 Protocol to the ILLC 1966 (LL Convention) defining Positions for hatchways.) 4.It is assumed that the conceptual background of the Rule is that pressures on exposed decks in Load Cases H1, H2, F1 and F2, are the same as those on hatchways in the LL Convention and the rules should be amended to reflect this more explicitly. 5. CSRPT1 should be requested to confirm our assumption and propose an amendment to the rules to clarify this issue.	The assumption made by LR is right and we will consider the Rule change proposal to clarify this issue.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
629	6/1.2.5.1	CI	Net thinkness of a welded sheerstrake	2008/5/9	Regarding the requirement of welded sheerstrake (Ch.6, Sec.1-2.5.1, 'The net thickness of a welded sheerstrake is to be not less than the actual net thickness of the adjacent 2 m width side plating, taking into account higher strength steel corrections if needed'), it is noted that there is the relevant Q&A (KC ID No.212). However, the answer does not seem clear hence it would be appreciated if the following proposal be considered. The answer of KC ID No.212 says, 'Generally, when the side shell plating adjacent to sheerstrake includes single side part and is increased due to the buckling and hull girder shear strength, it is also the case for the sheerstrake, which is located above. Consequently, we see no reason to modify this requirement'. This will be the case when the sheerstrake covers part of single side skin (SSS) area. However the fact is that almost all sheerstrakes do not cover the part of single side skin area, i.e. they are located within top side tank (TST). Generally speaking, hull girder shear strength is occasionally critical to the scantling of single side skin, while it is not to the scantling of sheerstrake within TST area since the relevant shear flow calculation shows that the shear stress in SSS is considerably bigger than that in TST area. Such being the case, the requirement should be interpreted as follows: 'The net thickness of a welded sheerstrake is to be not less than the net required thickness of the adjacent 2 m width side plating, which is calculated according to the relevant requirements in Ch.6, Sec.1'.	We agree to the interpretation that the net thickness of a welded sheerstrake is to be not less than the net required thickness of the adjacent 2 m width side plating, which is calculated according to the relevant requirements in Ch.6, Sec.1	
630	3/6.9.2.3	CI	Cross deck beams	2008/6/19	Regarding Ch.3, Sec.6-9.2.3, the following question and suggestion are offered for reply. 1. The passage says, '…, beams are to be adequately supported by girders and extended up to the second longitudinal from the hatch side girders towards the bulwark'. Clarification of the beams is requested as to whether it means hatch end beam only or ordinary cross deck beams inclusive. A bulwark is not always arranged hence rewording such as 'deck side' is suggested. 2. In case that ordinary cross deck beams are inclusive, the paragraph does not seem to reflect practical design. It is therefore proposed that the extension of beams up to the second longitudinals…can be waived provided a direct strength analysis in compliance with the requirements in Ch.7 be found satisfactory.	A1: The continuity of structures and integration is the purpose of this section. Base on the original intention, it is considered that the beams means not only hatch end beams but also cross deck beams. We agree to editorial correction that bulwark is changed to deck side. A2: As mentioned by the questioner, this requirement does not seem to match the recent practice of design. We will consider the rule change proposal in order to match the practical design.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
631 attc	6/1-2.7, 6/2-2.5	CI	Steel coils	2008/4/11	Regarding Ch.6, Sec.1-2.7 and Sec.2-2.5 about steel coils, it would be appreciated for KC to reply to the following comments. 1. The requirement for plates and ordinary stiffeners on hopper sloping and inner hull plating (Ch.6, Sec.1-2.7.3 and Sec.2-2.5.3) seems to require considerably severe scantlings as compared to that in pre-CSR BC. In this connection, it is requested that a background document be supplied to users. 2. It is understood that the requirements of Ch.6, Sec.1-2.7.3 and Sec.2-2.5.3 are based on the assumption that the steel coils are in uniform contact on the hopper sloping or inner hull plating. In aft and forward cargo holds, however, there are some cases where the steel coils do not uniformly touch on them. Attached is the example. Hence it is necessary that a procedure of how to deal with it in that case be provided. 3. Regarding Ch.6, Sec.1-2.7.4, it is noted that an answer of KC ID.331 says that a definition of uniform load will be included in CSR BC Rules. In the meantime, it is requested beforehand to be confirmed that the 'uniform load' is not uniform load over the inner bottom plate but uniform line loads.	A1: A Rule Change Proposal with associated Technical Background is presently under preparation. A2 and A3: Please, refer to the answer of KC ID#546 and 609.	Y
633 attc	Ch.4, Appendix 1	RCP	Hold Mass Curves	2008/7/2	A change of the Rules regarding hold mass curves set out in Ch.4, Appendix 1 is proposed as described in the attachment. Hold mass curves are to be based on design loading conditions for local strength as defined and specified in Ch. 4, Sec. 7, Para. 3 of the Rules. However, it has been found that hold mass curves to be drawn up in a practical manner do not completely reflect the design loading conditions defined in Ch.4, Sec.7, Para.3. It is proposed that the Rules are part changed as drafted therein for review and consideration, where the wordings underlined by red and the figures rounded by red line denote the proposed changes.	The content of the proposal will be studied and - if needed - the impact on scantling will be quantified. This may lead to a Rule Change Proposal.	Y
634 attc	Ch.5, Appendix 1	RCP	Load end shortening Curves	2008/3/26	A change of the Rules regarding load end shortening curves set out in Ch.5, App.1 is proposed. In case that stiffeners and attached plates are of different materials in some areas of hull girder transverse sections, it is proposed that the stipulations relating to the load-end shortening curves defined in Ch. 5, App.1 are expanded as underlined in red in the attachment to meet such case for user-friendliness purposes.	Please refer to the answer in KC ID 519. We will consider the rule change proposal in order to clarify this.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
635 attc	Table 8.4.1	CI	Stress concentration factors	2008/3/26	Regarding the stress concentration factors given in the Rules Chapter 8, Section 4, Table 1, it is understood that where values are given only for connections with watertight collar plates fitted, these are also applicable for connections with non-watertight collar plate or no collar plate fitted. NK Bulletin No.276, 2006 refers. (in Japanese) Please confirm.	Your understanding is correct. We will consider the rule change proposal in order clarify this.	Y
636	7/2.2.3.1	RCP	High Stress of Cross Deck	2008/3/26	Regarding the draft answer for "PH7101_: High Stress of Cross Deck obtained by DSA (KC ID No.343)", we would like to offer following suggestions to have a feasible conclusion for this issue before the wording of the draft answer is settled. 1. It is noted that the problem has happened in the DSA using a FE cargo hold model under the load cases of R1, R2, P1 and P1, where dynamic pressures induced will be unsymmetrical to the ship centre line. As described in Table 2 of Ch. 7, Sec. 2, Para. 2.3.1 of the CSR for BC, the cargo hold model is simply supported at both ends through the independent point for vertical bending and horizontal bending whilst relevant bending moments are applied at both ends to achieve the target values, however, the rotation around x axis at the fore end is constrained in addition to the warping, i.e., fully fixed at the fore end for torsion, whilst those are free at the aft end. Under such boundary conditions, if there is any local pressure in it unsymmetrical to the centre line, the cargo hold model is naturally twisted without any control. Relevant boundary conditions may need to be added to the aft end and will probably be well modified the wave-induced torsional moment and warping. 2. It is understood that the load cases of R1, R2, P1 and P2 correspond to beam sea since hydrodynamic pressures are independent of x coordinate as shown in Ch. 4, Sec. 5, Paras. 1.4 and 1.5. Wave-induced torsional moments in the load cases may, therefore, be relatively small as compared with those induced in oblique sea which may be given in Ch. 4, Sec. 3, Para. 3.4, however, the torsional moments are not available in any part of the Rules. (Continues to the next page)	1.We will consider the rule change proposal regarding the boundary condition on rotational restriction about x-axis in order to avoid the unreasonable stresses due to unexpected and unreasonable warping of FE model. 2. The examination regarding the stress assessment of hatch corner has been carried out by IACS another PT separately.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
636	7/2.2.3.1	RCP	High Stress of Cross Deck	2008/3/26	(Continuation of the former page) 3. Warping may be calculated at any position using the formula in Ch. 8, Sec. 5 if relevant wave induced torsional moment is available, whilst the formula is insufficient from the following points of view; 3.1. The rate of twisting is calculated by pure torsion, i.e., St. Venant's torsion only. The secondary torque induced as a result of the constraint of warping is ignored. (Note: Warping is proportional to the rate of twisting.) 3.2. The hull section is treated as closed section and hatch openings is taken into account by introduction of deck opening coefficient without any theoretical background. The hull section is to be an open section and the cross deck is to be treated as a spring resisting the torsion. 4. The control of the boundary conditions is quite complicated and difficult for torsion, then, the rotation is to be constrained even at the aft end under the load cases of R1, R2, P1 and P2, i.e., Rx is to be fixed at the aft end. This may give a reasonable solution for the cargo hold model apart from the torsion. 5. The cross deck bending due to torsion is to be examined in oblique sea separately, if necessary.	(Refer to the former page)	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
637 attc	7/2.2.1.1	RCP	The extent of FE Model	2008/5/12	Whilst an answer has been given in IACS KC248 to the question for assessment of holds of both ends, the procedure is not clarified but left to the responsibility of each Society. Question ID: 248 Approved: 30/11/06 Rule Ref.: Text 7/2.2.1.1 (bulker) Question: Extent of model The extent of FE model is required to be three cargo holds and mid one is the target assessment. In handy bulk carriers, loaded holds(Nos.1 and 5 holds) are not included in the mid part model(Nos.2-4 holds). Please clarify the FE model for handy bulk carriers with 5 cargo holds. Answer: The FEA assessment of cargo holds is restricted to the midship area by the CSR. However, assessment of holds of both ends is left to the responsibility of each Society – this may be an extrapolation schema, a specific FE analysis, a FEA provided by the ship designer,… Furthermore, it should be noticed that this problem is also relevant in the CSR for Oil Tankers. However, it is considered necessary to provide a common procedure to decide scantlings subject to Common Structural Rules. Furthermore, the local strength and hull shear strength in way of the foremost and aftermost cargo holds should be assessed by the direct strength analysis using the FE cargo hold models to confirm the structural adequacy and suitability in way. 1) Local strength aspect Due to the hull form change, the double bottom shape will become slender toward the fore end of the foremost cargo hold and the aft end of the aftermost cargo hold respectively. Consequently bottom girder/floor arrangements in way will differ from those amidships and transmission of loads on the double bottom to the girders and floors will differ from that amidships. Furthermore, the sectional shape of the hopper tank will become crescent toward the fore and aft ends whilst it is triangular amidships. Application of the outcome of the direct strength analysis for the cargo holds amidships is very difficult for such different structural configuration and not relevant. The direct strength analysis should be carried out for the foremost and aftermost cargo holds to assess the load supporting capability of the bottom girders/floors and the transverse webs in the hopper tank. (Continues to the next page)	We appreciate the questioner's effort to provide the disccusion material on this matter. We will ask the Hull Panel to resolve this matter and we will submit this proposal tp the Hull Panel as a support material for discussion.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
637 attc	7/2.2.1.1	RCP	The extent of FE Model	2008/5/12	(Continuation of the former page) 2) Hull shear strength aspect Under alternate loading conditions, very high hull girder shear forces will be induced at the aft transverse bulkhead of the foremost cargo hold and at the fore transverse bulkhead of the aftermost cargo hold and those will be corrected by a factor which is derived taking into account load transmission to the transverse bulkhead through the bottom girders on the assumption that the double bottom shape is rectangular whilst it is not rectangular in way. The hull shear strength is critical at both transverse bulkheads, however, it deeply depends upon accuracy of the factor. To avoid uncertainties in derivation of the factor, the hull shear strength should be assessed by the direct strength analysis. The procedure of the direct strength analysis is proposed for the foremost and aftermost cargo holds as shown in the attachment which is basically in line with those for the cargo holds amidships. Please specify the procedure for assessment of holds of both ends on the rules and provide the procedure of the direct strength analysis for the foremost and aftermost cargo holds.	(Refer to the former page)	Y
638 attc	3/3.1.2.1 & Table 3.3.1	CI	Corrosion addition for ballast water tanks	2008/4/22	Regarding corrosion addition for ballast water tank within 3 m below the top of tank in Table 1 in Ch.3, Sec.3 of CSR BC Rule, our interpretation is that it should be applicable only to ballast tanks with weather deck as the tank top. This interpretation is in line with Table 3 of Technical Background on Corrosion addition and Note 1. of Table 6.3.1 of CSR for Double Hull Oil Tanker Rule. Please confirm if our interpretation is correct. According to Table 3 of the attached Technical Background, the corrosion value of 1.7 is shown for topside tank in WBT when the tank is subject to high temperature. The high temperature is expected for the members in ballast water tank with weather deck as the tank top. Therefore, a tank top of WBT which is not weather deck, e.g. the tank top of WBT(APT) below steering gear room, should be treated not as 'within 3 m below the top of tank' but as 'elsewhere' in Table 1 in Ch.3, Sec.3 of CSR BC Rule. In addition, if this interpretation is acceptable, an answer of KC ID 206 (corrosion addition of hopper side tank not connected to top side WBT) should be re-considered.	We examined the thickness measurement data regarding the position of structural members in bilge hopper within 3m below from the tank top. As the result, the corrosion diminution of structural members within 3m below from the tank top was not different from other than those. Therefore, we will consider the rule change proposal based on the results of the examination. Accordingly, we will modify the answer in KC ID 206	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
639	6/4.2.2 and 4.2.4	Question	Net Web thickness requirements	2008/7/16	With respect to Net Web Thickness requirements for centre girders, side girders, floors, stringer of double side structure and transverse web in double side structure for ships of less than 150m in length, it is requested to confirm whether our interpretation below is correct or not. 1. Ch6/4.2.2.1, 1.1 pS,IB and pW,IB are Cargo pressures from Cargo Hold or Ballast pressures from Ballast Hold. These still water and wave internal pressures are to be reduced from the corresponding Ballast pressures from Water Ballast Tank. 1.2 pS,BM and pW,BM are External sea pressures. These still water and wave internal pressures are to be reduced from the corresponding Ballast pressures from Water Ballast Tank. 2. Ch6/4.2.4.1, 2.1 pS,SS and pW,SS are External sea pressures. These still water and wave internal pressures are to be reduced from the corresponding Ballast pressures from Water Ballast Tank. 2.2 pS,LB and pW,LB are Cargo pressures from Cargo Hold or Ballast pressures from Ballast Hold. These still water and wave internal pressures are to be reduced from the corresponding Ballast pressures from Water Ballast Tank. In this requirement, Cargo pressure from Cargo Hold is to be ignored.	1.1 When the water ballast tank of the double bottom is filled up to the tank top, the static and dynamic pressures due to dry cargoes or heavy ballast are to be reduced from the corresponding ballast pressure of the water ballast tank. 1.2 When the water ballast tank of the double bottom is filled up to the top, the external still water and hydrodynamic pressures are to be reduced from the corresponding ballast pressure of the water ballast tank. 2.1 When the water ballast tank of the double side is filled up to the top, the external still water and hydrodynamic pressures are to be reduced from the corresponding ballast pressure from water ballast tank. 2.2 When the water ballast tank of the double side is filled up to the top, the static and dynamic pressures due to dry cargoes or heavy ballast are to be reduced from the corresponding ballast pressure from water ballast tank. It should be noticed that the static and dynamic pressure combination of each load is not to be negative (see CH4, Sec5, 1.1.1)	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
646	Figure 3.6.2	RCP	Span length definition for ordinary stiffeners	2008/5/28	Reference is made to Chapter 3 Section 6 Figure 2 “Span length definition for ordinary stiffeners.” The span l of ordinary stiffeners is to be measured as shown in Figure 2, Ch.3 Sec.3 4.2.1. The fourth sketch of Figure 2 indicates that the span length on one side is to be related to the end bracket fitted on that side and on the other side related to the depth of the web stiffener fitted on the other side. There is no indication in the figure that the span reduction should be symmetrical, which implies that an unbalance moment will be set up at the support. There is, however, not found any requirement in the rules that may ascertain that the unbalance moment can be supported by the web stiffener or the girder. There is also not found any requirement formulation that ensures that the rotational stiffness of such a support is such that the unbalance moment will be generated. Proposal: Sketch 4 of Figure 2 in Ch.3 Sec.6 4.2.1 is amended to show that the span reduction on either side is not to be taken larger than the smaller of the span reduction by the bracket and the depth of the web stiffener. Refer also to CSR Tank Figure 4.2.2 b)	We will review your question and proposal in the course of harmonization process with CSR for Tanker.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
647 attc	3/6.5.2.1	RCP	Web Stiffeners on primary supporting members	2008/5/13	Applicable requirements to Web stiffeners on primary supporting members. Reference is made to KC 204/328/333/416/419 which all considers the requirements to web stiffeners on primary supporting members. We have looked into the above 5 KC items in order to gain a complete overview. To us it seem like the some of the KC is out of date and some are contradictory. Summary of our findings is enclosed in Excel spreadsheet. Based on the summary findings, we would like KC to clarify and update the rules on the following items: 1.Update if Ch.3Sec.6 with clear definition of web stiffeners with clear sketches showing the arrangement and table referring to applicable requirements. (KC also refer to buckling stiffeners.) 2.Update of Ch.3Sec.6 with clear definition of ordinary stiffeners with sketches and table referring to applicable requirements. 3.Ref. KC id416 where PT advice that Ch3Sec.6 5.2.1 is ..”to ensure the appropriate scantling and rigidity of web stiffeners for the purpose of avoiding the buckling of web plate(..)”. If the buckling stiffeners are calculated for buckling according to Ch.6 Sec.3 and minimum scantlings according to Ch.6 Sec.2, can the requirement of Ch.3 Sec. 6 5.2.1 be waived? If so, this should be clearly written in the rules. 4.Please delete/consolidate above 5 KC items in order to avoid future confusion.	The answers given to all KC items relevant to this subject (scantlings of web stiffeners - KC 204/328/333/416/419) are considered are being self-explanatory. However, the following is reminded: 1 - It is clearly mentioned in Ch 3, Sec 6, [5.2.1] that this requirement applies to stiffening arrangement of primary supporting members. No additional sketch or definition is needed. 2 - In addition, the answer to KC#419 states clearly that web stiffeners of primary supporting members are not to be considered as “ordinary stiffeners”. 3 - Then both the answers (b) in KC#204 and (2) in KC#333 states that only the following requirements are applicable to web stiffeners: - Ch 3, Sec 6, [5.2.1] for the net thickness of such stiffeners, which refers to the minimum net thickness of the primary members on which they are fitted, i.e. to Ch 6, Sec 4, [1.5.1],and - Ch 6, Sec 2, [4] for the net scantlings of web stiffeners of primary supporting members. In conclusion, we agree that all the KC items on this matter should be consolidated in a future corrigenda.	Y
648	4/5.4.2.1 & 4/5.4.2.2	CI	Design bottom slamming pressure	2008/7/2	Reference is made to Ch.4Sec.5 [4.2.1]/[4.2.2] Design bottom slamming pressure [4.2.1] TBFP “Smallest design ballast draught, in m, defined at forward perpendicular for normal ballast conditions. Where the sequential method for ballast water exchange is intended to be applied, TBFP is to be considered for the sequence of exchange.” [4.2.2] “It is the master`s responsibility to observe, among other, the weather conditions and the draught at forward perpendicular during water ballast exchange operations, in particular when the forward draught during these operations is less than TBFP. The above requirement and the draught TBFP is to be clearly indicated in the operating manuals.” Technical background for CSR Bulk: 4.2.2.a To limit the slamming loads at acceptable level, the smallest design ballast draught at forward perpendicular should only be undercut in cases where bottom slamming is not expected. Please comment our understanding (Continues to the next page)	Answer 1-3: Yes with no need for further clarifications of rule text changes. Answer 4:The minimum draught forward in case of heavy weather is indicated on the shell-expansion and should be mentioned in the loading manual. Draughts that undercut the "minimum draught forward in case of heavy weather" are to be used at the masters descretion as per Ch4, Sec 5, [4.2.2].	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
648	4/5.4.2.1 & 4/5.4.2.2	CI	Design bottom slamming pressure	2008/7/2	(Continuation of the former page) Q1. We assume the “smallest design ballast draught(..) for normal ballast conditions” is referring to the ballast condition of Sec.7 [2.2.2]. Please confirm. If yes, please add the reference in the rules for sake of clarity. Q2. Regarding sequential ballast operation. According to [4.2.1] “Where the sequential method for ballast water exchange (..) is applied, TBFP is to be considered for the sequence of exchange”. Ch.4 Sec. 8 [2.2.2] require that “typical sequences for change at sea, where applicable” are included in the lading manual. In order to evaluate [4.2.1] we understand that the loading sequence for ballast exchange is required in the loaing manual in case of sequential ballast operation. Please confirm. If yes, please clarify rules. Q3. Regarding sequential ballast operation. We assume design draft for slamming, TBFP, is minimum among TBFP, according to Sec7 [2.2.2] And TBFP, Ballast exchange in LM Sec8 [2.2.2] Please advice. Please amend rules for clarity. Q4. Masters responsibility. According to [4.2.2] and CSR TB we understand that TBFP may be undercut if weather permits. If the loading manual includes more than one ballast exchange condition e.g: WB Seagoing (Sec.7 [2.2.2]) TBFP = 7m WB Exchange cond. 1 TBFP = 6 m WB Exchange cond. 2 TBFP = 6.5 m if no explicit request exist from designers, we assume TBFP for bottom forward scantling may be chosen to be TBFP=6.5 m. The limitation to TBFP will be stated in the vessel operating manual. It is then the masters responsibility to utilize WB Exchange cond. 1 only when weather permits according to [4.2.2] Please advise.	(Refer to the former page)	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
649	4/7.2.1.1	Question	Maximum Cargo Mass	2008/10/10	Reference is made to Ch. 4 Sec. 7 [2.1.1] and KC Id. 491. In KC #491 we asked the basis for MHD/MH according to [2.1.1] **Quote** Question: Ch. 4 Sec. 7 [2.1.1] "For determination of the maximum cargo mass in cargo holds, the condition corresponding to the ship being loaded at maximum draught with 50% of consumables is to be considered." [2.1.1] is stating that a typical short voyage condition should be the basis for strength verification. Please advise correct interpretation of this paragraph for a typical BC-A vessel. "Empty holds": Maximum cargo mass from loading manual is normally the mass MH from homogenous condition. This mass is normally smaller than the Mfull mass according to [3.2.1]. Maximum cargo mass in cargo hold is therefore Mfull. It is therefore assumed that [2.1.1] is automatically fulfilled for empty holds. Please confirm. "Ore loaded holds": Maximum cargo mass MHD from the loading manual is normally the maximum cargo mass in cargo holds. MHD + 10% MH is, according to [4.4.1], used for strength assessment. Please advise if the mass MHD according to [2.1.4]/[3.2.1] should be established based on a short voyage condition with 50% consumables with even filling at scantling draft. According to the provision of [2.1.1] maximum cargo mass Mh or Mhd should be obtained from loading conditions at full scantling draft and with 50% consumables. In general the maximum cargo mass (Mh) for an empty hold (Mh) corresponds to the cargo mass in homogeneous full condition at scantling draft and with 50% consumables. Hence Mhd corresponds to the cargo mass in alternate loading condition at scantling draft and with 50% consumables. Mfull is an artificial cargo mass and the maximum permissible cargo mass for an empty cargo hold in connection with the determination of hold mass curve. **Unqoute** We can not see that PT answered whether or not these conditions should be based on "even filling at scantling draft." Please advise.	[2.1.1] is applicable only to [2.1.2] thru [2.1.4]. The latter paragraphs require same filling ratio in all loaded cargo holds.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
650 attc	7/2.3.2.1	RCP	FE Model	2008/5/28	Reference is made to Chapter 7 Section 2 3.2.1 Quote Where the effects of openings are not considered in the FE model, the reference stresses in way of the openings are to be properly modified with adjusting shear stresses in proportion to the ration of web height and opening height. Unqoute There is no clear definition in the rule on how to make this correction. We know this is done differently between different customers. Definitions known to DNV are the “Vertical” and “CSR Tank” procedure as illustrated in attachment. Please conclude on a procedure to be used for CSR Bulk and include in Ch. 7 Sec. 2 or in Appendix to Ch. 7 as found appropriate.	We will consider the Rule change considering the proposal.	Y
651	Table 11.2.2	CI	Girder/Primary supporting members	2008/5/28	Reference is made to Ch. 11 Sec. 2 Table 2. Please find enclosed an extract of all girder/primary supporting entries of Table 2. 1.General requirements to welding of primary supporting members is given in "Primary supporting members" => “Web plate and girder plate” to “Shell plating, deck plating, inner bottom plating(..) => F1 for "at end (15% of span) and F2 for "Elsewhere" 2.If we refer to “Bottom and double bottom” => “Side girder (..)” to “Bottom and inner bottom plating” => F3. This is in contradiction to item 1 above where the same structural elements are specified. There is no special consideration at 15% of span at ends. (Towards bulkheads) 3.If we refer to “Side and inner side in double side structure” => “Web of primary supporting members” to “Side plating, inner side plating and web of primary supporting members” => F2. Which is in line with item 1, except that no increase is specified towards span ends. Q1: Please comment on above understanding. Q2: We assume that girder web to shell plating to inner bottom/side should be minimum F2 as given in “Primary supporting members”. Please advise.	"Primary supporting member" in "Hull area" of Table 2 means the primary supporting member arranged in the structure other than double bottom and double side structure, i.e., the primary supporting member with one plate flange. Therefore,the primary supporting members with two plate flanges such as girders or floors in double bottom, horizontal girder or transverses laying from side to side in double side are not applicable to "Primary supporting members". In order to clarify this matter, the words "and girder plate" in "Of" column for the Hull Area "Primary supporting members" should be deleted. We will issue the editorial corrections as a "Corrigenda" for clarification of this table.	
653	4/5.4.1.1	CI	pS and pW	2009/3/3	In Ch 4, Sec 5, [4.1.1], the definition of pS and pW is not clear, there are two different interpretations: 1. the pS & pW is calculated at position TB at side shell, whatever is the value of z 2. the pS & pW is calculated at the exact value of z of the loading point where the bow pressure P_FB is to be estimated What is the correct interpretation?	Interpretation 2 is correct. In order to clarify the requirement together with the clarification of the calculation point, we will consider the rule change proposal.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
654	9/1.4	Question	collision bulkhead	2008/9/10	How is the additional safety taken into account for the collision bulkhead, when not subjected to lateral loads from tanks, hence fore peak is void space?	The scantling of collision bulkhead is enhanced to the other bulkheads, according to Ch 6 Sec 1, [3.2.2] for bulkhead plating and Ch 6 Sec 2, [3.2.5] for ordinary stiffeners. Where the collision bulkhead is a boundary of void space, the scantling may be derived by considering the void space as flooded, using the requirements mentioned above. We will consider a rule change for primary supporting members under flooded condition.	
655	10/1.5.3.2	Question	Diameter of rudder stock	2008/4/22	Please amend the diameter of rudder stock in the formula of ws to D1 from d1	This is a typo. We will consider an editorial correction	
656	10/1.3.3.3	Question	Light ballast Conditions	2008/5/13	When a vessel is sailing on a light ballast condition, rudder force may not act on the upper part of the rudder above the ballast draft. This gives unfavorable(increased) support force for the neck bearing or upper pintle bearing in case of semi-spade rudder. This should be taken into account as minimum support force like DNV Rules.	We think that a partly submerged semi spade rudder generates less bending moment in the neck bearing than in fully submerged operation. A minimum value for the support force is not to be defined.	
657	10/1.5.1.3	Question	Unit of shear stress	2008/4/22	The unit of shear stress should be N/mm^2.	This is a typo. We will consider an editorial correction.	
658	10/1.5.1.3	Question	Formula for equivalent stress	2008/4/22	Wrong formula for equivalent stress	This is a typo. We will consider an editorial correction	
659	6/3.3.1.1	Question	Bilge strake or other curved panels	2008/7/2	Application of the requirement "t>b/100" The formula does not seem applicable to bilge strake or other curved panels	This is right. This requirement is only applicable to planar plate panels. A rule change will be considered.	
661	3/6.6.5.2	RCP	Net Thickness of the intermediate flat	2008/5/9	Ch3, Sect6,6.5.2 of the subject rules states "The net thickness of the intermediate flat is to be equal to that of the bilge strake. However, thickness may generally not be greater that 15mm." It is understood that the 15mm maximum should be the 'as-built' thickness, in keeping with previous rule sets. We propose the following corrigenda to clarify this: "The net thickness of the intermediate flat is to be equal to that of the bilge strake. However, the gross thickness need not be greater than 15mm."	Yes, the 15mm maxumum should be the "as-built' thickness. We will consider the editorial correction in order to clarify this.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
662	4/6.2.2.1	CI	Inertial pressure due to liquid	2008/5/28	CSR_JBP_Chapter4_Section6_[2.2.1] Inertial pressure due to liquid [Quote] When checking ballast water exchange operations by means of the flow through method, the inertial pressure due to ballast water is not to be considered for local strength assessments and direct strength analysis. [End quote] Please be kindly requested to clarify that when the ship's ballast water change method is designed as flow through method, only hydrostatic water ballast pressure, regardless of inertial pressure, would be considered for local strength check as per Chapter 6 and to carry out the direct strength analysis as per Chapter 4_Appendix 2 (e.g. analysis of the transverse bulkhead under heavy ballast load condition).	Please consider the answer to question in KC ID 226.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
663	9/3.7.2.1	RCP	minimum Scantlings of the structural elements	2008/5/13	1.In the course of applying CSR for Bulkers, CCS has found some problems existing with the CSR requirements relating to minimum scantlings of the structural elements in way of machinery seatings, as specified in CSR BC, Chapter 9 - Other Structures, Section 3, 7.2 Minimum scantlings, which is quoted below for easy reference: "7.2.1 The net scantlings of the structural elements in way of the internal combustion engine seatings are to be obtained from the formulae in Tab 2." 2. This requirement is found to be irrational since the calculation results proved to be unnecessarily large. 2.1 CCS is of the opinion that the internal combustion engine manufacturers are the ones who should be responsible for the design of the engine seatings since they have the richest experience of application and the authority, and accordingly the design of the seatings should follow the suggestions/instructions provided by the manufactures. 3. Therefore, CCS proposes to substitute the above mentioned paragraph and tab.2 by the new "7.2.1 The net scantlings of the structural elements in way of the internal combustion engine seatings are to be in accordance with the scantlings provided by the manufactures."	As the same question is uploaded on KC ID 413, please refer to the answer in KC ID 413.	
664	6/1.3.2.3	Question	thickness for corrugated bulkhead plate	2008/10/10	Required thickness for corrugated bulkhead plate Ref. CSR for Bulk Carriers Ch6 Sec.1 2.1.1, 3.2.1 and 3.2.3 When calculating the required thickness for build-up corrugation bulkheads in intact condition by 3.2.1 of Ch.6 Sec.1, should s of the formula be taken greater width of flange or web according to 2.1.1? We understand that the requirements of 2.1.1 are come from UR S18 and only applicable to the requirement of flooding condition. Please clarify. According to UR S18.4.7, s of the formula for obtaining tN is taken narrower plate width. Can we use narrower width for tN in CSR? Please clarify.	1. Ch 6 Sec 1 [3.2.1] and [3.2.4] “s” is to be taken equal to the value defined in [2.1.1]. For built up corrugation, when the different thickness of flange and web are designed, “s” is to be taken equal to the flange and web of corrugation respectively. 2. Ch 6 Sec 1 [3.2.3] 1) “s” and “p” of the 1st formula should be selected respectively for web and flange in general, (e.g., applied to also for cold forming corrugated bulkhead), 2) “s” and “p” of the 2nd formula should be selected for narrower plating, 3) “s” and “p” of the 3rd to 5th formulas should be selected for wider plating. In order to clarify these requirements, we will conisder the RCP. Regarding the answer of KC 553 The answer seems to be vague but not to be incorrect because it is obviously that the elementary plate panel for built-up corrugated bulkhead is divided into the flange and web of corrugation.	
665	9/3.4.1.2	RCP	Transverse spacing	2008/4/24	Transverse spacing in machinery space In Ch9, Sec3, 3.1.3, the side transverse spacing is restricted upto 4/5 frame spacings. On the other hand, greater spacing is also permitted at the last sentence stated below; "Side transverse spacing greater than that above may be accepted provided that the scantlings of ordinary frames are increased, according to the Society’s requirements to be defined on a case by case basis." In Ch9, Sec3, 4.1.2, the platform transverse spacing is restricted upto 4 frame spacings. Can greater spacing be permitted as similar to the above?	The primary support i.w.o. the platform is to be integrated with the primary members in the side. Hence where larger spacings are allowed in the side it will result in an equally larger spacing in the platform.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
666	9/1.4.4.4 & 9/2.4.3.4	Question	deck primary supporting members	2008/9/10	According to the answer in KC 312, the requirement of Ch6 Sec4, 2.6 is applicable to deck primary supporting members in Fore and Aft. In calculating the scantling of the members in Fore and Aft according to the formula specified in Ch 6 Sec 4, 2.6.3, we understand that the applicable allowable shear stress and lamda_s are R_y/square root (3) and 0.9 instead of 0.4 R_y and 0.8, respectively, because the lamda_p is 0.9 in the formula for plating of aft part specified in Ch 9 Sec 2. Please confirm the above.	Your interpretation is not right. If the scantling formulae for primary supporting members are used in the fore and aft part, lambda-s and the allowable shear stress, given in CH6, Sec4, are to be used (i.e. lambda-s equal to 0.8 and allowable shear stress tau-a equal to 0.4Ry). However we will consider a rule change in Ch.9 Sec.1 [4.4.4] and Ch.9 Sec.2 [4.3.4] so that the requirements to primary supporting members are coherent within Ch.9 Sec.1 and Ch.9 Sec.2 respectively.	
669 attc	Table 11.2.1	RCP	Thickness of abutting plate	2008/10/10	Reference is made to Chapter 11 Section 2 Table 1. Thickness of abutting plate. Ref note (1) “t is as-built thickness of the thinner of two connected members” However, in Chapter 11 Section 2 Figure 1, t refers to “as-built thickness of abutting plate”. Assuming that t1>t2 in attached figure. From a strength continuity point of view we assume t1 should be applied when evaluating the criteria. Please confirm Please update Table 1 accordingly.	Your interpretation is right. We will consider the Rule Change proposal.	Y
671	4/5.2.2.1 & Table 4.5.4	RCP	External pressures on exposed decks	2008/7/16	A separate definition of x (load point in the reference co-ordinate system defined in Ch.1, Sec.4) appropriate for pressures defined in Ch.4, Sec.5, Table 4 is necessary. External pressures on exposed decks (on hatch covers in Ch.9, Sec.5 as well) for load case H1, H2, F1 and F2 are calculated based on x/LLL where LLL is a freeboard length as defined in Ch.1, Sec.4, 3.2, while x is the X co-ordinate of the load calculation point from the aft end of the scantling length L. The aft end (AE) in Ch.1, Sec.4, Figure 4 is relevant to the scantling length L only despite the fact that positions of the aft end and fore end in L are not the same as those in LLL. It is therefore proposed that x in Table 4 is to read 'xLL' measured from the aft end of freeboard length LLL to be aligned with the text in the amended ILLC or IACS UR S21, the origin of the requirement. A background of this proposal is a sample calculation below indicating a considerable difference in pressures between CSR-BC and IACS UR S21. For exposed deck in way of No.1 cargo hold of a capesize bulk carrier where LLL=279.622 m, a=0.356. 1) x(from aft end of L)=250.787 m, pw=80.564 kN/m2 according to the current CSR-BC Ch.4, Sec.5, 2.2.1. 2) x(from fore end of LLL=24.872 m, pw=85.028 kN/m2 according to IACS UR S21,2. In this case x(from aft end of LLL)=254.750 m. The difference in pressure exceeding 5% should not be ignored.	We will consider the rule change proposal in order to be in line with IACS UR S21.	
672 attc	Table 11.2	Question	fillet weld	2009/3/3	Ch11 Sec2, Table2 regulates the fillet welding as follows; - The ends of stiffeners : F0. - The brackets at the ends of stiffeners : F1 In case of stiffeners which are fitted with brackets at the ends, we think it acceptable to apply F1 welding to the ends of the stiffeners. (Please refer to the attachment.) Please confirm the above.	Where a bracket is provided at the end of a PSM or an ordinary stiffener, stresses in a PSM or an ordinary stiffener may be reduced at its end. Therefore, the fillet weld size F0 may be reduced to F1 which is the same as intended for brackets. Table 2 will be updated accordingly.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
673 attc	4/3.2.2.2, & 4/3.3.1.1	CI	Still Water bending moments	2008/4/18	Please see attached Question	The assumed still water bending moments specified in Ch 4 Sec 3, 2.2.2 are used for strength check other than fatigue strength when the design still water bending moments are not defined at the preliminary design stage. In this case, the coefficient fp should be taken as 1.0. The assumed still water bending moments may be used for fatigue check when the design still water bending moments are not defined at the preliminary design stage. In this case, the coefficient fp should be taken as 1.0 too, because the static load components are independent of the probability of occurrence. Therefore, our interpretation is given as follows. In applying the requirement 2.2.2 of Ch 4 Sec 3, MWV,H and MWV,S are calculated by 3.1.1 with fp=1.0.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
674	3/6.7.2.1	CI	DSS BC	2008/4/24	In case of a DSS BC which hopper and double side space forming a single sea water ballast tank, whereas the topside tank is a dry compartment, we have the following question: 1 - In relation to KC#510, should this topside tank be considered as a water ballast compartment for the purpose of net scantling and fatigue assessment? In case of yes: 2 - Should this topside tank be considered as a separated water ballast tank or continuous with the double side tank? 3 - Since it is for the purpose of NET scantling, does that mean that corrosion thickness tc should be considered as that of the actual dry compartment instead of the virtual water ballast compartment?	Answer or Interpretation: A1- The topside tank in this case (dry compartment from the water ballast tank in double side space) should be considered as a dry compartment since it is physicaly separated from the double side space. A2- Not relevant A3- It is considered as a dry compartment for corrosion addition tc as similar to the design principle specified in Ch 3 Sec 6 7.2.1.	
675	7/2.3.2.3	Question	double bottom girders	2009/5/27	1) Is it suitable to evaluate the equivalent stress of the coarse mesh of a double bottom longitudinal girder (3 elements over the height and loaded with bending), if the element size of the upper and lower element is 1.2 x frame spacing? What is the maximum allowable element size and/or number in relation to the girder height in order to consider the bending stress in the equivalent stress criteria? 2) Please confirm that is not necessary to model a dummy truss element at the connection of the double bottom girder to adjacent plating in order to evaluate the bending stress of the girder! 3) If a girder is built with a flange instead of connecting two PSM, the axial stress of the flange is to be evaluated and has to be within the design limits (S_axial<=235/R_eH)?	1. The girders such as the 1/3 of its height are 1.2 time of longitudinal frame spacing should be divided into 4 or more elements height-wise. In general, mesh height of girder is expected less than spacing of longitudinal stiffeners according to Ch.7 Sec.2 2.2.4. 2.Such dummy element is not required from CSR requirements. 3. The axial stress of the flange should be less than the design limit (235/k). This is the same as the axial stress of flange of trans. rings in bilge hopper tanks and top side tanks should be less than design limit according to Ch.7 Sec.2 3.2.1.	
676	Table 11.1.1	RCP	IACS recommendation No.47	2008/5/6	As stated in Ch11 Sec1, 1.3.1, Table1 is based on IACS recommendation No.47. However, it does not match the latest one, Revision 3 of IACS recommendation No.47 issued in November 2006. We request to update Ch11 Sec1, Table1 as the latest one.	We will consider the rule change proposal.	
680	1/1.1.1.2	Question	Bilge hopper tank and VOID	2008/6/19	This bulk carrier is arranged with bilge hopper tank and VOID or TRUNK space at deck as attached. Please confirm whether CSR should be applied to the bulk carrier or not.	As stated in Ch1 Sec1, 1.1.2, CSR should be applied to a bulk carrier with topside tanks. The questioned bulk carrier also has the configuration of topside tanks, where VOID or TRUNK space is arranged in your sketch. The usage of the space does not affect the application of CSR. Accordingly, the ship should be applied with CSR.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
681 attc	6/2.3.3.3	RCP	Gross Thickness and Net Thickness Scantling	2008/4/11	It is proposed that the paragraph in CSR-BC, Ch.6, Sec.2, 3.3.3 be changed in part to eliminate the equivocality as shown in the separate attachment.	IACS UR S12 Rev. 4 is based on the gross thickness. CSR is based on the net thickness scantling. According to Ch 3 Sec 3, the total corrosion addition for webs and flanges of lower brackets of side frame is 5.0mm, and the total corrosion addition of side frame other than lowe brackets and upper brackets is 4.5mm. According to the current requirement of 3.3.3, the gross thickness of lower bracket is greater than 2.0mm of the thickenss of web of side frame. Therefore, as the current rule of Ch 6 Sec 2 3.3.3 is in line with IACS UR S12, the text is kept as it is	Y
682	6/3.4.2 & 6/3.4.3	Question	stiffeners	2009/3/3	Are Ch.6, Sec.3, [4.2] and [4.3] applicable to stiffeners on watertight transverse bulkheads in lower/upper wing tanks and double side and on watertight floors ?	Ch.6, Sec.3, [4.2] and [4.3] are applicable to the stiffeners on watertight transverse bulkheads in lower/upper wing tanks and double side and on watertight floors. In case of hull transverse section analysis, the axial stress for stiffener and shear stress in attached plate are not to be considered.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
684	Symbol 9.5, 9/5.5.3.2, 9/5.5.4.2 & 9/5.5.4.6	RCP	minimum net thickness of web plate of ordinary stiffeners and primary support members	2008/5/13	According to Ch.9, Sec.5, Symbols: s is defined as length, in m, of the shorter side of the elementary plate panel. My understanding to the minimum net thickness of web plate of ordinary stiffeners and primary supporting members is as follows: According to Ch.9, Sec.5, [5.3.2], The minimum net thickness of web plate of ordinary stiffeners should be (tnet)min=min(10s,6), while in the calculation, the parameter s should be of web plate panel of ordinary stiffeners (normally web height) and should have no relation to the top plate panels of hatch cover. This understanding can also apply to determine the minimum net thickness of web plate of primary supporting members. According to Ch.9 Sec.5, [5.4.2],The minimum net thickness of web plate of primary supporting members should be (tnet)min=min(10s,6) the parameter s should be of web plate panel of primary supporting members (normally web height) and also have no relation to the top plate panels of hatch cover. If the above understanding is correct, then there will be no limit to use the current widely used ordinary stiffenr L125x75x7 in hatch covers of vessels with CSR BC notation. We propose to revise the text for minimum net thickness of web plate of ordinary stiffeners and primary supporting members in Ch.9 Sec.5 [5.3.2] and [5.4.2], respectively. The formula kt in Ch.9, Sec.5 [5.4.6] should be corrected as kt=5.35+4.0/(a/d)^2 or kt=5.35+4.0(d/a)^2.	Regarding the minimum net thickness of web of ordinary stiffeners and primary supporting members, please refer to the answer in KC ID 535. In addition, the correct formula for kt is kt=5.35+4.0/(a/d)^2 as specified in IACS UR S21.3.6.3. We will consider the Rule Change proposal or edditorial correction on this matter.	
685	6/3.2.1.3 & 5/1.2.2.1	Question	Shear force for buckling assessment	2008/5/30	Ch.6,Sec.3,[2.1.3] defines the shear force for buckling assessment as follows: Q=Q_SW + C_QW x Q_WV. There seems to be no limitation to the signs of Q_SW and Q_WV for their combinations. On the other hand Ch.5, Sec.1, [2.2.1] reads: "When they are combined, vertical shear forces Q_SW and Q_WV in intact condition are to be taken with the same sign." Which way should be taken when calculating Q in Ch.6, Sec.3, [2.1.3]: a) Q to be calculated only for the combinations where Q_SW and Q_WV are of same sign, or b) Q to be calculated for all combinations where Q_SW and Q_WV are of either same sign or opposite signs ?	Hull girder shear stress check should be performed at the maximum absolute shear force. Such case occurs at the combination of either (1) Q_SW_pos +(C_QW_pos x Q_WV), or (2) Q_SW_neg +(C_QW_neg x Q_WV), where, C_QW_pos , C_QW_neg : positive and negative load combination factors according to load cases as defined in Ch.4, sec.4,Table 3. The sentence in Ch.5, Sec.1, [2.2.1], which is quoted in the question, reflects this interpretation. Therefore we will consolidate the paragraphs referring to shear force combination into CH5, Sec1 [2.2.1] and replace CH6, Sec3, [2.1.3] with a note referring to CH5, Sec1.	
686	9/5.5.2.1	CI	Water Ballast Pressure	2008/4/10	FEM's Fs and Fw for water ballast pressure on Ch 9 Sec 5 The water ballast pressure will be calculated by using Fw (=0.9) for net thickness (Ch9, Sec 5. 5.2.1) and isolated beam models. We think it can be applied for FEM too, is it correct?	We think that the combination of the static load and dynamic load for hatch cover in way of ballast hold is introduced as a special case. Therefore, the factor FW=0.9 is also applicable for FEA.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
688	8/4.2.3.3	Question	Fatigure of stiffener end connection	2008/5/28	Reference is made to Ch.8 Sec.4 [2.3.3] – Fatigue of stiffener end connection – Stress due to wave pressure Design pressure in the formula is CNE x pw. pw should be calculated according to Ch. 4 Sec. 5 [1.3], [1.4], [1.5] Ch. 4 Sec.5 [1.1.1] is generally valid for Section 5. Quote “The total pressure p at any point of the hull, in kN/m2, to be obtained from the following formula is not to be negative: p=pS+pw.” Unquote It is unclear whether or not [1.1.1] is valid for pressure calculation for Ch.8 Sec.4 [2.3.3]. Please note that if no correction to the dynamic pressure is made, the total dynamic pressure for side longitudinals right below the water line is larger than the static pressure at the same location, that is Ps+(CNE x pw) < 0. This is in contraddiction to the general statement in Ch.4 Sec.5 [1.1.1] Q1: Is the statement of Ch.4 Sec. 5 [1.1.1] valid when calculating sea pressure for Ch.8 Sec.4 [2.3.3]? Q2: If yes, it is assumed that Ch.4 Sec.5 [1.6.2] should be used for correcting the dynamic sea pressure. Please advice how to apply [1.6.2]: a.No correction according to [1.6.2] is made for pw when calculating CNE? b.Correction of dynamic pressure according to [1.6.2] for the total dynamic pressure pw = CNE x pw(uncorrected)?	The statement of Ch 4 Sec 5, [1.1.1] is not valid when calculating sea pressure according to Ch 8 Sec 4, [2.3.3]. Becasue Ch 8 Sec 4, [2.3.3] is concerned only the hydrodynamic pressure, not the static pressure. The statement of Ch4 Sec5[1.1.1] is only applicable to the one wave state. When a wave, which has a certain wave height, is acting on the ship's side, wave pressure has to be corrected so as not to generate negative pressure. Therefore the degree of correction is different by the wave height although the correction procedure is the same. The statement of Ch8 Sec4[2.3.3] is introduced to obtain the expected wave condition considering the stochastic nature of wave height so as to evaluate stress range for fatigue assessment.	
689	3/6.7.2.1	CI	Where the double side space is void	2008/5/28	Chapter 3 Section 6 Par 7.2.1 states as follows: "Where the double side space is void, the structural members bounding this space are to be structurally designed as a water ballast tank according to Ch 6. In such case the corresponding air pipe is considered as extending 0.76 m above the freeboard deck at side." Is therefore to be interpreted that in fatigue calculations, performed according to Chapter 8, these spaces are to be considered void? This is reasonable because such spaces are actually void in operating conditions. If confirmed, it could be useful to give explicit mention of this in Ch 3 Sec 6 Par 7.2.1.	Where the double side space is void, the requirement in Ch 3, Sec 6, [7.2.1] is clear enough as it requires only the application of Ch 6 as water ballast tank and doesn't require anything for fatigue. It is confirmed that these spaces are to be considered as void for the fatigue assessment.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
690	12/1.2.1.3	Question	Grab requirement (tGR)	2008/3/13	Is the Grab requirement (tGR) specified in Ch.12 Sec.1 [2.1.3] applicable to plating of Collision and Engine Room Bulkhead within 3.0m from inner bottom? Or is there any other paragraph requiring reinforcement against grab handling to these bulkhead plates?	Swinging of the grab by the operator may provoke great impacts on the bottom of any side of a hold. The requirements of Ch.12 Sec.1 [2.1.3]are applicable regardless of the design and the function of a cargo hold bulkhead.	
692	1/1.1.1.2	CI	combination carrier	2008/9/10	Reference is made to Ch.1 Sec. 1 [1.1.2] . Vessel in question is a 7 hold Bulk carrier where 3 holds are arranged for carriage of Caustic Soda. Vessel has traditional bulk carrier cross section with top wing and hopper tank in cargo area . According to [1.1.2] CSR is not applicable for combination carriers. However, combination carrier according to SOLAS definition is a vessel that can carry both dry bulk and oil. As Caustic soda is characterized as a chemical and not oil we are of the opinion that above vessel can not be considered a combination carrier. Following this, we consider that this vessel shall comply with CSR in addition to be designed to carry Caustic soda in the specified cargo holds. Design loads from the liquid cargo will be used and based on the principles as given in CSR. Please advice.	As the ship is 7 hold Bulk carrier having cross section with top wing and hopper tank in cargo area, even if some holds are arranged for carriage of Caustic Soda, it should be considered as a CSR bulk carrier, if intended primarily to carry dry cargoes in bulk, which seems to be the case. An additional consideration to necessary equipment and hydrodynamic load due to loading of caustic soda solution, if applicable, should be made , which should be subject to the review and approval of the class.	
693	9/4.3.2.1	Question	Lateral pressure for deck	2008/5/1	Ch9 Sec4, 3.2.1 regulates the lateral pressure for deck to be p_D in Ch4 Sec5, 2.1. However p_D in Ch4 Sec5, 2 is the external pressure on the exposed deck. No clear indications are found in CSR for the lateral pressure on the unexposed deck, such as the deck inside of accommodation. Please clarify the above.	A lateral load for unexposed decks will be defined. We will initiate a rule change proposal.	
694 attc	4/5.4.1.1	Question	Bow flare reinforcement	2008/4/24	The bow flare reinforcement should be considered above the normal ballast waterline in the fore part, with reference to the bow flare area pressure regulated in Ch4 Sec5, 4.1.1 Just above the normal ballast waterline, the flare angle, alpha, may be inclined inside as the attached sketch. Please show how to treat the flare angle, alpha, in the case as above.	Reinforcements due to large dynamic pressures, caused by bow flare, are only necessary, when the flare angle is positive. Large "flare loads" on the top of the bulbous bow are not physical possible.	Y
696	10/1.5.2.1	Question	Influence of the aspect ratio of plate panels	2008/5/28	In Ch.10, Sec.1, [5.2.1] the following sentence is read:"The influence of the aspect ratio of the plate panels may be taken into account according to Ch 3." Q1: Which paragraph in Ch.3 is referred to ? Q2: Isn't it the intention to apply c_a factor as used in the formula in Ch.6 Sec.1, [3.2.1] ?	The wrong reference to chapter 3 is a direct copy of the underlying rules. The formula for the consideration of small aspect ratios for rudder plating is currently not given in the CSR-BC. Without the influence of the aspect ratio the necessary plate thickness is slightly conservative. We will make a rule change proposal to fix this problem. The usage of c_a according to CH6, Sec1 is not applicable for the dimensioning of rudder plating	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
697 attc	6/2.1.4.2	Question	The pressure P	2008/7/16	The attachment contains four pressure distibutions, where the pressure p can not be derived according to the formulae in Ch.6 Sec.2 1.4.2 How to calculate the pressure p, used in Ch.6 Sec.2 3.2.3 for examples	(1)The pressure distributions shown in cases (c) to (f) may effectively occur when differential pressures are to be considered, i.e. only for vertical stiffeners of the outer shell. However, the scantling of such stiffeners is quite always governed by the case "still water and wave external pressures" to be applied independently of the differential pressures (see Ch 6, Sec 2, [1.3.1]). (2)In addition, such distribution of presssure may be approached by one of the two "standard cases" defined in [1.4.2]. This gives wrong results, but regarding the comment in (1), it doesn't affect the scantling. (3)Of course, some definition of "p" for these distributions may be developped, but no effect on scantlings will occur (see comment in (1)above).	Y
699 attc	9/3.2.1.8	Question	wef stiffener	2008/9/10	With regard to a requirement of web stiffener on non-watertight double bottom floor in Engine Room, it is requested to provide the detailed technical background while it is understood to have been based on the protection of web plate buckling, and it is also requested to modify it considering current designs with almost no damage record. Re. the technical background, it is noted that the equation in 6/2.4.1.2 is not dimensionally balanced, i.e., left side = cm3, right side = m5. In addition, 9/3.2.1.8 requires the section modulus as 1.2 times of that required by 6/2.4.1.2. The reason of this 1.2 times should be also clarified. Re. the section modulus requirement compared with the current design of non-CSR, it is noted that CSR BC Rule requires much severe web stiffener scantling than that of non-CSR. Our example calculations show: (A)Capesize – 300*90*13/17 (CSR),à200*90*8/14 (as built) (B)Panamax – 150*16 FB (as 200*20 FB (CSR),àbuilt) 250*90*9/15à (C)Handymax – 200*90*9/14 (as built) (CSR) Hence the requirement should be modified considering current designs with almost no damage record..	The formula in Ch 6 Sec 2 [4.1.2) is the based on the following assumption. (See attached file) (a) web stiffener is flat bar type. (b) thickness of web of web stiffener is equal to that of web of PSM. (c) the height of web stiffener is approximately equal to (stiffener length/12) as specified in Ch 3 Sec 6 [5.1.2] (d) the effect of the attached plate is considered as a function of spacing of web stiffener This requirement is provided to ensure the minimum stiffeness of web stiffener, hence this requirement is applicable to all types of stiffener (flat bar, angle, T-section). The meaning of 1.2 times of that required by Ch 6 Sec 2 [4.1.2] seams to the safety margin based on experiences. When the effect of the attached plate is considered, the mentioned example is probably satisfied with the requirement in Ch 9 Sec 3 [2.1.8]. However, we will consider the RCP in order to elminate the dimentional unbalance between left side and right side in the formula of Ch 6 Sec 2 [4.1.2] together with the carifiction of the application. Furthermore, according to this TB, the answer in KC ID 418 should be modified as follows: The net sction modulus of web stiffener of non-watertight primary supporting member should be calculated with the attached plating, according to Ch 3 Sec 6 [4.3.1].	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
700	9/3.3.1.2	Question	Longitudinal Structure	2008/7/16	Ch9 Sec3, 3.1.2 regulates that the longitudinal structure should be maintained for at least 0.3 times the length of the machinery space. We have an opinion that the above requirement is not applicable to the following members. -Longitudinal bulkheads -Topside slant plates -Bilge hopper slant plates Because the longitudinal continuity of the above members can be ensured by the appropriate fitting of girders/large brackets on the back side of E/R bulkhead. Please confirm the above.	We confirm your interpretation. The extension concerns only the longitudinal structure attached to the side shell and doesn't apply to the plantings and attached ordinary stiffeners of stringers of DSS, topside tank and bilge hopper tank. In addition, the continuity of strength is to be ensured in the machinery space in way of stringers of DSS and strake of topside tank / bilge hopper tank directly attached to the side shell.	
701	Table 3.3.1	Question	Corrosion addition on one side of structural members	2008/5/28	Ch3 Sec3, Table 1 regulates the corrosion addition on one side of structural members. Please advise which corrosiion addition in Table 1 should be applied to the inner side of hollow pillar.	A hollow pillar or the space behind a shedder or gusset plate is airtight closed. This means that oxygen will be dissipated in the first corrosion process and will be not replaced by new one. This is different from void spaces, where irregular inspections are carried out through man holes. Therefore, the corrosion addition for the inside of a hollow pillar and gusset or shedder plate is to be taken equal to 0.5mm as a void space.	
702 attc	3/6.4.5.2	Question	Ordinary stiffeners	2008/5/30	Ch3 Sec6, 4.5.2 regulates as follows; Where ordinary stiffeners are cut at primary supporting members, brackets are to be fitted to ensure structural continuity. In this case, the net section modulus and net sectional area of the brackets are to be not less than those of the ordinary stiffener. Please confirm the definition of “the net section modulus and net sectional area of the brackets” as follows. 1. The section of the bracket and the stiffener; 1-a. at the end of the stiffener. 1-b. at the mid-point of the free edge of the bracket. In case 1, is the snipped flange of the stiffener included in the calculations? 2. The section of the bracket; 2-a. normal to the free edge of the bracket. 2-b. at the end of the stiffener. 2-c. attached to the stiffener. 2-d. smaller of 2-b and 2-c. (Refer to the attached sketch)	When web and/or flange of stiffener is welded to primary supporting member (1-a) may be taken. For other cases (2-b) should be taken.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
708 attc	6/2.4.1.3 & Figure 6.2.9	CI	Web stiffeners of primary supporting members	2008/5/28	Ch.6, Sec.2, [4.1.3] says that this requirement is applicable to the web stiffeners of primary supporting members in water ballast tanks when no bracket is fitted. On the other hand Fig.9 shows, at its left end, the stiffener with integrated bracket at toe to which the subject requirement is applicable. What is meant by "when no bracket is fitted". Please advise if the interpretation on applicability of the requirement is as per the attached cases of stiffener.	It is obviously that Case 1 and Case 3 is applicable to this requirement because the bracket is not fitted as shown in the attached file. For Case 4 to Case 6, as the bracket is fitted to the web stiffener and the value “h’” becomes large, the stress range delta-sigma is small, then such cases are always complied with this requirement. Therefore, although Case 4 to Case 6 shown in the attached file is applicable to the requirement, it is not considered that the check according to this requirement is necessary for such cases. For Case 2 shown in the attached file, although the bracket is fitted, the smallest breadth of such case depends on the bracket size and shape and is similar to that of Case 3. Therefore, this case should be applied to the requirement of Ch 6 Sec 2 [4.1.3] as mentioned in the attached file. As a conclusion, the interpretation specified in the attached file is correct. In order to clarify this interpretation, the editorial correction will be considered as "Corrigenda".	Y
709	9/6.3.3.4	Question	Required thickness of thoughened glasses in side scuttles	2008/5/28	Ch.9, Sec.6, [3.3.4] specifies the required thickness of toughened glasses in side scuttles. Is the calculated thickness to be rounded up or round off or others? For instance, in case the calculated values are 12.24mm, 12.27mm, 12.40mm, 12.52mm, 12.85mm, what are the required actual thicknesses respectively?	The glass thickness to be fitted is the thickness available from the glasses manufacturers and above the calculated value.	
711	3/1.2.3.3	CI	Steel grade of bedplates	2008/5/28	Technical Background document says that Ch.3, Sec.1-2.3.3 is derived from BV Rule Part B, Ch.4, Sec.1, Note 2 of Table 3. The requirement of Ch.3, Sec.1-2.3.3 is, however, different from the latest BV Rule, saying: ‘The steel grade of bedplates of seats for propulsion and auxiliary engines inserted in the inner bottom is not to be less than A/AH for plate thickness lower than 40 mm. For plate thickness greater than 40 mm, different grades may be required by the Society on a case by case basis’. Hence the requirement of CSR BC Rule should be interpreted as same as the latest BV Rule. Please confirm...	The requirement in CSR is correct. Referring to Class I (Tab3),it means that A/AH is required for thicknesses up to 30 mm, then B/AH up to 40 mm and D/DH up to 50 mm. In BV Rules it was required A/AH up to 40 mm and requirement "on a case by case basis" above 40 mm. We think that the requirement in CSR-BC is more clear and more easily applicable.	
716	Table 4/A.2.1	CI	DSA	2008/10/3	CSR_JBP_Chapter4_Appendix 2 Standard loading condition(e.g table1 No.5 load pattern) for DSA. With respect to the ballast water load pattern of the deepest ballast condition, current rule gives one standard loading pattern(e.g. load pattern No.5 in table 1), in which the upper wing tanker in way of the middle cargo hold is fully filled but hopper tank and double bottom tank in way of the middle cargo hold are empty. However, in many actual design practice, the wing ballast tank is normally connected to the hopper ballast tank. In addition, the ballast tank is sometimes designed to cover two cargo hold region. Therefore, there would be three loading pattern options for DSA, as illustrated in attached document. Please kindly clarify or provide common interpretation that, Which load pattern exactly is to be used for DSA ?	The loading pattern 5 in Table 1 of Ch 4 Appendix 1 corresponds to the requirement of Ch 4 Sec 7 [3.2.3]. Where the topside water ballast tank is connected to bilge hopper or double bottom water ballast tank or where the ballast tanks are designed to cover two cargo hold region, the topside water ballast tank or the ballast tanks extended over two cargo hold region should be empty in order to be empty with all double bottom tanks in way of cargo hold being empty. In this case, the deepest ballast tank specified in the loading manual should be used.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
717 attc	6/3.3.2.4	CI	buckling check	2008/9/10	Chapter6_Sec3_[3.2.4] Does tensile stress need to be considered for buckling check? Regarding the tensile stress , there is still different view point on whether it need to be considered for buckling check or not. There would be a solution that, 1) For check the resultant buckling utilization factor, combined by sigma_x, sigma_y and tao, the tensile stress need to be considered as the actual values but with negative sign. 2) For check the individual buckling utilization facor, the factor would be taken as 0. Please be kindly request to provide clarification or confirmation.	1) Even if the estimated stress is negative (tensile stress), the buckling check should be carried out according to the first formula specified in Ch 6 Sec 3 [3.2.4] using the actual values. 2) No individual buckling checks have to be performed for tensile stresses. It is clearly stated, "In addition, each COMPRESSIVE STRESS ... are comply with the following formulae."	Y
718	7/2.3.3	CI	Change of element thickness & material in EPP buckling check	2008/7/31	Chapter7_Sec2_[3.3] Change of element thickness & material in EPP buckling check Regarding the EPP, which consist of elements with different thickness and/or material yielding strength, it would better provide a practicable approach for buckling check based on DSA reults. Currently, there would be three options , 1) The weighted average thickness, along with the minimum material yield strength will be used 2) The weighted average thickness, along with the weighted average material yield strength will be used 3.1) When the plate thickness changes within the field breadth b, buckling strength may be checked for an equivalent plate field axb' by using the smaller thickness t1, where b' = b1 + b2 * (t1 / t2) ** 1.5. In this case b1 is the breadth with the smaller thickness t1 and b2 is the breadth with the larger thickness t2 within the total breadth b.. 3.2) When the plate thickness of an elementary panel varies over the length ""a"", the minimum plate thickness will be used. 3.3) Anyway, for elements with different material yield strengths, the minimum material yield strength is generally to be used. Please be kindly request to provide clarification or confirmation.	This issue is still under investigation. An interpretation will be prepared.	
719	7/A2	CI	Displacement buckling check based on DSA	2008/7/31	Chapter7_Appendix2 Displacement buckling check based on DSA JBP rule provides a displacement method to obtain the reference stress for buckling check of EPP. However, following issues would still need to be clarified, 1)The conditions, under which the displacements method is to be used compulsively. 2)Does the displacement method is just optional ? Therefore, we could use stress method only for any EPP buckling check.	A1 The displacement method for evaluating the stresses of panel is not compulsively. A2 Yes, the displacement method is optional.	
720	3/1.2.3.9	Question	Grades of steel	2009/6/2	What kind of plate member shall be considered here ? Is it also applied to small plate members such as oil spill coaming at mooring winches?	This requirement applies to the longitudinal members attached to the outside plating of the hull and which have lengths greater than 0.15L such as gutter bars. For example, an isolated oil spill coaming at mooring winches is not in the range of the application.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
721	Chapter 4	Question	design loads	2009/6/2	Rules for protected/non-watertight decks cannot be found. Please clarify the design load for protected decks; platform decks in engine room or upper deck under superstructure.	Presently, design loads for protected/non-watertight decks, including platform decks in engine room and upper deck under superstructure, are based on individual society Rules.	
722	6/4.4.1.1	Question	Pillars	2009/6/2	Please clarify the design load for pillar scantling calculation.	The design loads acting on the pillar are the static and dynamic loads that are acting onto the decks above the pillar under consideration. These loads are to be determined according to Chapter 4 considering the relevant loads on the decks above.	
723	9/2.4.1.1 & Table 1	Question	Net minimum thickness of plating	2009/6/2	To which dose the tank top plate of steering gear flat correspond in Table 1 ,[Inner bottom] or [Platform and wash bulkhead] ?	Platform and wash bulkheads in Table 1 Ch 9 Sec 2 are non-watertight plating members. As the tank top plate of steering gear flat is a watertight plating member and not inner bottom, the net minimum thickness for the tank top plate of steering gear flat is not specified in Table 1. As an interpretation, the net minimum thickness for the tank top plate of steering gear flat is the same as that for watertight bulkhead specified in Ch 6 Sec 1, Table 2, i.e. 0.6xL^(0.5) mm.	
724	9/2.5.2.1	Question	side transverse	2009/6/2	Is there any exceptional easing steps concerning spacing of a ship's side transverse spacing?	The required side transverse spacing is based on design experience and service history. It has proven to be satisfactory and cannot be relaxed.	
725	9/3.1.2.3	Question	Primary Support Members	2009/6/2	Please explain a specific procedure of the direct strength calculation in engine room construction.	Refer to KC ID 543 which states: PSM in the fore and aft part of the vessel may be designed according Ch6, Sec4, 2.6. We will consider the further rule development about the determination of the scantling of primary supporting members outside midship cargo regions for ships of 150m in length and above. For the time being, the direct strength calculation should be submitted to the Society for examination on a case by case basis, as specified in Ch 9 Sec 3, [1.2.3].	
726	9/3.2.1.1	Question	double bottom general	2009/6/2	Please explain the reason that the double bottom is to be transversely framed.	The width of aft peak tank is generally narrow at the double bottom level of engine room when the engine room is located immediately forward of aft peak tank. Considering the aspect ratio (l/b) of double bottom in such an engine room becomes very large, where l is the length of engine room and b is the mean breadth of engine room, it would be natural to provide main supporting members transversely. This requirement stands on this background.	
727 attc	9/3.2.1.2	Question	double bottom height	2009/6/2	We would like to have your confirmation whether the arrangement of overlapping tank top is acceptable as continuous structure. Please see attachment below.	CSR-BC allows only a sloped transition, when the inner bottom of the cargo area is on another level than that of the machinery space.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
728	9/3.3.1.2	Question	longitudinal structure within the machinery space	2009/6/2	Is the extension of longitudinal structure applied to the platings of topside tank and bilge hopper tank?	The extension described in [3.1.2] concerns only the longitudinal structure attached to the side shell and doesn't apply to the platings and attached ordinary stiffeners of side stringers, topside tank and bilge hopper tank. However, in the light of Ch 9, Sec 3, [1.3.2], the continuity of strength is to be ensured in the machinery space in way of side stringers and strake of topside tank / bilge hopper.	
729	9/3.4.1.2	Question	platform transverse	2009/6/2	Is it possible to arrange platform transverses 5 frame spacings as well as 3.1.3 Side transverses? Usually , the platform transverses are connecting to side ransverses continuously.	According to the last sentence of [3.1.3], wider spaces may be accepted based on the discretion of the Society.	
730	9/3.6.1.1	Question	Ordinary stiffener spacing	2009/6/2	Is there any exceptional easing steps to the regulation about 750 mm spacing? Usually, the vertical stiffeners are connecting to the deck longitudinals continuously.	No, there is not. The required value of about 750mm for spacing, which was developed based on many years of experience, is applied and considered to be satisfactory. However, the vertical stiffeners are to be connected to the deck longitudinals continuously.	
736	4/2.2.1.1	CI	load conditions	2008/9/10	Chapter4_Sec2_[2.1.1] - GM & Kr value for others load conditions . The value of GM and Kr will affect the roll motion and consequently affect the inertia loads. Current CSR Bulk carrier rule only specify GM & Kr for three standard load conditions (i.e. full load condition, normal ballast and heavy ballast). However, regarding some load condition used for DSA (e.g.multiport load condition), there is no any specification in the rules on how to decide GM and Kr for such conditions. It is found that CSR Tanker rules provide the instruction for those non-standard load conditions as follows, "For optional loading conditions with a mean draught other than the values defined, GM is to be obtained by linear interpolation based on values for 0.6Tsc and 0.9Tsc."[JTP section 7/3.1.3.2] Please kindly advise how to calculate the kr & GM for those load conditions, which is not specified in the table 1 of CH4_SEC2_[2.1.1], particularly for the multiport load condition.	The GM and k_R values as given in Table 1 are only preliminary values. The scantlings and the approval have to be based on the actual values. For the purpose to make an initial design, the designer has to choose preliminary values from his/her experience or from the mentioned table. In case of a multi port loading condition you may use the GM and k_R values for full load condition.	
738	7/1.1.2.1	Question	Strength Assessment of the primary supporting members	2008/7/2	In Ch 7, Sec 1, relevant to direct strength assessment of the primary supporting members, the requirement [1.2.1] states that: "Computer programs for FE analysis are to be suitable for the intended analysis. Reliability of unrecognized programs is to be demonstrated to the satisfaction of the Society prior to the commencement of the analysis." The meaning of "unrecognized" programs needs to be clarified.	In this context, a "recognized" program is a FEA program well known and widely used in the shipbuilding industry, which has been proven its reliability. "Recognized " program in this context doesn't mean that such program shoud be recognized by a specific procedure from Class Society or IACS.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
739	9/2.3.1.2	RCP	frame spacing	2008/9/10	The requirement in Ch 9, Sec 2, [3.1.2] requiring that "Solid floors are to be fitted at every frame spacing" seems very severe and is not in line with some actual design of ships.We would like to ask IACS to review this requirement and to introduce a Rule Change Proposal.	It is not required to built solid floors at every frame spacing in the whole aft peak area. Solid frames up to the tank top are only required in way and near of rudder post, propeller post and rudder horn. The transverse extension depends on the arrangements proposed. It might be neccessary to built solid floors below tank top over the whole breadth, e.g. if no longitudinal walls are arranged. In case, where floors are not extended over the full breadth, paragraph [3.1.3] covers the design of the transverse primary supporting members. We will consider a rule change to clarify this requirement	
741	4/6.1.1.2	CI	cargo parameters	2009/5/25	The last sentence in Ch.4, Sec.6,[1.1.2] reads:"For holds of non-cylindrical shape, and in case of prescriptive rule requirements, the upper surface of the bulk cargo may be taken at the upper deck level with a density of dry bulk cargo equal to M/V_H.". Please clarify how to determine the parameters, h_HPU, B_H, h_0 when the cargo is loaded to the top of hatch coaming , since those parameters are variable within the non-cylindrical holds.	For holds of non-cylindrical shape, only the last sentence in Ch.4 Sec.6 [1.1.2] is applicable. In this case, cargo height (hc) is measured from the inner bottom to upper deck level at the centerline of the mid hold and the density of the dry bulk cargo is taken equal to max (1.0, M/VH), where M and VH are defined in “Symbol” in Ch 4 Sec 6. There is no need to define the parameters h_HPU, B_H and h_0 since [1.1.1] is not applicable such holds.	
742 attc	Table 8.1.1	Question	FEA	2008/10/10	See the attached Question. It has multiple questions, however, for the sake of easy reference, they are grouped as one Question.	A-1 Structural members can be evaluated by the simplified method according to the specification in Ch 7 Sec 4 [3.3] if applicable, except for the following members: hold frames of single side bulk carriers, connections between corrugations and stools and ordinary stiffeners in double side space at the connection of transverse stiffeners with stringer or similar. Where the fatigue assessment is carried out by the very fine mesh FEA, all cargo holds should be evaluated. If the structural details in cargo holds other than heavy ballast hold are the same as those in heavy ballast hold and the evaluated results of those in heavy ballast hold are satisfactory, the very fine FEA for cargo holds other than heavy ballast hold can be omitted. A-2 The transverse BHD connection with vertical lower stool and upper stool as well as sloping ones should be checked. A-3. Only representative locations should be checked.	Y
743	Figure 8.5.2	Question	Co-ordinate "Y"	2008/7/2	Ch 8 Sec 5 Figure 2 indicates coordinates. Is the co-ordinate "Y" typo? Should it be "X" ? .	Yes, it is typo. We will consider a rule change.	
747	4/5.2	Question	DSA	2008/9/10	Regarding Direct Strength Assessment (DSA) for cross deck, while loads on cross deck and hatch cover are stipulated in Ch.4, Sec.5-2, it is not clear how to consider the load on cross deck from hatch cover through hatch end coaming or stay. Hence it would be appreciated to clarify how to assess the cross deck by DSA, considering load from hatch cover.	Normally, the strength of hatch cover and hatch coaming is evaluated by the prescriptive requirement and FEA using the loads thereon separately from the hold structures. Hence, the cargo hold FEA is carried out using the cargo hold FE model excluding the hatch cover. This seems a practical way. Therefore, in principle the wave loads on hatch cover need not be considered for the cargo hold FEA. In addition, the cross deck structure is normally assessed by the cargo hold FEA under the loading conditions specified in Ch 4 Appendix 2. However in case special cargoes are loaded on hatch cover such as timber, etc., the strength of supporting deck structures in such a loading condition should be assessed appropriately	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
748	6/A.1.1.2.2	CI	elementary plate panels	2008/9/10	It seems that the 2nd & 3rd sentences in Ch 6, appendix 1, [1.2.2] such as "The effective width ... in accordance with Ch6, Sec 3 [5]. A constant stress... adjacent elementary plate panels." could be interpreted as follows: 1) When a width of the attached plate is calculated a constant compressive stress to be assumed, accordingly always psi=1.0 both for longitudinal and transverse stiffeners. 2) Sigma_a in Ch 6, Sec 3 [4.2.1] and sigma_x in [4.3.1] for longitudinal stiffener are to be taken as the greater of the following hull girder bending stresses: (a) stress at half length of the stiffener, and (b) 0.5 of the maximum compressive stress of the adjacent elementary plate panels. Please advise if the above interpretation is correct.	1) Your interpretation is right. Regardless of the actual stress distribution of the adjecent plates, psi equal to 1 is assumed for the calculation of the effective width according to CH6, Sec.3, 5. 2)sigma_a is the axial stress of the stiffener. In the transverse section analysis this stress is a constant value, which is equal to sigma_n for a stiffener in ship length direction. sigma_x, sigma_y (in EPP co-ordinate system) and tau are stresses in the adjacent plates, acting at the position of the stiffener, which causes additonal vertical forces on the stiffener. In case of the transverse section analysis normal stresses in other directions than in ships longitudinal direction may be set to zero. We will consider the RCP in order to clarify these interpretation.	
749	10/1.5.5.1	Question	Diameter of Pintles	2008/5/30	In CSR for BC, the diameter of pintles is equal to: da = 0.35 (B1 kr)^(1/2), with kr equal to (235/ReH)^e. However, in the UR S10, it is written that the diameter of pintles is equal to: dp = 0.35 (B kp)^(1/2), with kp equal to (SigmaF/235)^e. This two text give two different values: which one is correct?	The formula in CSR BC is correct.	
750	10/1.3.1.1	Question	Diameter of the rudder stock	2008/6/6	The diameter of the rudder stock is supposed to be calculated in m. However, this seems incorrect: the unit should be changed to mm.	Your comment is correct. This correction has been made by "Corrigenda 5" approved by the Council on 15 May.	
751	10/1.3.2.1	Question	The equivalent stress of bending and torsion	2008/6/6	In CSR for BC, the equivalent stress of bending and torsion for the increased rudder stock diameter is not to exceed 118/kr, with kr equal to (235/ReH)^e. However, in the UR S10, it is written that the equivalent stress of bending and torsion for the increased rudder stock diameter is not to exceed 118/K, with K equal to (SigmaF/235)^e. This two text give two opposite values: which one is correct?	The formula in CSR BC is correct.	
752	10/1.4.2.1 & 10/1.4.2.2	Question	The Diameter of coupling bolts	2008/6/6	1/ In CSR for BC, the diameter of coupling bolts is equal to: db = 0.62 [(D^3 kb) / (kr n e)]^(1/2), with kb and kr equal to (235/ReH)^e. However, in the UR S10, it is written that the diameter of coupling bolts is equal to: db = 0.62 [(d^3 Kb) / (Kr n em)]^(1/2), with Kb and Kr equal to (SigmaF/235)^e. This two text give two different values: which one is correct? 2/ In CSR for BC, the thickness of coupling bolts is equal to: tf = 0.62 [(D^3 kf) / (kr n e)]^(1/2), with kf and kr equal to (235/ReH)^e. However, in the UR S10, it is written that the thickness of coupling bolts is equal to: tf = 0.62 [(d^3 Kf) / (Kr n em)]^(1/2), with Kf and Kr equal to (SigmaF/235)^e. This two text give two different values: which one is correct?	The formula in CSR BC is correct.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
753	10/1.4.3.1	Question	The Diameter of coupling bolts	2008/6/6	In CSR for BC, the diameter of coupling bolts is equal to: db = 0.81 D/n^(1/2) (kb/kr)^(1/2), with kb and kr equal to (235/ReH)^e. However, in the UR S10, it is written that the diameter of coupling bolts is equal to: db = 0.81 d/n^(1/2) (Kb/Kr)^(1/2), with Kb and Kr equal to (SigmaF/235)^e. This two text give two different values: which one is correct?	The formula in CSR BC is correct.	
756	3/6.5.2.4	RCP	Symbol missing in the 2nd Formula	2008/5/30	A symbol, b, is missing in the 2nd formula in Ch3 Sec6, 5.2.4. Ch3 Sec6, 5.2.4. requires the arm length of tripping brackets, where originates in 4.7.6, Section 3, Chapter, 4, Part B of the BV Rules. Please correct it.	This is a typo. we will consider the editorial correction.	
757	11/1.1.2.1	RCP	Bending Radius	2008/9/10	The minimum bending radius for cold forming is required to be at least 3 times the plate thickness in Ch11 Sec1, 1.2.1 of CSR for Bulkers. With reference to the relevant Technical Background (TB), this requirement originated from the standard radius when bending corrugated bulkhead in IACS Rec. No. 47. On the other hand, CSR for Tankers regulates the minimum bending radius for cold forming is required to be at least twice the plate thickness in Sec6, 4.2.3.1. We are of the opinion that the minimum bending radius, 3 times the plate thickness, should be kept only when bending corrugated bulkhead. It is requested that the minimum bending radius for cold forming in Ch11 Sec1, 1.2.1 of CSR for Bulkers be changed to twice the plate thickness.	We will condier the rule change proposal in order to be in line with IACS Rec. No. 47.	
758 attc	3/6.6.1.3	CI	Minimum height of double bottom	2008/7/16	1st sentence of Ch 3 Sec 6 [6.1.3] requires the minimum height of double bottom. There are attached designs where the double bottom height varies according to the transverse locations. This is due to that bottom shell is not kept flat over the extent of inner bottom width. Please advise whether the foregoing requirement means: a) only double bottom height at centerline (h_CL) is to be kept to be not less than B/20 or 2m whichever is lesser, or b) B/20 or 2m whichever is the lesser is to be kept over the extent of inner bottom width including h_s.	The double bottom height h, measured vertically from the plane parallel with keel line to inner bottom, is not to be less than B/20 or 2 m whichever is the lesser. However, in no case is the value of h to be less than 760 mm.	Y
759	9/1.2.3.2	RCP	Spacing of solid floors	2008/10/27	The requirement in Ch 9, Sec 1, [2.3.2] says that the spacing of solid floors should be Min.[3.5m, 4 frame spaces] in case of the longitudinal stiffened system. We understand the philosophy that the spacing must not be too big, however, for example, when the design in fore part has a spacing of 3.75m (5 frame spaces), the actual difference of spacing is just 0.25m from the requirement. Is it possible to allow a greater value of spacing after confirmination that the strength or scantlings are enough, on the basis of FE analysis, for exemple? We would like to ask IACS to review this requirement and to introduce a Rule Change Proposal.	Such larger distances may be used, when the structure is verified by means of FEA deemed appropriately by the Society, using direct, calculated, slamming loads	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
760	3/6.5.2.1	CI	web stiffners	2009/3/3	Applicability of minimum thickness requirement to web stiffeners: Regarding applicability of minimum thickness requirement to web stiffeners, the type of web stiffeners is referred at the end in the question in KC328, however, the answers in KC328 and KC647, relevant to KC328, are not clear to web stiffener type. The requirements of minimum thickness of web stiffener are as follows; -Ch3 Sec6, 5.2.1 : minimum net thickness of primary support members, referred to Ch6 Sec4, 1.5.1. -Ch6 Sec2, 2.2.1 : minimum net thickness of web of ordinary stiffeners The types of web stiffeners are as follows; - Flat bar type - Angle or T type Please clarify the applicability of the above two requirements to the two types of web stiffeners.	Ch 3 Sec 6 [5.2.1] is only applicable to web stiffener with flat bar type. The minimum net web thickness for web stiffener with angle or T type is to be not less that that for ordinary stiffener specified in Ch 6 Sec 2 [2.2.1].	
761	3/6.5.6.2	CI	end bracket hight of primary support members	2009/6/26	Ch3 Sec6,5.6.2 requires that the end bracket height of primary support members should be not less than that of the primary supporting member. With reference to the interpretation of KC414, the requirements in Ch3 Sec6 are applicable not only cargo hold area but also other areas, where the application is appropriate. Please confirm whether the above requirement in Ch3 Sec6,5.6.2 is applicable to side transverse web in steering gear room. If applicable, providing large bracket according to the above requirement interrupts the arrangement of fittings in steering gear room. The above requirement originates in BV Rule, Part B, Ch4 Sec3,4.4 as indicated in the technical background. BV Rules also require the end bracket height of primary support members on ship side in Part B, Ch4, Sec3. 3.2 as follows: The height of end brackets is to be not less than half the height of the primary supporting member. We are of the opinion that the above criterion of end bracket height in BV Rules is applicable to primary support members on ship side. Please confirm this interpretation.	The mandatory requirements for the scantlings of the end connection is given with the sentence "The scantlings of end brackets are to be such that the section modulus of the PSM with end brackets is not less than that of the PSM at mid-span". An editorial change will be made by introducing the word "generally" in the sentence in Ch3 Sec6,5.6.2, stating that "the height of end bracket is generally to be not less than that of the primary supporting member".	
762	3/6.6.3.1	CI	centre girder	2009/3/3	Ch3 Sec6, 6.3.1 requires tightness of center girders as follows: Where double bottom compartments are used for the carriage of fuel oil, fresh water or ballast water, the centre girder is to be watertight, except for the case such as narrow tanks at the end parts or when other watertight girders are provided within 0.25B from the centreline, etc. With reference to “etc” at the end, it seems that the CSR permit non-tight center girders under specific conditions. Please indicate the conditions in which non-tight center girders are permitted.	The word "etc." means the case of small watertight compartments that free surface effects thereof are considered very small, compared with the arrangement specified in this requirement.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
763	Table 9.3.2	Question	net cross sectional area rule	2009/3/3	We have noted your answer concerning our complaints on requirements for Net Cross Sectional Area on tank top bedplates (KC ID #611). Your answer does not lead to a better understanding of the problem since we have already been informed about the answer on the approved question KC ID#413. We do not understand the reason for the requirement and would like you to explain the meaning of this formulae. As an example the width of each tank top bedplate for our engine S70MC-C is 1365 mm. When fulfilling the IACS rules the thickness is required to be 69 mm and the cross sectional area will be 1826 cm^2. Accordingly a width of 2640 mm of each tank top bedplate is required. This will in some cases mean that the tank top plate penetrates the hull at the aft part of the engine. Alternatively the thickness of the bedplate must be twice the normal size, 134 mm which is obviously a meaningless size. So we are of the opinion that the IACS rule on net cross sectional area should refer to “bedplates in total” and not to “each bedplate” as we proposed in our letter to IACS. Several shipyards are asking us for calculations on this matter, referring to the question KC ID#413, but it is not possible for us to make such calculations.	Your comment has been reflected to the Rule Change Proposal 4 which has been reviewed according to PR 32.	
764	6/2.4.1.3	RCP	Corrosion Formula	2008/10/27	With reference to the Technical Background, Ch6 Sec2, 4.1.3 is based on NK Rules. The coefficient, 1.1, of the stress formula in Ch6 Sec2, 4.1.3 is also shown in NK Rules as “correction coefficient for corrosion”. However, CSR adopts a net scantling approach and the scantling considered in the calculation formula is the net scantling, excluding corrosion additions. Accordingly, the formula in Ch6 Sec2, 4.1.3 incorrectly counts corrosion twice. Please reconsider the way to consider corrosion in this formula.	Considering the original rules and the background, it is not considered that the constant value 1.1 used in the formula of CSR based on the net scantling approach is necessary. We will consider the RCP because the correction of the formula will give the scantling impact.	
765	Text 3/6	Question	continuity of strength	2009/3/3	Please confirm that the requirements in Ch3 Sec6 are not required to be applied to areas other than cargo hold area, provided there is no cross reference to Ch3 Sec6 in the requirements to those areas specified in the relevant chapters, such as Ch9, etc	According to Ch 3 Sec 6 [1], the requirements of this section apply to the cargo hold area. For other areas, the requirements of Ch 9 Sec 1 to Ch 9 Sec 4 are to be applied. In fact some requirements are applicable in the whole ship, e.g. CH3, Sec6, 5.1.1 "Continuity of strength". We will make a rule change proposal in order to clarify the applicability of this chapter.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
766	9/3.2.1.8	Question	web stiffeners	2009/3/3	Please confirm that the following our interpretation, on the web stiffeners on the double bottom floors and side transverse web frames in machinery space, is correct. 1) In Ch 9 Sec 3 [2.1.8], Ch 3 Sec 6 is referred to in the first sentence, as "in addition to the requirements in Ch 3 Sec 6". It means the stiffeners provided to the double bottom floors in Machinery space shall comply with Ch.3 Sec 6 and Ch 9 Sec 3 [2.1.8]. The depth of the stiffeners provided to the floors in Machinery space is to be more than 1/12 stiffener length and the section modulus is to be not less than 1.2 times that required in Ch 6 Sec 2 [4.1.2]. 2) There is no cross reference to Ch.3 Sec 6 in the side transverse requirements in [3.1.3] of Ch 9 Sec 3 "Machinery space". Accordingly it is not required to apply the requirements of C3 Sec 6 to the web stiffeners on the side transverses in machinery space.	It is agreed that some requirements of Ch 3 Sec 6 are applicable to the structural arrangement of the entire hull structure. In this regard, modifications in CSR will be prepared for clarification.	
767	6/3.1.1.2	Question	Buckling Assessment	2009/3/3	1. It has come to our notice that there is an inconsistency between the CSR BC and IACS UR S17 about assessment of the buckling capability of the hull structure in flooded condition. 2. S17.5 requires buckling assessment for elementary plate panels and ordinary stiffeners in a hull transverse section stating that “Permissible stress and axial stress buckling strength are to be in accordance with UR S11”. 3. However, Paragraph 1.1.2 of Chapter 6, Section 3 of the CSR BC requires buckling assessment only for transverse vertically corrugated watertight bulkheads in flooded condition. 4. Both are IACS documents and are to be consistent for buckling assessment for the elementary plate panels and ordinary stiffeners.	With the additional ultimate strength check according to CH5, Sec2 for flooded condition, the requirements of UR S17 and UR S11 for the buckling assessment in flooded conditions are fulfilled.	
768 attc	6/3.4.2.2	RCP	stiffeners	2009/11/3	Please see the Rule Change Proposal in the attached file.	For continuous stiffeners, the bending moment due to the deformation of stiffener (M0) always takes the same sign as the bending moment due to the lateral load (M1), i.e. since Mo can act in any direction. However, for a sniped stiffener, the eccentricity of the compressive load and the neutral axis of the plate-stiffener combination means that M0 can only act in one direction (i.e. plate in compression). Accordingly, Mo and M1 should have the same sign when the lateral pressure is acting on the plate side, but different signs when the lateral pressure is acting on the stiffener side.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
769	Table 3.1.4	RCP	Application of material classes and grades	2008/10/15	With respect to CSR-BC, Ch.3, Sec.1, Table 4: Application of material classes and grades, it is proposed that the following parts in Special structural member category be editorially corrected. 1. The terms, 'ore carriers' and 'combination carriers' are inappropriate in view of the application set out in Ch.1, Sec.1, 1.1.2 where these ships are cleary ruled out. The text being a transcription from C5 in Table 1 as available in IACS URS6, Rev.5, this column should be more appropriated to CSR bulk carriers hence can only be changed to 'Strength deck plating at corners of cargo hatch openings (2)'. 2. The bottom of the category specifying 'End brackets and deck house transition of longitudinal cargo hatch coamings (5)' is most likely to be proper to container ships and not to bulk carriers. Should this be the case, please delete this column. If this should not be the case and applicable to CSR bulk carriers, clarification is requested as to whether the column refers to end brackets of discontinuous hatch side coamings having the length less than 0.15L. Otherwise, grade D/DH would be irrationally mandatory even for small bulk carriers.	1. We agree to your proposal. 2. Our understanding is that the bottom column of table 4 is applicable to bulk carrier having the longitudinal hatch coamings of length greater than 0.15L. This is in line with the third column from the bottom of the table. In order to clarify these items and to cover the revision of IACS UR S6 Rev. 5, we will consider the RCP.	
770	9/6.6.3.1	RCP	coaming height of energency generator room	2008/9/10	Coaming height of emergency generator room. Ch9 Sec6, 6.3.1 states the coaming height of emergency generator room with reference to 8.1.3. However 8.1.3. requires closing appliance and it seems that the reference is to be corrected to 8.1.2. Please confirm it.	This is typo. We will conisider an editorial correction.	
771	Ch. 6, Sec. 1	CI	carlings	2009/5/27	It seems that the answer in KC551 is applicable when fitted with carling effective enough to prevent buckling. Please show the conditions such as minimum scantlings of the carling which are effective enough to prevent buckling.	We will make a rule change proposal to establish minimum scantling requirements for such carlings.	
772	3/6.8.6.1	Question	brackets supporting longitudinal stiffeners	2008/10/15	According to Ch3 Sec6, 8.6.1 of Bulker CSR, brackets above the side frames in every frame space are fitted to ensure structural continuity. Consequently at least one side of the lowest longitudinal stiffeners on topside slant plates are normally supported by the brackets in every frame space. Please clarify how to take into account the effect of such brackets supporting longitudinal stiffeners with a view to determining the longiudinal stiffener span.	Span,"l", is the spacing of bracket or the distance between the transverse web in bilge hopper tank or topside tank, as applicable, and the adjacent bracket, when applying the formulas in Ch.6, Sec.2,[3.2.3], [3.2.5] or [3.2.7]. Please note that spacing, s, is to be a half longitudinal spacing between the adjacent longitudinal plus the half distance between the longitudinal and the connection of topside tank/bilge hopper tank sloping plate and side shell.	
773	Table 3.3.1	RCP	Corrosion addition in way of a WBT	2008/10/10	This issue relates to the application of Table.1 in Ch3 Sec3 with respect to the corrosion addition in way of a WBT (particulary, Top Side Tank) within 3m of the tank top. If only the part of face plate of an ordinary stiffener is located within 3m of the tank top while the web plate of the ordinary stiffener is located outside 3m from the tank top, which corrosion addition applies to such a stiffener? (1) Corrosion addition in way of a WBT within 3m of the tank top, or (2) Corrosion addition in way of a WBT oustside 3m from the tank top. Please clarify it.	According to the 2nd sentence from the bottom of Ch 3 Sec 3 [1.2.1], where a streuctural member are affected by more than one value of the corrosion addition, the scantling criteria are generally to be applied considering the severest value of corrosion addition applicable to the member. This is a general principle. Normally, the location of stiffener is judged from the coordinate at the conection of the attached plate. Therefore, for the case in question, corrosion addition in way of a WBT oustside 3m below the tank top. In order to clarify this, we will consider the RCP.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
776 attc	10/1.5.1.4	RCP	semi-blade rudder	2008/9/10	Reference is made to an equation in Para. 5.1.4 of Ch. 10, Sec. 1 of the CSR BC about a bending moment MR working on a semi-blade rudder at the cut-out. 2. It has come to our notice that unfortunately the force B1 came into equation by a typographical error and it should be replaced by the force Q1. Please see a supporting document as attached.	Reference is made to the file attachment. This is not an error and need not to be modified.	Y
777	Tanker 12/1.1.3 & Bulker 3/2.3.3	CI	as-built thickness	2009/5/19	The plans to be supplied onboard the ship are to include both the as-built and the renewal thickness. Does this mean all thicknesses on all drawings shall include as-built and renewal thickess ? Is it sufficient that renewal thickness are shown on main drawing or in a separate document?	The submitted structural drawings (Section 3, 2.2.2.1, (a) & (c) in CSR-Tankers and Ch 3 Sec 2, 3.3 in CSR-BC) is to show renewal thickness and as-built thickness. Any owner's extra thickness is also to be clearly indicated. For the plans to be supplied on board the ship, see Section 3/2.2.3 in CSR-Tankers. Alternatively, it is acceptable to present renewal thickness in a separate plan ("Renewal thickness plan") in which the as-built thickness may not be presented, and any owner's extra thickness is also to be clearly indicated. This plan is to be approved and supplied on board the ship.	
780	3/6.8.2.1	Question	air pipes	2009/3/3	The 2nd sentence in Ch.3 Sec.6 [8.2.1] reads: " If air pipes are passing through the cargo hold, they are to be protected by appropriate measures to avoid a mechanical damage." Please advise what the appropriate measures are.	Appropriate measures to avoid mechanical damages to air pipes passing through the cargo hold should be subjected to the Class Society.	
781	Table 11.2.2	Question	Continuous fillet welds	2009/3/3	KC ID# 596 allows one side continuous fillet welding for stiffeners in deck house of CSR/Tanker except areas otherwise specified or those where such welding is not suitable. Is one side continuous fillet welding also allowed to apply to deck house of CSR/Bulker?	One side continuous fillet welding could be applied to stiffeners in a deck house subject to the following; 1. This welding method is not allowed for the area where is affected by the concentrated loads and excessive vibration such as under winches, cranes, davits and machineries and exposed to weather, and for wet spaces and tanks. 2. Welding size is to be of the fillet required by Ch.11, Sec.2, Table 1 for intermittent weld. 3. Welding at ends of the stiffeners is to be F0 according to the row "General, unless otherwise specified in the table" in Ch.11, Sec.2, Table 2. 4. The fabrication process has to assure that the deviation from the given angle of the profile to the plate is within the permissible values of the fabrication standard e.g. IACS REC47.	
785	9/4.3.2.1	CI	Lateral pressure for deck	2009/3/3	The lateral pressure for decks of superstructures and deckhouses is defined in Ch9, Sec4, [3.2.1]. This requirement refers to the external pressure pD defined in Ch4, Sec5, [2.1], which is a pressure for EXPOSED deck. In case of non-exposed decks of superstructure and deckhouses, as no internal pressure is defined for such decks in Ch4, Sec6, we would like to know what is the pressure to be used?	Effectively, no internal pressure is defined in CSR-BC for non-exposed decks of superstructures and deckhouses. Such internal pressure will be added in CSR-BC, and we suggest to use a value of 5 kN/m2 including dynamic load effect.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
786	3/6.4.1.1	Question	bulb profile	2008/9/10	In CSR-BC, Ch 3 Sec 6, [4.1.1], the thickness tw of the web of the built-up section equivalent to a bulb profile is not defined. We assume that the thickness of the web is taken equal to the thickness t'w of the web of the bulb profile. Please confirm our interpretion.	Your interpretation is correct: in CSR-BC, Ch 3, Sec 6, [4.1.1] the thickness tw of the web of the built-up section equivalent to a bulb profile is to be taken equal to the original thickness t'w of the web of the bulb profile.	
787	3/1.2.3	Question	UR S6	2008/9/10	Considering Rev.5 (Sept 2007) of IACS UR S6, it seems necessary to update CSR-BC Ch 3, Sec 1, [2.3] to be in accordance with this revision.	We agree with your comment. The requirements in CSR-BC Ch 3, Sec 1, [2.3] will be updated to be in line with Rev.5 (sept2007) of IACS UR S6.	
788 attc	5/1.5.2.2	RCP	Permissible still water shear force	2008/10/27	Ch4 Sec8 requires that the permissible value of still water shear forces be described in loading manuals. “Permissible still water shear force” is defined in Ch5 Sec1 [5] based on the calculated shear stresses of hull girder strength members. Further, other strength assessments, such as global strength analysis in Ch7 Sec2 and buckling strength assessment in Ch6 Sec3, also refer to hull girder shear force. However, the relationship of shear force values is not clear in CSR. (See attached) Please consider a rule change to clarify the above.	1)The designer should define the design still water shear force QSW in line with Ch.4, Sec.3 [2.3] in the first place. 2) Then using QSW the following strength is assessed (a) hull girder shear strength according to Ch.5 Sec.1 [5]. (b) buckling strength according to Ch.6 Sec.3 (c) global strength according to Ch.7 Sec.2. 3) As a conclusion, the design still water shear forces can be taken as the allowable ones and described in the loading manual. We will consider the RCP in order to clarify this understanding.	Y
789	9/5.5.4.5	CI	deflection limit	2008/9/10	We would like to confirm the interpretation of "Common Structural Rules for Bulk Carriers" Part CSR-B Ch.9 Sec.5 5.4.5 : Deflection Limit of Primary supporting members for Hatch Covers. We interpret this Ch.9 Sec.5 5.4.5 as follows: As clearly described as "when loaded by sea pressure" in Ch.9 Sec.5 5.4.5, necessary considering load to keep deflection within the limit (= ulmax) is only the "Sea pressures" defined in Ch.9 Sec.5 4.1.2 and does not include the "Internal pressures due to ballast water" defined in Ch,9 Sec.5 4.1.3, even in case of Ballast hold Hatch Covers. We are looking forward to receiving your reply with your confirmation to above our interpretation.	The "Sea pressure" means the pressure defined in [4.1.2] of Ch 9 Sec 5. Even when the requirement of [5.4.5] applies to the hatch cover of ballast hold, sea pressure defined in [4.1.2] of Ch 9 Sec 5 is only considered.	
793	2/2.2.1.3	Question	fire protection	2009/1/29	In SOLAS II-I/Reg.10.6.3, paint locker is considered as a spacing containing flammable liquids. If this is the case also in CSR BC Rule, the paint locker inside a deckhouse is required to have a cofferdam, which seems to be beyond SOLAS requirement and require current ordinal design of ships to be changed. In addition, it is considered that the current SOLAS requirement is sufficient, considering the past experiences. Hence, it would be appreciated to inform us of a definition and an example of ‘spaces intended for the carriage of flammable liquids.’ If the definition is same as that of SOLAS, then it would be requested to modify the requirement to be line with SOLAS requirement.	Firstly, this requirement is not a SOLAS requirement. Secondly, the current SOLAS requirements regarding the fire protection are considered sufficient as you mentioned. Therefore, we will delete the requirement Ch 2 Sec2 [2.1.3] with a rule change proposal.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
794	3/1.2.3.3	CI	top plate of engine seats - material grade	2009/4/1	1.Reference is made to IACS KC ID: 711 regarding the material grade of the top plate of main engine seats inserted into inner bottom. 2.It is understood that a thicker top plate of main engine seats is required to suit securing the engine bolts on installation of a main engine, then, it is considered to be a very local strength item. 3.Consequently it is also understood that Grade A/AH is acceptable for the top plate of the engine seats located outside 0.6L amidships of any plate thickness and the requirement of Ch. 3, Sec.1, Para. 2.3.3 of the CSR BC is applicable to the top plate of the engine seats located inside 0.6L amidships. 4.For information, LR Rules accept A/AH for the top plate of the engine seats outside 0.6L amidships and few damage has been reported for it so far. Most of the classification societies' Rules are understood to be in line with this requirement. 5.A prompt confirmation on Para. 3 as above would be very much appreciated.	This question will be addressed within the harmonisation process of both CSR BC and CSR OT.	
798	2/1.3.1.1	Question	Bulkhead	2009/3/3	SOLAS Ch II-1, Part B, Reg. 11, Para 8 states "Bulkheads shall be fitted separating the machinery space from cargo and passenger spaces forward and aft and made watertight up to the freeboard deck". LR's Rules allow the after peak bulkhead to terminate at the first watertight deck above the load waterline in the aft peak, recognizing that the after peak bulkhead isn't separating the machinery space from a cargo or passenger space aft. However, CSR BC Rules, Ch 2, Sect 1, 3.1.1, whilst referring to SOLAS Ch II-1, Pt B, Reg 11, states that the after peak bulkhead is to be watertight to the freeboard deck. Can we have clarified the reason for this higher standard of subdivision than required by SOLAS and LR's Rules, or does this require a corrigendum? It is also noted that the CSR OT Rules are in line with SOLAS and LR's Rules	This paragraph will be modified in order to comply with applicable SOLAS Regulations. The corrigenda will be issued.	
799	Table 9.2.5	Question	cast propeller post	2009/3/3	In Chapter 9, Section 2, Table 5 the following change is proposed: Column: "Cast propeller post", Row "R" the formula should be changed from: 50 L^1/2 to: 50 mm. Reason: typo found in the formula coming from RINA Rules and corrected in RINA Rules 2008.	Your comment is noted and we will consider a rule change proposal changing to 50 mm from 50L^1/2.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
800	6.3.4.2	RCP	lateral buckling of longitudinal stiffeners	2009/3/3	We have checked both criteria given in Ch 6, Sec 3 for lateral buckling of longitudinal stiffeners not subjected to lateral pressure: criteria in [4.2.1] and [4.2.2] on one side and criteria in [4.2.3] on the other side. These criteria were checked in case of longitudinal stiffeners (flat bars) of non watertight girders. The conclusions are: (1) - When considering ends of stiffener not sniped: both criteria are equivalent. (2) - When considering ends of stiffener sniped: both criteria seems equivalent, but it is noticed that there is no convergence when increasing the scantling of the flat bar. The same problem occurs if bulb or T-bar are considered. instead of a flat bar. Consequently, there are some doubts on the application of the formulae for sniped stiffeners and in particular on the default value taken for the assumed imperfection w0. Requirement should be re-considered in case of sniped stiffeners and a technical background should be provided.	In case of longitudinal stiffeners sniped at ends and located on non watertight girders, when applying the criteria for lateral buckling given in Ch 6, Sec 3 [4.2.1] and [4.2.2] on one side and [4.2.3] on the other side, it is right that there is no convergence when increasing the scantling of the stiffener. The requirement Ch 6, Sec 3, [4.2.3] is only applicable for non-sniped ordinary stiffeners. We will make a rule change proposal to clarify this matter.	
801	Text 4/6.2.2.1	Question	inertial pressure	2009/6/19	Ch4 Sec6, 2.2.1 requires that the inertial pressure due to ballast water is not to be considered, when checking ballast water exchange operations by means of the flow through method. With regard to the treatment of hydrodynamic external pressure under such conditions, KC226 has interpreted that hydrodynamic external pressure should be considered. On assuming ballast exchange operations are normally carried out under calm sea condition, the inertial pressure due to ballast water is considered negligible, and then the requirement in Ch 4 Sec 6 [2.2.1] seems to be reasonable and practicable. However, the interpretation, which requires to consider hydrodynamic external pressure corresponding to the probability level of 10^-8, seems to be excessive and inconsistent with the treatment of hydrodynamic internal pressure. Please reconsider the treatment of hydrodynamic external pressure under ballast water exchange operations by means of the flow through method.	The approach described in KC 226 is still valid. Dynamic internal pressure is not explicitly defined but the internal static pressure pBS defined in Ch.4 Sec.6 [2.1.2] contains an overhead of 25 kN/m2 which covers the dynamic internal pressure of BWE operations by means of the flow through method. However, this matter is relevant to harmonisation with CSR OT and will be submitted to the harmonisation team.	
802	9/5.7.3.5	Question	securing arrangements	2009/3/3	In the first part of [7.3.5], the general formula for determining the gross cross area A of each securing device is given. Then, in the second part of [7.3.5], some special cases (packing line pressures exceeding 5 N/mm or securing arrangements which are particularly stressed due to the unusual width of the hatchway) are specified and the corresponding net cross area A. Why the general formula is given for the gross cross area A when the cross area for particular cases is the net one?	[7.3.5] is the copy of a part of UR S21.5.1 which specifies A as net sectional area. In the light of S21.5.1 "gross cross area" is a typo which should be corrected. However the "gross cross area" of the current CSR is intended to mean the area measured at the root of threads of securing device which is same as the "net sectional area" of S21.5.1. Accordingly the foregoing correction of the current rule text from "gross cross area" to "net cross area" will be considered as Corrigenda.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
803	Table 11.2.2	Question	Welding Sizes of Hatch Cover	2009/3/3	1] Please advise whether Table 2 in Ch.11, Sec.2 should be applied to welding of hatch cover. 2] In case Table 2 in Ch.11, Sec.2 is not applicable to hatch cover please confirm that welding sizes should be subject to the Rules of the class. 3] In case Table 2 in Ch.11, Sec.2 should be applied to hatch cover, a) Please advise the rows and categories of welding in the table which to be applied to the following connections: (1) Stiffener web to top plate/bottom plate (2) End of stiffener web to web of primary supporting member (PSM) (3) End of stiffener face to PSM web (4) PSM web to top plate/bottom plate (5) PSM web to PSM web at outermost end connections (6) PSM web to PSM web at intermediate connections (7) Web to face plate of PSM (8) PSM web to web of horizontal/vertical stiffener which is fitted on the PSM b) Please advise for which extent of categories (F0, F1, F2 or F3) the intermittent welding category “F4” can be used alternatively. 4] Please advise if the footnote (2) in Table 1 in Ch.11, Sec.2 is to be applied to welding of hatch cover as it is. 5] Please advise whether or not the intermittent welds, which have different Length-Pitch other than “75-300” indicated in Table1 in Ch.11, Sec.2, can be accepted. If accepted, please advise how to calculate the required Leg length.	(1) and (2) Table 2 in Ch 11, Sec 2 is not applied to welding of hatch cover directly but the basic concept of Table 2 is applicable. (3) When the basic concept of Table 2 applies to welding of hatch cover, the category of the fillet weld of the following connection are as follows. [3] a) (1) Stiffener web to top plate/bottom plate: F3 or F4* (2) End of stiffener web to web of primary supporting member (PSM): i) For bracket connection: F2 ii) For no bracket connection: F1 (3) End of stiffener face to PSM web: i) For bracket connection: F2 ii) For no bracket connection: F1 (4) PSM web to top plate/bottom plate: F2 at end (15% of span) and F3 or F4* for the rest (5) PSM web to PSM web at outermost end connections: i) For bracket connection: F2 ii) For no bracket connection: F1 (6) PSM web to PSM web at intermediate connections: F2 (7) Web to face plate of PSM: F2 at ends (15% of span) and Fe3 or F4* for the rest (8) PSM web to web of horizontal/vertical stiffener which is fitted on the PSM: F4 Please note that F4 weld is not used for welding in way of intersection with PSM. b) F3 weld instead of F4 can be used. [4] The footnote 2 of Table 1 is applicable [5] If the length of filet welds is greater than 75mm and pitch is less than 300mm, such intermittent welds are acceptable. In order to this interpretation, we will consider a RCP.	
804	Text 4/6.2.2	Question	inertial pressure	2009/6/23	In Ch 4, Sec 6, [2.2], the parameter (x-xB) in the definition of the inertial pressure pBW for load case H is taken equal to a default value for "local strength by Ch 6" and for "fatigue check for longitudinal stiffeners by Ch 8". Could you specify what is the meaning of "local strength by Ch 6" and "fatigue check for longitudinal stiffeners by Ch 8"? Could you also specify what value of the parameter should be used for "direct calculation (i.e. FEM)"?	A1: Local strength by Ch 6: checking of plating and ordinary stiffeners, including buckling check, by using the prescriptive formulae defined in Ch 6, all sections included. fatigue check for longitudinal stiffeners by Ch 8: checking of fatigue at ends of longitudinal stiffeners by using the simplified procedure defined in Ch 8, Sec 4. A2: For direct calculations, including buckling and fatigue, xB should be used as defined in Ch 4, Sec 6, [2.2] (i.e. X co-ordinate of the aft end ..., or of the fore end...) where the reference point B is defined in the same requirement by the angle "phi" for load cases H1 and H2.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
805	4/6.3.3 & 7.3.4	Question	high density cargo	2009/1/24	Regarding the mass of high density cargo used for strength check of transversely corrugated watertight bulkheads in flooded condition, please advise on the following questions: 1) Ch.4 Sec.6 [3.3.4] & [3.3.5] refer hc. We understand hc should be calculated according to either Ch.4 Sec.6 [1.1.1] or [1.1.2]. In case of non-homogeneous loading conditions which should be the mass MHD or MHD+0.1MH for BC-A ships? 2) In case of homogeneous loading conditions (e,g, homogeneous ore loading conditions, etc.) which should be the mass MHD or MHD+0.1MH for BC-A ships? 3) We understand for BC-B ships the mass should be MHD, of which please confirm.	The cargo mass to consider for flooding assessment of a BC-A in alternate is MHD. The value of hc is then to be calculated with respect to the used cargo density. A2 : The cargo mass to consider for flooding assessment of a BC-A in homogeneous is MH. The value of hc is then to be calculated with respect to the used cargo density. A3 : The cargo mass to consider for flooding assessment of a BC-B in homogeneous is MH. The value of hc is then to be calculated with respect to the used cargo density. As a "background", it is stated in S18 and now in CSR BC Ch.4 Sec.6 [3.3.2] that the loading conditions to consider for flooding assessment are those of the loading manual, i.e. "real conditions". The use of MHD + 0.1 MH for a BC-A in alternate comes from UR S25 - now CSR BC Ch.4 Sec.7 [3.4] and is only intended for design checks.	
808	3/6.6.4.2	RCP	alignment	2009/3/3	Ch3 Sec6, 6.4.2 requires that the net thickness and material of floors in way of lower stools should not be less than those of lower stool side plating. The requirement originates from the requirement of UR S18.4.1 (c)-"Alignment", which requires the net thickness and material of floors in way of corrugate bulkheads not to be less than those of corrugation flanges, in cases without lower stools. In cases without lower stools, the floor supports bulkhead corrugation and the necessities of equal net thickness and material of the floor are understandable from a structural viewpoint. In cases with lower stools, however, bulkhead corrugation is supported by such lower stools and the floor supports the stool side plating. Accordingly, any connections between lower stool side plating and floors are considered to be continuous enough by assuring equal thickness. Therefore, we would like to request a rule change stating that the material of floors will not be required in Ch3 Sec6, 6.4.2 in cases with lower stools.	This issues are included in RCP4 (Rule Change Notice 1, 2009) which has been reviewed according to PR32.	
812	8/4.2.3.2	Question	Stress concentration factors	2009/3/3	Geometrical stress concentration factor for stress due to lateral pressure, K_gl, is permitted to be evaluated directly by FEM according to Ch8 Sec4, 2.3.3. However, no indications of direct evaluation by FEM are found in the definition of geometrical stress concentration factor for stress due to hull girder moments, K_gh, in Ch8 Sec4, 2.3.2. Please confirm whether geometrical stress concentration factor for stress due to hull girder moments, K_gh, can be evaluated directly by FEM.	The geometrical stress concentration factor for stress due to hull girder moments, K_gh is also be able to evaluated directly by FEM. This is included in RCP 4 which has been reviewed according to PR 32.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
816	9/5.5.2.1 & 9/5.5.3.3	Question	hatch cover top plating	2009/3/3	CSR for bulker specifies the prescriptive rule requirements to the thickness of hatch cover top plating in Ch.9 Sec. 5 [5.2.1] and the section modulus and shear area of ordinary stiffener in Ch.9 Sec. 5 [5.3.3]. 1) Is it acceptable to apply FEA for the to evaluation of those scantlings in lieu of the prescriptive rule requirements in Ch.9 Sec. 5 [5.2.1] and [5.3.3] provided: (i) all other relevant rules (e.g. minimum thickness, buckling etc.) are to be fully complied with, and (ii) the allowable stresses, specified in Table 2 of Ch.9 Sec.5 [1.5] are to be used in FEA for the scantling evaluation of top plating and ordinary stiffeners? 2) If FEA is acceptable please advise the criteria on the modeling.?	The formula for t_net, given in CH9, Sec5, 5.2.1, is equivalent to S21.3.3. This requirement is a minimum requirement, which can not be superseded by a direct calculation.	
817	3/6.5.2.2	Question	tripping brackets	2009/3/10	Ch3 Sec6, 5.2.2 generally requires tripping brackets welded to the face plates. In addition, the last sentence in Ch3 Sec6, 5.2.2 also requires that the face plates of the primary supporting members, which exceed 180 mm on either side, should be supported by tripping brackets. We are of the opinion that the tripping brackets shoud only support the face plate of PSM in case where such face plates exceed either side of the web. Please confirm the above.	Ch.3 Sec.6 [5.2.2] means that the side of the flange should be supported when the size of the side exceeds 180mm.	
818	Text 4/6.1.1.1	Question	non-cylindrical hold	2009/6/23	In Ch 4, Sec 6, [1.1.1], the distance hc is defined for cylindrical hold. The determination of hc is not provided for hold completely filled when the cargo hold is of non-cylindrical shape as it is provided for the requirement [1.1.2] at the last paragraph.	For the determination of hc in Ch 4, Sec 6, [1.1.1] for holds of non-cylindrical shape and in case of prescriptive rule requirements, the upper surface of the bulk cargo may be taken at the upper deck level. We will consider a corrigenda to clarify this.	
819	4/7.3.4.2	CI	Loading conditions - high density cargo	2009/9/8	The requirements 4/7.3.4.2 has the purpose to cover the most severe case with high density cargo. In a case we faced the max cargo density was 3. The compliance for this requirement was checked with density equal to 3. However a worst case appeared for the upper part of the transverse Bhd with a smaller density (1.3) filling the cargo hold for the considered MHD+0.1 MH. In conclusion the proposed interpretation should be considered for being sure that all the most severest cases are covered by consideration of 2 extreme cases: one with the highest density and the 2nd with the smallest density corresponding to the filling of the cargo hold.	This question and the draft answer you submitted will be considered in KC 872 which has a larger scope.	
820	6/2.2.3.2	Question	Gross Thickness and Net Thickness Scantling	2009/3/3	Regarding the application of Ch6 Sec2 2.3, should hw and bf of the formulae be measured as gross scantling or net scantling? In Tanker CSR Table 10.2.1, it is clearly defined that the breadth and depth of stiffeners are based on gross scantling. But, in Bulker CSR, there is no clear definition for the calculation of the net dimensions of ordinary stiffeners given in Ch6 Sec2 2.3. Please clarify.	It is clearly mentioned in the text of [2.3] that all scantling is the net dimensions.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
822	7/3.2.1.1	Question	ares to be refined	2009/3/3	Ch.7 Sec.3 2.1 Areas to be refined : For the end brackets of hatch side coaming and hatch end beam, they are not listed in the Table 1. Thus, could we understand these areas are not required to be refined even if the calculated stresses exceed 95% of the allowable stress as specified in Sec 2,[3.2.3]? We suspect that there should be some technical background for such brackets since the deck plating in way of the most stressed hatch corners is listed in the Table 1. In general, the high stressed elements may be found at the end bracket of hatch side coaming.	Yes, the structural members not listed in Table 1 of Ch 7 Sec 3 are not required to be refined even if the stresses calculated by coarse mesh analysis exceed 95% of the allowable stress.	
823	9/5.1.4.2 & Table 3/3	Question	corrosion addition	2009/3/3	The 2nd sentence in Ch.9, Sec.5, [1.4.1] reads: "The corrosion addition for hatch coamings and coaming stays is defined according to Ch 3, Sec 3." The 1st sentence in UR S21.6.2 reads: "For the structures of hatch coamings and coaming stays, the corrosion addition t_s is to be 1.5mm." We believe that the following corrosion additions for L>=150m are to be applied referring to Ch.3 Sec.3 Table 1; (a) Hatch coaming web: Roundup0.5[(1.8+1.0)]+0.5=3.5mm (b) Web of horizontal stiffener on coamings: Roundup0.5[(2x1.7)]+0.5=4.0mm (c) Flange of horizontal stiffener on coamings: Rounduo0.5[(2x1.0)]+0.5=2.5mm (d) Coaming stays: Roundup0.5[(2x1.0)]+0.5=2.5mm. Please confirm the above corrosion additions.	Your understanding is correct.	
825	9/1.2.3	Question	collision bulkhead	2009/3/10	Ch.9 Sec.1 is applicable to the structure in the area located forward of the collision bulkhead, the bow flare area and the flat bottom forward area, according to Ch9 Sec1, 1.1.1. Each requirement has individual applicable areas, such as the bow flare area in 4.1.1 and the bottom forward area in 5.1.1. We are of the opinion that the requirements in 2.3 are applicable to the area located forward of the collision bulkhead only. In other words, the requirements in 2.3 are not applicable to the area located aft of the collision bulkhead. Please confirm the above.	Your understanding is right.	
826	9/5.6.2.4	Question	hatch coaming	2009/3/10	Hatch coaming stiffeners are required to be estimated with considering the wave lateral pressure as stated in Ch9 Sec5, 6.2.1. In addition, hatch coaming stiffeners in way of ballast hold are also required to be estimated with considering the ballast pressure in Ch4 Sec6 as stated in 6.2.4. In this context, to consider the ballast pressure in Ch4 Sec6, the hatch coaming stiffeners need to be applied with the applicable requirements in Ch6 Sec2. More specifically, we are of the opinion that following applications of the requirements in Ch6 Sec2 should be considered; 1) Hatch coaming stiffeners in way of ballast holds; Applicable : Section modulus and shear area in 3.2 Applicable : Dimensions in 2.3 2) The other hatch coaming stiffeners NA : Section modulus and shear area in 3.2 NA : Dimensions in 2.3 Please confirm the above applications	The hatch coaming is a part of the central part as defined in Ch1 Sec1 [2.1.3], hence all the relevant requirements in Ch6 shall be complied with, in addition to the relevant requirements in Ch9 Sec5.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
827 attc	3/6.7.2.1	CI	void space	2009/3/3	Please refer to the attached sketch of a bulk carrier with double side skin construction. This bulk carrier has FOT and pipe trunk in the topside area. The pipe trunk is considered as void space. Ch3 Sec6, 7.2.1 requires as follows; Where the double side space is void, the structural members bounding this space are to be structurally designed as a water ballast tank according to Ch 6. In the bulk carrier, FOTs are arranged with cargo hold length and the pipe trunk is running through whole the cargo area length. According to our calculation based on the above, the dynamic pressure in the long pipe trunk is estimated about twice the large pressure in FOTs and excessive scantlings are required by the calculation based on the pipe trunk pressure. However, taking into account the technical background of Ch3 Sec6, 7.2.1 as quoted below, requiring the above-mentioned excessive scantling is irrational; If the double side skin part is to be used as a void space, and cargo of high density is to be carried in the cargo holds, then local loads are not presumed to act on the side structure of the cargo hold on the double skin side. Even in such cases, appropriate thickness exceeding the minimum thickness is considered necessary. As a conclusion, even if the double skin side part is a void space, it is treated as a ballast tank and assessment of local strength is specified. In this bulk carrier, the longitudinal bulkhead can be considered appropriately by the estimation of the pressure in FOT. Therefore, we are of the opinion that the longitudinal bulkhead between the pipe trunk and the FOT has an appropriate construction by calculating FOT internal pressure, therefore, the bulk carrier is in compliance with Ch3 Sec6, 7.2.1, without calculation of the pipe trunk internal pressure.	It was not the intention of the CSR to derive irrational dimensions for void bounding structures. We suggest to use the corresponding cargo hold length for l_H in the formula for inertial water ballast pressure. We will make a rule change proposal to eliminate this drawback.	Y
830	4/5.3.4.1	Question	vertical stiffeners	2009/3/10	Load calculation point for plating. In case of vertical stiffeners, what is the load calculation point for plating? Is it a) the middle of the plate field, or b) the lower edge of the EPP or strake, as described in Ch.6 Sec.1 [1.5.1]?	Load calculation point for plating in case of vertical stiffener is the lower edge of the EPP or strake, as described in Ch 6 Sec 1 [1.5.1]. We will consider a Rule Change Proposal.	
831	6/1.2.4.1	CI	FE and local requirements	2009/3/3	Please explain the technical background of this requirement. Does this requirement refer to a) only the thickness required by local requirements? b) both the thickness required by FE and local requirements? Typically, we have pipe duct in way of the keel plating, and the length of the elementary plate panels are smaller than outside the pipe duct. The required thickness obtained from the bi-axial FE buckling in way of the pipe duct may then be smaller than outside the pipe duct. Can we accept this smaller thickness?	This requirement refers to both the thickness required by FE and local requirements, as it refers to "actual" thickness, for a matter of continuity of strength, and enough strength for docking.	

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832	6/2.4.1.3	Question	Connection ends of web stiffeners - differences between NK rules & CSR	2010/8/6	According to TB, the requirement originates from NK Rules. However, the requirement in CSR seems conservative on the following items: 1.The factor Cship in NK is depending on ship length. In CSR this dependence is deleted. This means that we obtain stricter results for L<200m. 2.In NK, Klongi is 1.0 for bulbs. In CSR Klongi is 1.3. This seems conservative, because skew bending moment for bulbs is much less than for angle bars. 3.In NK, the pressure is clearly only considering vertical acceleration. This means that the stress induced by the dynamic load is under the assumption that the vessel is under maximum vertical hull girder bending moment. In CSR, there is no specification about which wave the dynamic pressure is based on. R and P waves will give high dynamic pressure in top wing tank. However, R and P wave will not give highest vertical hull girder bending moment. CSR should clearly state the dynamic pressure is under H or F wave. Are the above differences between NK and CSR Rules intended? If they are not intended, please advise how they should be handled.	1. Design philosopy underlying CSR is based on the "North Atlantic Navigation" and service life of 25 years. This is different from NK rules. The factor "Cship" is intentionally deleted. 2. We agree with you. This is not intended. We will consider a corrigenda to clarify this. 3. We have noted your comment and we will send it to the Harmonization Team.	
833	6/4.3	Question	Primary Support Members	2009/3/10	Reference is made to Ch. 6 Sec. 4 [3] “Additional requirements for primary supporting members of BC-A and BC-B ships.” The section is referring to net dimensions. Please advice how to obtain the net dimensions: a) deduct 0.5tc from gross scantling (In line PSM scantling applied in FEM) b) deduct tc from gross scantling. (In line with scantling applied in local checks) Please consider specifying this in Ch.3 Sec.2	The full corrosion addition is to be considered when applying Ch.6 Sec.4 [3]. Ch.3 Sec.2 [2.1.1] and [3.2] define the cases where other corrosion values are to be used for determining the net dimensions.	
834	9/1.2.2.1	Question	tripping brackets	2009/1/26	Ch.9 Sec.1 [2.2.1] Tripping brackets in fore part According to the technical background this requirement is based on URS 12. URS 12 deals with asymmetrical sections, while no distinction is made between symmetrical and asymmetrical sections in Ch.9 Sec.1 [2.2.1]. Please clarify if this requirement applies to symmetrical sections.	The reference, given in the technical background, is wrong. This paragraph is based on GL-Rules I-Part 1, Section 9A 5.5. The requirements are valid for symmetrical and asymmetrical side frames, because the loads (sea and tank pressures) act not parallel to the webs of the frames and cause oblique bending. We will adjust the technical background on this paragraph.	
835	9/2.5.2.1	Question	side transverse spacing	2009/2/11	Please explain why the required side transverse spacing is reduced to 2 frame spacing in way of the rudder horn. This is not in line with common industry practice. According to Chapter 9, Section 2 [3.1.2] solid floors are to be fitted at every frame spacing in way of the rudder horn and are to be extended up to the peak tank top. In our opinion, this requirement should give proper support for the rudder horn, and the requirement in Chapter 9, Section 2 [5.2.1] can therefore be disregarded.	Referring to answer to question ID739 on 9/2.3.1.2, a rule change will be issued covering both requirements 9/2.3.1.2 and 9/2.5.2.1.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
836	9/3.2.1.5	Question	machinery space	2009/3/10	"Forward of the machinery space forward bulkhead, the bottom girder are to be tapered for at least three frame spaces and are to be effectively connected to the hull structure." This implies that the additional bottom girder in way of the machinery seating has to be extended into the pipe duct in the aftmost cargo hold. In our opinion, there is no room to extend this additional girder inside the pipe duct. The requirement is not in accordance with common industry practice and should be disregarded.	As the framing system and girder system changes at the engine room bulkhead there is a change in hull girder stiffness and in local stiffness. The extend of the foundation girders into the adjacent space (e.g. pipe duct or tank) reduces this abrupt change of stiffness. Structural continuity is to be ensured in double bottom by bottom girders tapered and effectively connected to hull structure forward of engine room. Specific designs are to be allowed on a case by case basis by each Society, provided the above provisions are respected. A Rule Change proposal will be made.	
837	10/3.3.9.3	Question	chain cable	2009/1/26	The last sentence in Ch10 Sec3, 3.9.3 requires about chain cable attachment as follows; In an emergency, the attachments are to be easily released from outside the chain locker. Our customers, who are planning to adopt a fixed type attachment without releaser, inquire the technical background of the requirement. Please indicate the technical background of the requirement.	In case of an emergency (Vessel is pressed onto the lee shore by offshore winds) and the capstan is inoperative, the release of the whole chain is the last possibility for a ship to leave the anchorage.	
839 attc	10/1.20 & 1.10	Question	horizontal rudder coupling flange	2009/1/26	Figure 20 of Chapter 10, "Horizontal rudder coupling flange". The right side of the figure (representing the rudder transversal section in way of the coupling) is unclear (perhaps due to rendering of the original image) Moreover, putting formulas for requirements inside a figure is not consistent with what usually done in the CSR for bulk carriers, and prohibits finding such formulas by means of full text searching inside the Rules. Please improve the figure and move the formulas to the textual part of the Rules.	The right side of figure 20 is illegible due to a wrong image format. We will exchange this figure and we will move the definitions in the text. This editorial changes will be incorporated in the next corrigenda. Please find the original figure 20 in the attachment.	Y
842	3/6.5	Question	curved face plates	2009/7/6	Ch.3 Sec.6 [5] In CSR Tanker rules 4/2.3.4 there is a correction formula for the effective flange area of curved primary supporting members. In CSR Bulk there is no such formula. Does this mean that curved flanges, e.g. in the top wing webs and bilge webs, are to be considered 100% effective?	There is no formula to evaluate the effectiveness of the curved part in the curved flange in CSR –BC. The formula to evaluate the effective breadth or effective area of curved flange is necessary in order to take into account the effect due to cross bending phenomenon. Therefore, this matter should be submitted to the Hull Panel to make a harmonized interpretation. Furthermore, the RCP will be considered in accordance with the harmonized interpretation.	
843	Text 3/6.2.2.5	Question	tapering	2009/6/25	Ch.3 Sec.6 [2.2.5] Change in plating thickness Main machinery seatings are typically more than double the thickness of the inner bottom. In case the seating is included in the double bottom strucure, is the requirement Ch.3 Sec.6 [2.2.5] to be complied with? If this is the case, insert plates will often be required in the inner bottom plating. In our opinion it is sufficient to use tapering in accordance with Ch.11 Sec.2 [2.2.2]. Please advise.	The meaning of "load" in "load carrying direction" in Ch. 3 Sec. 6 [2.2.5] is considered to be of a global type, such as hull girder loads. Where global loads are considered small or can be ignored, e.g. machinery seatings or reinforced openings in bulkhead, tapering according to Ch.11 Sec. 2 [2.2.2] is considered sufficient.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
844	3/6.10.3.4	Question	Stiffener brackets on plane bulkheads	2010/1/18	Ch.3 Sec.6 [10.3.4] The requirement for arm length a for stiffener brackets is very large for long stiffeners not subject to pressure. Example: Bulkhead in engine room between platform deck and upper deck. Length is 5.5 m. 9 mm plating is stiffened with HP140x8 stiffeners. The requirement to the arm length a then becomes 550 mm for the lower brackets and 440 mm for the upper brackets. The actual arm length a is 250 mm. In our opinion the bracket size should be decided based on the required section modulus for the stiffener, not the length. Please comment.	You are right. The bracket size should be decided based on the required section modulus for the stiffener, not the length. We will consider a rule change proposal in order to harmonize CSR for BC with CSR for OT.	
845	6/3.3.1.1	Interpretation	Minimum thickness of elementary plate panels	2010/9/7	Please specify where the requirement Ch.6 Sec.3 [3.1.1] applies. Does it only apply to the cargo area, or also to other areas, such as the aft and fore parts and machinery spaces? If it applies also to the latter areas, we will get significant increases in plating thickness for some structures, such as wash bulkheads, platform decks, etc..	Ch6, Sec3 applies to the central part as defined in Ch1, Sec1, [2.1.3]. It also apply to machinery space as stated in Ch9, Sec3, [1.2.2] with respect to requirements of Ch9, Sec3. However, the minimum thickness requirement based on space in the first sentence of Ch6, Sec3, [3.1.1] was made as the first approach at the initial design stage so that initial scantling has certain stiffness. Less scantling may be accepted on members under little load. We will consider a rule change to delete this requirement	
846	7/2.2	Question	openings in PSM	2009/9/28	Ch.7 Sec.2 [2] Please provide guidelines on how to represent openings in PSM webs in the FE cargo hold model, similar to CSR Tanker rules App. B 2.2.1.15	The representation of openings in PSM for finite element hold models will be addressed by the harmonisation process.	
847	Table 9.1.1	Question	fore peak	2009/2/11	Reference is made to Ch.9 Sec.1 Table 1 and to KC ID 494 What is the correct application of Table 1 for a non-tight floor top in the fore peak? Should this structure be regarded as platform or inner bottom?	A non tight floor in the fore peak is considered as a platform with regard to Ch.9 Sec. 1 Tab.1	
848	Text 11/2.2.4.1	Question	abutting plates	2009/6/3	Ch.11 Sec.2 [2.4.1] Abutting plate panels forming boundaries to sea below summer load waterline In CSR Tanker partial penetration welding is acceptable for welding of abutting plates forming boundaries to sea below summer load waterline when thickness is greater than 12 mm. In our opinion this should also be acceptable for CSR Bulk. Please advise.	We agree that partial penetration welding is acceptable for welding of abutting plates forming boundaries to sea below summer load waterline when thickness is greater than 12 mm as per CSR OT. We will consider a Rule Change Proposal	

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849	Text 6/A1.1.3.4	Question	corrugated BHD	2009/6/16	Regarding the buckling assessment of corrugated bulkhead plates, the edge stress ratio for their web plates is defined as 1.0 according to Ch.6 App.1 [1.3.4(b)]. This means that the stress distribution of such web plates is assumed to be uniform. However, due to bending, the actual stress distributions of these web plates are not uniform. Therefore, the edge stress ratio,ψ, should be -1.0 in case where applying buckling case1. Please confirm that ψ=1.0 is correct or not.	The correct value of psi is -1.0. We will consider a Rule Change Proposal.	
850	Text 10/1.3.3.2	Question	rudder horn	2009/6/16	In addition to the simplified formula for the "Unit displacement of rudder horn" (f_b) a second formula has been introduced, taking the Young Modulus explicitly into consideration. A comparison of the units in this formula shows that the factor 10^8 has to be changed to 10^11. This error leads to an overestimation of the spring constant "Z", which causes an un derestimation of the moment, acting on the lower bearing of the rudder stock Please confirm. We propose to handle this issue as a corrigenda, because the difference in the dimensions of "f_b" is an apparent error.	The only definition of E (Youngs modulus) is found in Ch 1 Sec 4 2.2.1. Here the unit is given as [N/mm^2]. However, in Ch 10 Sec 1 [kN/m^2] is the unit used for E, as can be shown for the definition of G (Modulus of rigidity). The units for G and E have to be the same. When using the unit [kN/m^2] for E, the factor 10^8 is correct. A corrigenda to clarify the definition of E in Ch 10 Sec 1 will be considered.	
851 attc	4/6.1.1.2 & Figure 4.6.2	Question	Ore cargo surface (small amount of mass)	2010/1/27	Ch.4 Sec.6 [1.1.2] defines the cargo surface when the cargo hold is not loaded up to the upper deck. There are cases of cargo loading as attached which is differenet from Ch.4 Sec.6 Figure 2. It seems that the formulas of h_c, h_HPL, h_1 and h_2 are not applicable. Please advise the formulas to define the cargo surface and cargo height h_c as well as V_TS in such cases	For the case of cargo loading as attached, the height of loaded cargo from the inner bottom to upper surface of cargo is calculated by as follows. The section profile is to be as per the shaded area in the attached file, assuming the plane surface of width the parameter BH/2 in the centerline and the inclined parts with an angle equal to psi/2. The profile is assumed to maintain throughout the length of the cargo hold. The virtual cargo section profile is to be determined so that the consequent cargo volume is equal to M/rho_c. In calculating the cargo volume, 1) the upper stool is to be disregarded, 2) the volume of lower stool is to be deducted which is cut by the virtual section profile. Anyway, as the formula in [1.1.2] of Ch 4 Sec 6 is not used for the questioned cases, we will consider a RCP in order to deal with such cases.	Y
852 attc	6/2.4.1.1 & 6/2.2.5	Question	Steel Coil Loading	2009/9/4	Ch.6 Sec.2 [4.1.1] defines the required net sectional area of web stiffeners. 1) Please confirm the requirement is not applicable in case of steel coil loading as specified in Ch.6 Sec.2 [2.5]. 2) If 1) is not the case please advise how to calculate the pressure "p" in case of steel coil loading.	1. The requirement of Ch 6 Sec 2 [4.1.1] is applicable in case of steel coil loading becasue the load due to steel coil is acting on the ordinary stiffener. 2. Please find the attached document. We will conisder the RCP.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
853	2/3.1.1.1	Question	means of access	2009/1/24	According to Resolution 151(78), the SOLAS Reg.II-1/3.6 apply to "Access to and within spaces in, and forward of, the cargo area of oil tankers and bulk carriers". In CSR BC Ch 2, Sec 3 the item 1.1 refers to Resolution 151(78), but its title states "Means of access to cargo and other spaces", which is not exactly the same scope of application as in SOLAS Reg.II-1/3.6. Is it intentional in CSR-BC or is the scope of application to be considered as being exactly the same as in SOLAS?	The scope of application should be considered as being exactly the same as in SOLAS Reg.II-1/3.6, i.e. applicable to "Access to and within spaces in, and forward of, the cargo area of oil tankers and bulk carriers". The CSR-BC will be modified accordingly by a RCP.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
854	8/1.1.3.1 & Table 8.1.1	Question	Primary Support Members	2009/3/10	Table 1 of Ch8, Sec1 defines the members and locations to be analysed in fatigue assessments. Each mentioned connection of primary supporting members is analysed in only one direction. We see the necessity to evaluate a connection from both sides. This question focus' on the connection of inner bottom and lower stool.. Summary of experience with fatigue assessment of heavy ballast cargo holds: + The connection of the inner bottom to the vertical/sloping plate of the lower stool is the most critical loaction + The deformation of the double bottom and the transverse bulkhead expand this welding connection due the large internal dynamic pressures . + The global bending stress plays not a dominant role. Stress ranges of the inner bottom and the stool plating are of a comparable size + Typically the initial calculated damages of the inner bottom AND the stool plate are considerably larger than 1. + Counter measures in one member, e.g inserted plates in inner bootom, decrease the damage of this member, but increase the damage of the other member. As an example, the reduction of the damage of the inner bottom from 4 to 1 may increase the damage of the sloping plate up to 6 or more. The deformation and stresses of the considered structure and the damage results indicate clearly that this fatigue problem is a 3D-problem, where measures in one member directly affects the other member. If we follow the definition of members, to be assessed (Table 1), only the inner bottom need to comply with the fatigue requirements, whatever the calculated damage of the stool plating is. It seems, there are two options: 1) Assess the inner bottom - lower stool connection from both sides. 2) Assess only the inner bottom In case of option 1, we need a modification of the table and we need an instruction, how to deal with approved vessels (MOU, TOCA), where no fatigue assessment have been performed for the stool plating. In case of option 2, it has to be demonstrated, why the damage results of the lower stool plating can be neglected.	~~This is already under discussion at the Hull Panel. The conclusions will be endorsed by PT1.~~ UPDATED ANSWER AGREED 11 SEPT 2009: "Regarding Tab 1 in Ch 8, Sec 1 of CSR-BC, the intent at the time of development of the CSR-BC was not to check the inner bottom only, but the whole connection of inner bottom with sloping and/or vertical plate of lower stool, which includes all the plates. The whole connection means the connection of plating members of inner bottom, side of lower stool, girders and floors in DB and diaphragms in lower stool. In addition, it is to be noted that, when making fatigue assessment of such connection, if fatigue problems are found in any of the above plating members, then reinforcements are to be considered for all the concerned plating members. It means that Table 1 should be understood as considering all the plating members involved in the inner bottom/lower stool connection and not only the inner bottom plating. Table 1 will be modified accordingly at a future date."	
855	Table 11/2.1 & Text 11/2.2.6.1	Question	fillet welds	2009/6/25	Leg length of fillet welds is adjusted corresponding to the corrosion addition as required in Ch11 Sec2, Table 1, Note (2). On the other hand, weld throats in zones “a” and “b” of side frames are required in 2.6.1 without reference to Table 1. Because this requirement originates from UR S12, adjustments of those of side frames are considered unnecessary. Please confirm the above.	Considering the fillet weld category of side frame of single side structure (connection of side frame and end bracket to side shell plate) in Tab 2 Ch11 Sec2 is not referred to one specified in Tab1 Ch11 Sec2, the note (2) of Tab1 is not applicable to fillet weld of side frame of single side structure (connection of side frame and end bracket to side shell plate)	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
856	Text 6/1.2.3	Question	bilge plating	2009/6/16	Clarification of the criteria of the application of any increased thickness required for the bilge plating to the adjacent bottom and side shell plating. In case the straight plate of bottom or side shell shares a transversely framed and curved EPP with the bilge plating, should the required thickness of the bilge plating be applied to the adjacent bottom or side shell plating? Regarding this, in Tanker CSR Corrigenda 3 Section 8/ 2.2.3.2, the criteria have been defined clearly for the application of the required thickness of the bilge plating. However, in Bulker CSR Ch 6, Section 1 [2.3], there is no clear guideline. Please clarify.	The text of Ch 6 Sec 1 [2.3.3] says: The net thickness of the bilge plating is to be not less than the actual net thicknesses of the adjacent 2 m width bottom or side plating, whichever is the greater. Therefore, the required thickness of the bilge plating should not be applied to the adjacent bottom or side shell plating	
858	8/2.3.2.1	Question	shape parameter	2009/2/11	In CSR BC Ch.8 Sec.2 [3.2.1], the Weibull shape parameter is taken to 1.0. In CSR OT App. C/2.4.1.2, this parameter is a linear function of the rule length L. Using in CSR BC the same definition of Weibull shape parameter as in CSR OT leads to longer fatigue life duration. As the approach used in CSR OT is also used in BV rules and in other societies, it is therefore requested to reconsider the value of in 1.0 for this parameter in CSR BC.	Originally, the Weibull shape parameter, which is the function of L, was defined for the wave bending moment in the IACS Recommendation No.56 in 1999. Strictly, it depends on the RAO of the object member and considered load environments. In the CSR-B, the Weibull shape parameter was set as 1.0 for the simplification and the effect of such treatment is confirmed being small. The point you mentioned should be the harmonization issue and will be discussed in the forthcoming harmonization team on fatigue.	
859	4/6.3.3.2	Interpretation	Load combinations used for checking bulkhead scantlings	2010/2/15	Reference is made to KC#402 Questions related to interpretation of the following sentence in Ch.4 Sec.6 3.3.2 Please advise the interpretation of following sentence. "The most severe combinations of cargo induced loads and flooding loads are to be used for the check of scantlings of each bulkhead, depending on the loading conditions included in the loading manual." In ship with BC-A notation, most of ships may be intended to carry, in non-homogeneous condition, the dry cargo in bulk with density between 0.9 and 3.0. We have examined the strength of corrugate BHD according to URS18 and Ch.4. Sec.6 3.3.3. The most severe case is the flooded non-homogeneous condition with the cargo density of 1.78 t/m3. If the loading manual does not include the condition with the density 1.78t/m3, the case of 1.78ton/m3 is considered or not? And if the corrugated bulkhead with density 1.78 t/m3 is not considered, the ship have the limitation about the cargo with density 1.78 t/m3? Please clarify!!!	This question will be considered together with KC 872. A Common Interpretation will be made to clarify applicable loads, density and angle of repose for intact, flooded and fatigue condition.	

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860	4/6.2.2.1	Question	reference point	2009/1/24	In CSR-BC Ch 4, Sec 6, [2.2.1], there are two possible methods for the determination of the reference point B for load cases R and P: - the first one is defined through the definition of yB and zB and the figure 3, - the second one is defined as being the upper most point after rotation by the angle "phi". For some geometries of the ship section considered, in particular depending on the angle of the sloping top side tank plate or when the deck is not horizontal, the point B obtained through the two methods are different. Our interpretation is that only the second method (B being the upper most point after rotation by the angle "phi") should be applied as it is the most physical and it is a general method. Please confirm our interpretation?	The interpretation is correct: only the second method (B being the upper most point after rotation by the angle "phi"). It should be applied for local strength, direct strength and fatigue check.	

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863	Table /9.2.5	Question	single screw ship	2009/6/23	Ch9 Sec2, Table5 requires thicknesses t1 and t2 of cast propeller posts of single screw ship. The applicable area of required thicknesses t1 and t2 is not so clear as to distinguish required thickness at any point of post. Please confirm it.	t1 is the post minimum thickness, to be measured at the connection with the shell plating (excluding a possible tapered transition to the shell plating thickness) t2 is the post maximum thickness, to be measured at the edge of the circular area with radius R. In addition, the word "to be taken not less than 19mm" and Note 1 in Table 5 should be deleted because it is impossible for CSR ships >=90m. In order to clarify these, figure in the table and the wording will be corrected in the next corrigenda.	
866 attc	Figure 6.2.10	RCP	web stiffener end connections	2009/8/3	In the estimation of web stiffener connection ends, the definition of the parameters is to be clarified. When fitting with large collar plate supporting stiffener flange as attached figure, the parameters, l_1 and l_2 as defined in the left figure of Fig. 10, are not clear. Please clarify the above.	In case that Ch.6 Sec.2 [4.1.3] is applied to the design in question, "scallop width" and "slot width" in the attached figure may be treated as the parameters l1 and l2.	Y
871 attc	3/6.10.4.7	Question	S 18	2009/5/13	See the attached comment/question forwarded by ABS re BC CSR Ch.3/6.10.4.7.	The requirement of Ch3/Sec6/[10.4.7] comes from S18, and is in line with SOLAS Ch. XII - SOLAS/CONF.4-Resolution of the Conference of Contracting Governments to the International Convention for Safety of Life at Sea, 1974-(November 1997) – Resolution3 –Recommendation on Compliance with SOLAS Regulation XII/5 – (Adopted on 27 November 1997). We should keep it as is.	Y
873	4/5.2.4.2	Interpretation	Concentrated forces due to unit load on exposed decks	2010/8/6	Ch4 Sec5, 2.4.2 requires concentrated force due to unit load. However, the scantling determination procedure of the structure, which is loaded with this concentrated force, is not clearly indicated in CSR. Please confirm the procedure to determine the scantling of following members in cases where a unit load is carried on an exposed deck; 1. Plating 2. Stiffeners 3. Primary supporting members, including the cases that direct strength assessment in Ch7 applies.	The structural member under heavy concentrated load should be adequately stiffened by local support in general, and its scantling, which is to be based on the net scantling approach according to Ch3, Sec2, is at the discretion of the Society. This issue will be considered in the Harmonization of the two Common Structural Rules.	
875 attc	Table 8.2.2	Question	fatigue strength	2009/9/3	In practice, there are some bulk carriers without heavy ballast condition. How is fatigue strength checked? Especially, how is the coefficient αj determined which is defined in Ch8, /Sec 2, /Table 2? Is it practical to incorporate αj in heavy ballast condition into that in normal ballast condition as the following table (as attached)?	Normal ballast condition and heavy ballast condition are required for all vessels with CSR Bulk Carrier notation for providing sufficient draught and trim to prevent damages during navigation in Ch.4 Sec.7 [2.2.1]. In case that a bulk carrier does not have a ballast hold and has only one loading condition carrying ballast water and that the loading condition complies with the both requirements of normal ballast condition and heavy ballast condition in Ch.4 Sec.7 [2.2.1], the loading condition may be treated as normal ballast condition and heavy ballast condition stipulated in Ch.8 Sec.2, Table 2. Coefficient alpha_j in Ch.8 Sec.2, Table 2 should be applied accordingly.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
878	6/1.2.6.3 & 6/1.2.6.2	Question	effective structure	2009/3/10	In corrigenda 5, the “long superstructure” and “short superstructure” are modified into “effective structure” and “non-effective structure” in Ch 6, Sec 1, [2.5.3] and [2.5.4]. We think Ch 6, Sec 1, [2.6.2] and [2.6.3] should also be modified.	To be in accordance with Ch.6 Sec.1 [2.5], terms "long superstructure" has to be change to "effective superstructure" in Ch.6 Sec.1 [2.6.2], and "short superstructure" to "non-effective superstructure" in Ch.6 Sec.1 [2.6.3]	
879	Text 6/2.2.5.3	question	hopper sloping tanks	2009/6/16	Ch 6, Sec 2, [2.5.3] ordinary stiffeners located on hopper sloping plate or inner hull plating [quote] l' : Distance, in m, between load points per elementary plate panel of inner bottom plate in ship length, sloping plate or inner hull plating, as defined in Ch6, Sec 1, [2.7.2]. [unquote] The title of Subsection [2.5.3] concerns hopper sloping panel and inner hull plate, excluding inner bottom plate, so the definition of l' should be modified.	Your observation is correct. The definition of l' is related to the factor K3 and hence valid for both [2.5.2] and [2.5.3]. We will consider to move the definition to Symbols or Table 1 for K3 in a corrigenda.	
880	6/4.2.2.1, 6/4.2.3.1, 6/4.2.4.1 & 6/4.2.5.1	Question	Scantlings of primary supporting members for ships of less than 150m in length - definitions	2010/3/30	With respect to Ch 6, Sec 4, we have the following questions: 1.Subsection [2.2.1] and [2.3.1] define BDB as distance between the toes of hopper tanks at the midship part, and define Ps, IB, Pw, IB, Ps, BM, Pw, BM as pressures at the center of the double bottom structure. We think the position to calculate BDB should also be the center of the double bottom structure as that of Ps, IB, Pw, IB, Ps, BM, Pw, BM. Please consider. 2.Subsection [2.4.1] and [2.5.1] define hDS as height of the double side structure between upper end of hopper tank and lower end of topside tank, and define Ps, SS, Pw, SS, Ps, LB, Pw, LB as pressures at the center of lDS which is length of the double side structure between the transverse bulkheads under consideration. We think that the position of hDS should also be at the center of lDS as that of Ps, SS, Pw, SS, Ps, LB, Pw, LB. Please consider.	We agree to your opinion that B_DB and h_DS should be calculated at the center of double bottom and double side of the considered hold respectively. On the other hand, it is necessary to note that B'_DB is separately defined as the breadth at the position of the floor in Ch6 Sec4, 2.3.1. In addition, it is necessary to define h'_DS separately as the height at the position of the side transverse web in 2.5.1. Accordingly, the second h_DS in the formula of t1 is changed to h'_DS in 2.5.1. We will consider a Corrigendum.	
883 attc	Text 6/A1.1.3.3	question	buckling assessment	2009/6/16	Ch6 App1, 1.3.3 requires treatments on buckling assessment of side shell plates which are stiffened vertically in the following two cases; Case 1: with approximately constant stresses Case 2: with distributed stresses According to the Rules, Case 2 is applicable to side shell panel under distributed stress over the panel height. In general, the panels in way of side frames are such stress and Case 2, therefore, is applied to them. On the contrary, regarding side shell panels in way of brackets above/below side frames as shown in the attached sketch, it is considered that the stress distribution in the panels is approximately constant. So the treatment of above Case 1 is applied to the buckling assessment of the panels. Please confirm the above.	Your understanding is correct.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
884	Text 3/2.3.3.1	question	net scantling approach	2009/6/24	From a viewpoint of net scantling approach, Ch3 Sec2, 3.3.1 requires that renewal thicknesses of structural members be indicated on the structural drawing. A renewal thickness is defined in Ch13 Sec2 as follows; t_renewal = t_as_built - t_C – t_voluntary_addition On the other hand, superstructures and deck houses required in Ch9 Sec4 are based on gross scantling as indicated in Ch3 Sec2, 2.1.1. Accordingly, it is considered that renewal thicknesses of superstructures and deck houses are not in line with the above definition and consequently follow that specified in each Class Rules. Therefore, we consider it unnecessary to indicate renewal thicknesses of superstructures and deck houses on the structural drawing. Please confirm the above.	Renewal of structures of superstructures and deck houses is to be left to discretion of each classification society. The same goes to all structures listed in Ch.3 Sec.2 [2.1.1].	
885	Table 3.3.1	Question	collision bulkhead & machinery space front bulkhead	2009/8/27	The question is on collision bulkhead and machinery space front bulkhead without upper stool and lower stool. Please confirm that only "Transverse bulkhead"-"Other parts" & "Upper parts" of "Structural member" category, in Ch.3 Sec.3 Table 1,are to be applied to the corrosion addition on cargo hold side of these bulkheads but that "Lower stool sloping plate, vertical plate and top plate" category needs not be applied.	The corrosion addition for lower stool plates intend to deal with the high level of corrosion that takes place within the lower stool space. As there is no lower stool, the corrosion addition to be considered here is the "Transverse bulkhead / other parts".	
887	9/2.6.5.1	Question	stern tube thickness	2009/9/18	1st paragraph in Ch.9 Sec. 2 [6.5.1] reads:"The sterntube thickness is considered by the Society on a case by case basis. In no case, however, may it be less than the thickness of the side plating adjacent to the stern-frame." Please confirm that the thickness of the side plating to be used is the required net thickness?	Answer: Your understanding is correct. The thickness of the side plating to be used is the required net thickness. This requirement has also to be considered within the harmonisation.	
888	Table 4A.2.5	question	FEA	2009/6/23	Ch4 App2, Table5 defines load cases to be analyzed in FEA. The cases Nos.12 to 15 are in harbour conditions and their still water bending moment are indicated as M_S,P(+) and M_S,P(-). On the other hand, Note b) of Table5 specifies M_SW,P,H and M_SW,P,S as allowable still water bending moment for harbour condition. It seems that M_S,P(+) and M_S,P(-) are identical to M_SW,P,H and M_SW,P,S respectively. Please confirm the above and correct these discrepancies.	We confirm your comment and will make an editorial correction in the Rules to replace M_S,P(+) and M_S,P(-) by M_SW,P,H and M_SW,P,S so as to in line with the other tables and the Note b).	
891	9/2.3.1.2	ci	Aft peak	2009/9/8	Ch9 Sec2, 3.1.2 requires “Floors are to be provided with stiffeners located at intervals not exceeding 800 mm.” in its last sentence. We are of following opinions; - This requirement is applicable only in way of and near the rudder post, propeller post and rudder horn. - Intervals of stiffeners depend on the thickness of floor as required in Ch3 Sec6, 5.2.1 Please confirm the above.	The last sentence of Ch9 Sec2, 3.1.2 “Floors are to be provided with stiffeners located at intervals not exceeding 800 mm.” is applicable only in way of and near the rudder post, propeller post and rudder horn. This requirement should be applied in addition to Ch3 Sec6, 5.2.1.	

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892	7/3.2.1.1 & Table 7.3.1	question	corosion deduction	2009/7/28	For the current CSR/BC rules and current practice of the class societies, with regard to the fine mesh FEM model of the transverse set of Primary Support Members mentioned in the second figure in 7/3 Tab 1, is the portion of the model representing the single side skin frame to be modeled by deducting 1.0Tc or 0.5Tc?	Regarding the fine mesh FEM model of the transverse set of Primary Support Members mentioned in the second figure in 7/3 Tab 1, the portion of the model representing the single side skin frame to be modeled by deducting 0.5tc.	
893	Text 10/1.8.3.1	question	corrosion allowance	2009/6/26	There appears to be an editorial error in the equation for t(k), the corrosion allowance for nozzle plate thickness t(0) with t(0) greater than 10mm: The present formula is: t(k) = min [0.1 ((t(0) / (sqrt k)) + 0.5) , 3.0] The formula should be revised to: t(k) = min [0.1 ((t(0) / (sqrt k)) + 5.0) , 3.0]	There is an editorial error in the equation of t(k), corrosion allowance for nozzle plate when t(0) is greater than 10mm. The formula should be changed to: t(k) = min [0.1 ((t(0) / (sqrt k)) + 5.0) , 3.0] This modification will be included in the next corrigenda.	
896	Text 6/4.1.5.1	question	primary supporting members	2009/6/26	Ch.9 Sec.2 [4.3] specifies scantling requirements of primary supporting members in aft part. The minimum thickness of floors is defined in [4.3.1]. However for other PSMs such requirement is not so clear. Please advise on the following questions: [A] [4.3.4] refers to Ch.6 Sec.4 requirements for deck PSMs. Do these requirements include Ch.6 Sec.4 [1.5.1]? [B] Please confirm that: (1) there is no requirement to minimum thickness for PSMs other than for floors, i.e., there is no minimum thickness requirment for deck PSMs, side transverses, side girders, etc.; or (2) there is no requirement to minimum thickness for PSMs other than for floors and deck PSMs, i.e., there is no minimum thickness requirements for side transverses, side girders, etc.	A1) Yes, deck PSM have to fulfill the requirements of Ch.6 Sec.4 considering the loads defined in Ch.9 sec.2 [2.2], and in particular the minimum web thickness defined in Ch.6 Sec.4 [1.5.1]. A2) No, the requirement for a minimum web thickness defined in Ch.9 Sec.2 [4.3.1] applies to all the PSM except those of the deck (see answer A1 herein). A rule change will be issued for clarifying this.	

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902	4/3.2.2, 4/3.2.3 & 4/3.2.4	RCP	margins of SWBM & SWSF	2009/7/16	Since scantling approval is based on the hull girder bending moment and shear force values contained in the preliminary loading manual, which may be subject to change (and possibly be higher) in the final loading manual. It is believed that the CSR Tanker guidance notes recommending that during initial design a margin be placed on the Still Water Bending Moment and Still Water Shear Force is a very good provision in the rules and that similar guidance notes be contained in the CSR Bulk Carrier Rules. Reference is made to CSR Tanker Sec.7, 2.1.1.6 and Sec.7, 2.1.3.6, which are as follows: Guidance note: It is recommended that, for initial design, the permissible hull girder hogging and sagging still water bending moment envelopes are at least 5% above the hull girder still water bending moment envelope from the loading conditions in the loading manual, to account for growth and design margins during the design and construction phase of the ship. Guidance note: It is recommended that, for initial design, the permissible hull girder still water shear force envelopes are at least 10% above the hull girder shear force envelope from the loading conditions in the loading manual, to account for growth and design margins during the design and construction phase of the ship. It is believed that like guidance notes for margin on bending moment and shear force values should be included in CSR Bulk Carriers for application during initial design both for values in intact and flooded condition. It is believed that the values of margins that are applied to Tankers would also be appropriate for Bulk Carriers.	The definition of the margins to be applied on the hull girder bending moment, shear force... is the responsibility of the designer at each step of its project. Rules are to be applied on the values given by the designer. This subject will also be submitted to the harmonisation team.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
903	Text 2/1.2.1.1	question	collision bulkhead	2009/6/26	Regarding the arrangement of collision bulkhead in Ch 2, Sec 1, [2.1.1], the text of the requirement is coming from SOLAS Ch. II-1, Part B, Reg. 11 and states that "A collision bulkhead is to be fitted which is to be watertight up to the freeboard deck. This bulkhead is to be located at a distance from the forward perpendicular FPLL of not less than 5 per cent of the length LLL of the ship or 10 m, whichever is the less, and not more than 8 per cent of LLL ". However, this text is modified by Annex 2 of MSC 216(82), which is entered into force since 1st january 2009, and wich states in SOLAS Ch. II-1, Part B-2, Reg 12.1 that "A collision bulkhead shall be fitted which shall be watertight up to the bulkhead deck. This bulkhead shall be located at a distance from the forward perpendicular of not less than 0.05L or 10 m, whichever is the less, and, except as may be permitted by the Administration, not more than 0.08L or 0.05L + 3 m, whichever is the greater." The text in CSR-BC should be modified accordingly. More generally, the requirements in CSR-BC coming from SOLAS and modified by MSC 216(82) should be updated accordingly.	We agree with your comment and will update the rules accordingly.	
906	Text 10/1.9.2	question	material factor	2009/6/24	The material factor in the scantling equations for rudder horns, in particular those for materials with minimum yield strength less than 235 N/mm^2, are not clearly defined in Ch.10, Sec.1 [9.2] and should be clarified.	The material factor "k" in Ch.10, Sec.1 [9.2.2], [9.2.3] and [9.2.4] and the material factor "K" in Ch.10, Sec.1 [9.2.5] should be replaced with "k(r)" as defined in Ch.10, Sec.1 [1.4.2]. This correction will be made in the next corrigenda.	
907 attc	4/6.1.1.2 & 4/6.1.1.1	Q&A	Internal pressures & forces applied during FEM analysis	2010/4/14	Please see the attached PDF file containing 2 questions about CSR for bulk carrier in Chapter 4 section 6 Internal Pressures and Forces when applying them in the FEM analysis.	Q1 a)Static cargo pressure at Pos 1 and Pos 2 are not the same, since the shape of cargo gives a reduced hc outside Bh/4 from centerline. In your example the static pressure will be pCS = ρC x g x KC (ha + hDB − z). b)At your position 4 the cargo pressure will be zero c)In your example pCS = ρC x g x KC (hb + hDB − z) should be used. d)In your example hd should be used. Q2 a)For calculation of hc, psi does not need to be considered because an equivalent horizontal surface is assumed. Static pressure at top side plate is to be zero since Kc is defined to be zero for top side plate, upper deck and sloped upper stool. b)In your example the static cargo pressure is the same in region 1 and 2. c)In your example hc should be used.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
910	Tables 4.A2.1 & 4.A2.3	Question	Loading condition accelerations	2009/9/4	Loading condition No 1 considers homogeneous loaded cargo. According to Note 2 a density of 3t/m has to be used. Please confirm that GM and k_R of the real homogeneous loading condition (density << 3t/m) has to be used in this context and not a higher GM value, which considers the lower COG of this theoretical cargo. From our point of view the aim of this loading condition is to create maximum sea pressure at side shell without counterpressure due to cargo. Higher accelerations, based on the theoretical density of 3t/m, need not to be considered.	LC1 is a homogeneous loading condition with a density of 3.0 t/m3 which has to be included into the loading manual. The corresponding calculated values of GM and kr have to be used in FEM analysis and not those of a loading condition with a lower density. If these values are not available, default values have to be used as per Ch.4 Sec.2 tab.1.	
911	6/1.2.3.2	RCP	bilge plating thickness	2009/8/3	Ch6 Sec1 [2.3.2] Our understanding is that the for formula net thickness of bilge plating is based on buckling of thin cylindrical shells subjected to external pressure. Hence, please specify that only the external pressures are to be considered in the formula.	Your understanding is correct, and we will make an editorial correction to clarify this.	
912	4/6.	RCP	sloshing pressure	2009/9/4	Minimum pressures for ballast tanks Please consider including minimum sloshing pressures for ballast tanks, similar to CSR Tanker 7/4.2.4.	Bulker CSR does not have the structural scantling formula according to sloshing pressure for ballast tanks. To include design pressure and scantling formula for sloshing, sufficient ramification study should be carried out. It will be discussed during harmonization process with considering the necessity of sloshing estimation in ballast tanks of bulkers.	
913	4/6.	RCP	min pressure for decks in ER	2009/7/16	Minimum pressure for platform decks in engine room. Please consider including minimum pressure for platform decks in engine rooms, similar to CSR Tanker 7/2.2.4.	A minimum thickness is currently required for platform plating in the engine room. As this differs from the CSR OT approach, this will be submitted to the harmonisation team.	
914 attc	Text 6/2.3.3.1	RCP	Requirements for side frames in ballast holds	2010/10/20	Ch6 Sec2 [3.3.1] Side frames in ballast holds Please consider the attached Rule Change Proposal regarding requirements to side frames in ballast holds.	As notified in the Technical Background, the requirement Ch.6 Sec.2 [3.3.1] is based on requirement S12.4.1 of the draft text of IACS UR S12 Rev.4 agreed at the WP/S meeting of 8-10 April 2003. In order to agree with URS12, the m-factors must be adjusted. The new m-factors will be presented to the Hull Panel and to the Harmonization Team in a CI. Once the new m-factors approved, they will be modified in CSR BC.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
918	6/1.3.2.3bis2	CI	Thickness of supporting floor of corrugated bulkhead	2010/5/12	With regard to required net thickness of supporting floor of corrugated bulkhead (Corr.BHD.) with lower stool, please reply to the following questions. 1.In 6/1.3.2.3 bis2 of RCN No.1-8, the wording of “by the first sentence” in the second sentence should be deleted because there is no relevant sentence in 6/1.3.2.2. 2.It is noted that the requirement of 6/1.3.2.2 (required plate thickness in flooding) is not applicable to lower stool side plating in ballast hold because it is only applicable to the plating which constitutes the boundary of compartments not intended to carry liquids. According to 6/1.3.2.3 bis2 of RCN No.1-8, on the other hand, required thickness of supporting floor in way of ballast hold is to be based on the required thickness of 6/1.3.2.2. Our understanding is that imaginary required thickness of lower stool side plating in ballast hold needs to be calculated in accordance with 6/1.3.2.2 in order to obtain required thickness of the supporting floor in way of ballast hold because the concept of 6/1.3.2.3 bis2 comes from UR S18 (Flooding requirement of Corr.T.BHD). But please confirm.	1: Your observation is right: The wording of “by the first sentence” in the second sentence should be deleted because there is no relevant sentence in 6/1.3.2.2. 2: Yes, you are correct. Required thickness of supporting floor in way of ballast hold is to be based on the required thickness of 6/1.3.2.2. Imaginary required thickness of lower stool side plating in ballast hold needs to be calculated in accordance with 6/1.3.2.2 in order to obtain required thickness of the supporting floor in way of ballast hold.	
919	7/4.3.2.2 & 3.3	Question	Fatigue assessment for welded intersection between bent plate and plane plate	2010/1/27	With regard to fatigue assessment for welded intersection between bent plate and plane plate, KC292 said that " the parts indicated in the question are not required to carry out the fatigue assessment". Howerver, CSR in Bulk Carrier says that the correction factor λ at 7.4.3.2.2 and (K2, K3) correction coefficient at 7.4.3.3.3 is considered for bent type. (i.e. bilge hopper to floor) Please clarify the applied spots among structure. relative sentences are to be deleted if intersection for bent type is not required to carry out the fatigue assessment.	Fatigue cracks are found on bilge hopper knuckle part of bend type, accordingly, fatigue strength assessment on bilge hopper knuckle part of bend type should be carried out. At the bilge hopper knuckle part of bend type, fatigue crack mainly occurs from weld toe of transverse web welding, and penetrates the knuckled connection between hopper plate and inner bottom plate. Therefore the most important stress in fatigue strength assessment is the longitudinal stress on the knuckled connection between hopper plate and inner bottom plate. It is necessary to assess the stress in fatigue assessment.	
920	3/6.10.4.5	Question	corrugated BHD	2009/7/16	In Ch.3 Sec.6 [10.4.5], it is stated that "In general, the first vertical corrugation connected to the boundary structures is to have a width not smaller than typical width of corrugation flange". Q1. We assume that "boundary structures" is side shell plate. Please advise correct interpretation of "boundary structure". Q2. We understand that the width of first vertical corrugation connected to side shell plate is more than typical width of corrugation flange. Please clarify the meaning of above paragraph whether our understading is correct or not.	A1: Boundary structure is the ship side structure. A2: The first corrugation is to be at least as width as a "typical" corrugation of the bulkhead. A larger width is not mandatory.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
922	10	Question	rudder stock reqs	2009/7/16	Please inform us which one is the exact CSR requirement for rudder stock between A and B as below. A : Forged steel for rudder stock shall be weldable type in any case. B : No. Forged steel for rudder stock whether weldable or not can be decided by Builder.	As specified in UR W7, forged steel for rudder stock shall be weldable type in any case.	
926	Text 3/6.4.1.1	question	built-up stiffener	2009/6/24	Ch.3 Sec.6 [4.1.1] Bulb section, equivalent built-up stiffener. It is not clear if the text and Fig.1 are referring to net or gross dimensions of the bulb profile and the equivalent built-up profile. Please clarify if t'w, tw, h'w, bf and tf are net or gross dimensions	t'w, tw, h'w, bf and tf used in Ch.3 Sec.6 [4.1.1] are net dimensions. A corrigenda will be prepared to clarify it.	
928	Text 7/1.1.5.1	question	FEA	2009/6/26	According to CH7, Sec1, 1.5.1 the most severe loading regime shall be used in FEA. We noticed during the work in PT3 that several Societies use deck loads according to CH4, Sec5, 2. in FEA. From our point of view the negotiation of deckloads causes a more severe situation, because the upwards directed deformation of the TWT in full load condition is reduced by deck loads. This can be judged comparing the buckling strength of the sloped plate of the TWT with and without deck loads. Another aspect of the definition of deck loads makes the usage in FEA disputable. In hogging and sagging condition and for all drafts are the "dynamic" deck loads the same. We request a clear advise of the application of deck loads in FEA (Yield, buckling and Fatigue check) for different loading conditions and load cases.	This question is now relevant to the harmonisation between CSR BC and CSR OT and will be submitted to the relevant project team. In the meantime, the loads to consider on the deck for FEA calculations are defined in Ch.4 Sec.5 [2].	
930	Text 9/2.4.2.3 (tanker) & Text 9/1.4.3.3(bulker)	question	max net thickness	2009/6/23	Incorrect reference number in 2008RCN1-4 The last sentences of Ch9 Sec1, 4.3.3 and Ch9 Sec2, 4.2.3 indicate the reference to the requirement of maximum net thickness of web of ordinary stiffener in Ch6 Sec2. However the reference number is incorrect, because the maximum web thickness requirement has been moved from 2.2.2 to 2.2.3 in Ch6 Sec2 during finalization of the RCP. Please correct the reference number of the last sentences of Ch9 Sec1, 4.3.3 and Ch9 Sec2, 4.2.3 as follows; “The net dimensions of ordinary stiffeners are to comply with the requirement in Ch 6 Sec 2, [2.2.3] and [2.3].”	Your comment is correct. The reference number of the last sentences of Ch9 Sec1, 4.3.3 and Ch9 Sec2, 4.2.3 should be as follows: “The net dimensions of ordinary stiffeners are to comply with the requirement in Ch 6 Sec 2, [2.2.3] and [2.3].” This will be corrected in the next corrigenda.	

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931	Table 3.3.1	Question	corrosion addition	2009/7/24	Please clarify the corrosion addition for bilge tank/drainage store tank.	This question has to be considered within the scope of the harmonisation. The position expressed by ABS hereafter will be submitted to the relevant harmonisation team. ABS proposal: Bilge and drainage store tanks would generally contain a combination of oil and water. However, in the extreme case they may contain salt water only. Considering stiffeners of FOT the two sided corrosion addition (without t-reserve) is 1.4mm -> 1.5mm and in the case of a Ballast Tank the two sided corrosion addition would be 2.4mm -> 2.5mm. It is believed that a two sided corrosion addition of 2.0mm to 2.5mm would be appropriate. Considering the amount of the structure to which this would be applied, and “fitting” of this category of tank into the existing categories of compartments it is recommended that these be treated as Ballast Tanks.	
932	9/1.2.3.3	Question	bottom girder spacing	2009/7/16	Chapter 9 Section 1 [2.3.3] requires in the fore part that ”In case of transverse framing, the spacing of bottom girders is not to exceed 2.5m”. Is a spacing of bottom girders of 2.7m acceptable considering the similar Q & A in KC759?	The spacing of bottom girders of 2.7m may be used when the structure is verified by means of FEA deemed appropriately by the Society, using directly calculated slamming loads.	
933 attc	3/5.1.3.4	CI	cargo hold painting spec	2009/7/16	We, from HHIC-Phil had a discussion regarding the Painting Specification of our Bulk Carrier which will be constructed in our yard by next year. The Painting Specification was prepared in accordance with the CSR and PSPC Rules together with the paint maker's recommendation and building specification. Regarding this matter we encountered a problem on the interpretation of the CSR for Bulk Carriers on the Transverse bulkhead Areas to be coated. If we apply the CSR strictly, the painting demarcation line of the transverse bulkhead will vary according to the position of the frame end brackets. We would like to request an interpretation of the Common Structural Rules (CSR) regarding the cargo hold painting demarcation line for Single Side Bulk Carrier. Please see the attachment to give us some clarification on the painted areas and no-painting areas of the cargo hold corrugated transverse bulkhead and the likes. Thank You very much in advance. Your kind attention and prompt reply would be much appreciated.	your interpretation is correct.	Y

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937	4/8.2.2.2 & 4/8.5.1.3	CI	Short voyage loading conditions	2010/4/9	Reference is made to Chapter 4, Section 8, 2.2.2 and 5.1.3. 1) Does short voyage condition have to be considered on a mandatory basis? 2) If the submitted Loading Manual does not include short voyage condition is it to be included in the Loading Manual? In KC ID 492, the reply is:- where a short voyage alternate loading condition with more severe filling than the minimum loading condition in [2.1.1] and [2.1.4] is specified in the loading manual, strength check for such more severe loading condition should be carried out in accordance with the CSR requirements. Please clarify?	A1) Short voyage condition is not a mandatory basis. If the ship is not intended to make such voyage, it is not relevant to add it to the loading manual. As a consequence, the ship will not be able later on to practice short voyages with more severe loading conditions than those described in the loading manual. A2) Ch.4 Sec.8 [2.2.2] gives an extensive list of loading conditions to be considered when they are pertinent. Thus if short voyages are not envisaged for the ship, they need not be included in the loading manual. A corrigendum will be issued on Ch.4 Sec.8 [2.2.2] and [5.1.3].	
938	11/2.2.2.2	RCP	Welding of plates of different thicknesses	2010/3/30	Ch.11, Sec.2 /2.2.2 of CSR-B specifies as following; “In the case of welding of plates with a difference in as-built thickness equal to or greater than 4mm, the thicker plate is normally tapered.” However, the requirement in Sec.6/5.2.2.2 of CSR-T does not require plates with a difference in thickness equal to 4mm. Moreover, based on experience, we consider that this requirement of CSR-B need not include 4mm. Please revise this requirement of CSR-B so that the wording "equal to or" is removed and that it reads "as-built thickness greater than 4mm."	The tapering requirement will be harmonized to be in line with CSR OT. We will consider a rule change according to your comment.	
943	11/2.1.4.1 & 2	RCP	Documentation to be submitted relating to welding and NDE	2010/5/12	Ch.11 Sec.2 [1.4.1] and [1.4.2] need to be rewritten in order to follow UR Z23 5.1.5.	Ch.11 Sec.2 [1.4.1] is rewritten as follows: QUOTE the welding plan to be submitted for approval has to contain the necessary data relevant to the fabrication by welding of the structures. UNQUOTE Ch.11 Sec.2 [1.4.2] is rewritten as follows: QUOTE the NDE plan to be submitted for aproval has to contain the necessary data relevant to the locations and number of examinations, and the method of NDE applied. UNQUOTE This will be done within a corrigenda.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
944 attc	Table 3.1.4	Question	categories of structural members	2009/9/1	Ch.3 Sec.1 Table 4 defines the category of structural member, regarding which, Q1: Is the deck plate strake (Deck Plate 2 in the attachment) in way of hatch side girder to be regarded as of "PRIMARY" category? Q2: The design is provided with longitudinal watertight bulkhead separating the topside space into two compartments. Is the deck plate strake (Deck Plate 1 in the attachment) above longitudinal bulkhead to be regarded as of "PRIMARY" category? Please advise.	Q1: Yes, your understanding is correct and "Deck Plate 2" is regarded as "PRIMARY" category, except that "Deck Plate 2" is to be regarded as of "SPECIAL" category when the strake contains the strength deck plating at the corners of cargo hatch openings. Q2: In the Table 4 "Deck plate at longitudinal bulkhead" is categorized as "SPECIAL". However UR S6 (Rev.4), which is the basis of Table 4, adds the Note [2] to "Deck plate at longitudinal bulkhead" as follows:"Excluding deck plating in way of inner-skin bulkhead of double hull ships". This exception may be applied similarly to the longitudinal bulkhead in the topside space in the attachment. Accordingly "Deck Plate 1" may be regarded as of "PRIMARY" category.	Y
945	3/6.9.5.4	RCP	protection of hatches	2009/7/30	We noticed that paragraph 9.5.4 of Ch3, Sec6 is not in line with IACS UI SC208. The requirement stated in the CSR-BC QUOTE 9.5.4 Wire rope grooving in way of cargo holds openings is to be prevented by fitting suitable protection such as halfround bar on the hatch side girders (i.e. upper portion of top side tank plates)/hatch end beams in cargo hold or upper portion of hatch coamings. UNQUOTE leads to the wrong assumption that exclusive protection of hatch girder OR hatch coaming is sufficient.	The correction of this paragraph to be in line with IACS UI SC208 is already included in the RCP2-6". It will be changed as follows: " For ships with holds designed for loading / discharging by grabs and having the additional class notation GRAB[X], wire rope grooving in way of cargo holds openings is to be prevented by fitting suitable protection such as half-round bar on the hatch side girders (i.e. upper portion of top side tank plates)/hatch end beams in cargo hold and upper portion of hatch coamings."	
948	No ref. given	Question	Structural drawings	2010/8/4	The CSR Rules require that the structural drawings are to indicate for each structural element the gross scantling and the renewal thickness. In case of CSR Tanker, the drawings indicating the new-building and renewal thickness are specified in the concrete (CSR Tanker Sec 3 2.2.3.1), but it is not specified in detail for Bulk carriers. So it is not clear which drawings should include new-building and renewal thickness. For the survey of existing ships, etc., the new-building and renewal thickness should be indicated in all structural drawings and these drawings should be specified in the Rules. Please clarify. (for example name of drawings) - Midship section - Construction profile & Deck plans - Shell expansion - Bulkhead construction	Renewal thickness shall be indicated for the structure covered by the structural drawings held in the Ship Construction File specified in UR Z23, 10. For example, the drawings are shown as follows, but not limited to: - Midship section - Transverse sections - Shell expansion - Decks and profiles - Double bottom - Double side (for DSS) - Cargo hold bulkheads - Fore part strucure - Aft part structure - Machinery space structure - Cargo hatch covers - Cargo hatch coamings	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
949	3/5.1.3.4	CI	coating of transverse bulkhead areas	2009/9/3	It is specified in CSR Background Document that the requirements of 1.3.3 and 1.3.4 are in accordance with UR Z 9. According to 1.3.4, some area of transverse bulkhead (below horizontal level located at distance of 300 mm below the frame end bracket for single side bulk carriers or below the hopper tank upper end for double side bulk carriers) may not be coated. But according to UR Z 9, all area of tranverse bulkhead including stool are to be coated. Please clarify the coating area. Quote: UR Z 9 ~ and all internal surfaces of the cargo holds, excluding the flat tank top areas and the hopper tanks sloping plating approximately 300 mm below the side shell frame and brackets, are to have an efficient protective coating ~ Unquote Quote: CSR Bulk Carriers Ch3 Sec 5 1.3.4 The areas of transverse bulkheads to be coated are all the areas located above an horizontal level located at a distance of 300 mm below the frame end bracket for single side bulk carriers or below the hopper tank upper end for double side bulk carriers. Unquote	The coating of transverse bulkhead is to be considered as per Ch.3 Sec.5 [1.3.4] as the requirement of UR Z9 should be applicable to the stool plating, sloped or not.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
950	3/6.10.4.9	CI	welding requirements	2009/9/4	This requirement comes from of UR S 18 like as 10.4.7 and 10.4.8. But I think that the requirement specified below quotations is different from UR S 18. According to UR S 18, full or deep penetration welding can be used for connection between plating of supporting floor and inner bottom. But in Ch 3 Sec.6 10.4.9, only full penetration welding can be used for it. On the other hand, not only full penetration but deep penetration is accepted in the requirement of Ch 11, Sec 2, 2.4.4. Please clarify which type of welding is right. Quote: UR S 18. 4. 1 (c) Alignment At bottom, if no stool is fitted, the corrugation flanges are to be in line with the supporting floors. Corrugated bulkhead plating is to be connected to the inner bottom plating by full penetration welds. The plating of supporting floors is to be connected to the inner bottom by either full penetration or deep penetration welds. Unquote Quote: CSR Bulk Carriers Ch3 Sec 6 10.4.9 At bottom, if no lower stool is fitted, the corrugation flanges are to be in line with the supporting floors or girders. The weld of corrugations and floors or girders to the inner bottom plating are to be full penetration ones. Unquote	You are right: both full and deep penetration welding can be used for connection between plating of supporting floor and inner bottom. The sentence, “The weld of corrugations and floors or girders to the inner bottom plating are to be full penetration ones”, in Ch3 Sec6 10.4.9 will be revised as: Corrugated bulkhead plating is to be connected to the inner bottom plating by full penetration welds. The plating of supporting floors or girders is to be connected to the inner bottom by either full penetration or deep penetration welds.	
951	10/1.9.2	CI	Material factor for rudder horn	2010/3/8	Regarding material factor for rudder horn, there is a discrepancy between KC’s 906 and 797. KC 906 says that material factor k (or K) in 10/1.9.2.2, 9.2.3, 9.2.4 and 9.2.5 should be the factor defined in 10/1.1.4.2. KC 797, however, says that the material factor K in 10/1.9.2.5 should be the factor in 3/1.2.2.1 except for cast steel where the factor should be that in 10/1.1.4.2. We are of opinion that for cast steel the material factor should be in 10/1.9.2.2, 9.2.3, 9.2.4 and 9.2.5 should be the material factor in 10/1.1.4.2 and for others the material factor should be that in 3/1.2.2.1, which are in line with UR S10 and LR Rules. Please clarify.	Your understanding is correct and is applicable to Ch.10 Sec.1 [9.2]. A corrigenda will be issued for this correction.	
952	3/1.2.3.1	RCP	Grades of steel	2009/7/21	Correction of wrong reference number. The last sentence of Ch.3 Sec.1 [2.3.1] states; "For strength members not mentioned in Tab 3, grade A/AH may be used." Please correct the reference "Tab 3" into "Tab 4".	You are right. The strength members are considered in Table 4, not in Table 3. We will prepare corrigenda to correct it as following: For strength members not mentioned in Tab 4, grade A/AH may be used.	
954	3/6.4.4	CI	Ordinary stiffeners - shear section	2009/9/10	For the yielding check of shear sectional area Ash of ordinary stiffeners as required in Ch 6, Sec 2, [3] of CSR-BC, the actual shear sectional area of the ordinary stiffener needs to be calculated. However, it is not stated in CSR-BC (Ch 3, Sec 6, [4.4]) how to calculate the actual shear sectional area of such stiffener, and in particular if the net thicknesses of attached plate and flange, if any, are to be included in this calculation. In CSR-OT (Ref Section 4, 2.4.2.2), thicknesses of attached plate and flange, if any, are included in the determination of the "effective shear depth dshr" used for the yielding check of the shear sectional area. Our interpretation is that both CSRs should have the same approach, i.e. the one of CSR-OT.	It is agreed that the way to calculate the actual shear sectional area of ordinary stiffener should be defined in CSR-BC Ch 3, Sec 6, [4.4]. It is also agreed that both CSRs should have the same approach, i.e. the one of CSR-OT. It means that the thicknesses of attached plate and flange, if any, are to be considered for the calculation of the actual shear sectional area of an ordinary stiffener.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
961	Table 3.3.1	Question	Normal ballast draught	2009/9/3	Definition of “normal ballast draught” According to Ch.3, Sec.3, Table1 Note (7), “Outer side shell between normal ballast draught and scantling draught is to be increased by 0.5mm”. We understand that the definition of “normal ballast draught” is same as that in Ch.6, Sec.1 [2.2.1], which has been interpreted as the minimum design lowest ballast waterline amidships in KC ID409. Please confirm the above.	Your interpretation is correct.	
962	6/3.6.1.1	Question	Buckling check of corrugated bulkheads	2009/9/4	Shear buckling check of bulkhead corrugation webs When Ch.6, Sec.2, [3.2.6] was moved to Ch.6, Sec.2, [3.6.1] by RCN1 (1 July 2008 Consolidated edition), shear force Q which was used for the shear buckling check of bulkhead corrugation webs was clarified as “Shear force at the lower end of a corrugation” as defined in original requirement, UR S18, [3.2]. We understand that shear buckling check of bulkhead corrugation webs in Ch 6, Sec.3, [6.1.1] is also applicable only to the lower ends of corrugation. Please confirm the above.	Your interpretation is correct. We will consider a Corrigendum to clarify it.	
963	Table 4.6.1, Text 4/6.3.3.2, 6/1.3.2.1, 6/1.3.2.3, 6/2.3.2.3 & 6/2.3.2.6	Question	Design with non-homogeneous loading condition	2009/12/16	Please advise the answer to the question on the design with the following non-homogeneous loading conditions in the loading manual: - cargo density is 3.0 and cargo hold is not loaded up to upper deck, - cargo density is lighter than 1.78 (for instance 1.7) and cargo hold is loaded up to upper deck. For this design is local strength check required for intact condition and flooded condition for the above loading conditions according to Ch.6 Sec.1 [3.2.1] & [3.2.3] and Ch.6 Sec.2 [3.2.3] & [3.2.6] (or [3.6] by RCN1-8)?	This question is considered together with KC 851, 859 and 972	
964	4/6, 4/7 & 4/8	CI	Cargo density limits for BC-A and BC-B ships	2010/6/29	For BC-A and BC-B ships, there is a design loading condition in Ch 4, Sec 7, [2.1] requiring maximum draught with cargo density 3 t/m3. On the other hand there are cargoes which have density higher than 3t/m3. We would like to have interpretations on the two following questions: a) Is a limit in cargo density of 3t/m3 clearly stated in CSR-BC? b) In case of loading conditions within the loading manual having density higher than 3t/m3, are they specific checks to carry out in addition of those corresponding to 3t/m3?	a)The cargo density of 3.0 t/m3 is required as design basis for BC-B and BC-A vessels as stated in Ch.4 Sec.7 [1.2] and [2.1]. Based on the design loading conditions according to Sec.7, hold mass curves will be created according to Sec.8 which will control the loading and unloading of the vessel in operation. There is no limitation on cargo density in operation unless additional feature notation {maximum cargo density x.y t/m3} specifies the maximum cargo density less then 3.0 t/.m3. b)If specific cases (with high density or no) are requested by the Owner, those cases can be included in the Loading Manual and those cases should be specifiquely studied (on a case by case basis).	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
966 attc	Table 11.3.1	RCP	Structural testing of ballast holds	2009/9/11	Structural Testing Requirements of CSR Rules for Bulk Carriers as applied to Ballast Holds LR Ship Rules; Part 3; Chapter 1; Section 8; Table 1.8.1 requires structural testing of the water ballast holds in bulk carriers with the head, not less than, up to the top of the hatch coaming. CSR Rules for BC; Ch. 11; Section 3.1; Table 1 requires structural testing to the greater of the head of water up to the top of overflow or 0.90 m head of water above top of hatch. Excluding bulk carriers under 90 m in length, all new bulk carriers will now be designed against these CSR Rules. Weather tight hatch cover seals for floodable cargo holds, are not suitable to retain a head of water, without leakage, so the application of the CSR Rule requirement can cause confusion for owners and shipyards. We believe this testing should be carried out to the top of the hatch coaming with the hatch covers in place. Therefore we recommend that the text of the CSR Rules for structural testing of the Ballast Hold in Bulk Carriers is amended in accordance with IACS Guidelines for Procedures of Testing Tanks and Tight Boundaries: CSR Rules for BC, Chapter 11, Section 3.1, Table 1 should be amended to :- “The greater of - top of the overflow, or - top of cargo hatch coaming” Note 2 to this table should also be amended in the final sentence to “in holds for liquid cargo or ballast with large hatch covers, the highest point of tanks is to be taken at the top of the hatch coaming."	Table 11.3.1, which comes from UR S14, is kept as it is until UR S14 is amended.	Y
968	6/3.1.1.2	Question	Flooding requirements of CSR bulker	2010/9/2	Buckling check is required for longitudinal members in intact condition only. Please explain how the buckling requirement of URS17 (axial buckling according to URS11) is satisfied for at lease BC-A and BC-B ships.	According to KC 460, the buckling check is covered by HULS. Further consideration including the necessity of additional buckling check in flooded condition will be requested to the Harmonization Team.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
970	9/2.4.2.3	Question	Net thickness of web of ordinary stiffeners	2010/3/30	CSR BC Ch.9 Sec.2 [4.2.3] [QUOTE] The net thickness of the web of ordinary stiffeners, in mm, is to be not less than the greater of: • t = 3.0 + 0.015L2 • 40% of the net required thickness of the attached plating, to be determined according to [4.1]. [UNQUOTE] The requirements of the net thickness of plating according to [4.1] only include the requirements of net minimum thickness, net thickness under intact conditions and net thickness under testing conditions. We think the net thickness requirement under flooded conditions, to be determined according to [1.1.2], should be considered for the net required thickness of the attached plating. Please consider.	Your understanding is correct. 40% of the net required thickness of the attached plating, to be determined according to [1.1.2] and [4.1].	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
971	9/1.4.3.3 & 9/2.4.2.3	Question	stiffeners	2009/10/27	CSR BC Ch.9 Sec.1 [4.3.3] and Sec.2 [4.2.3]. [QUOTE] The net dimensions of ordinary stiffeners are to comply with the requirement in Ch 6, Sec 2, [2.2.2] and [2.3]. [UNQUOTE] We think the reference to [2.2.2] should be corrected to [2.2.3]. Please consider.	The reference number of the last sentences of Ch9 Sec1, 4.3.3 and Ch9 Sec2, 4.2.3 should be as follows: “The net dimensions of ordinary stiffeners are to comply with the requirement in Ch 6 Sec 2, [2.2.3] and [2.3].” This will be corrected in the next corrigenda.	
972	6/4.4.1.1	Question	Loads on pillars	2010/3/8	There is only the formula about critical column buckling stress of pillars but no clear interpretation on how to calculate the loads on pillars in CSR BC 6/4.4.1. According to our experiences, the loads on pillars are similar between BC and OT, so we think a similar design load for pillar scantling calculation as 8/3.9.5 in CSR OT should be provided.	We will consider a Rule Change to include a design load for pillar scantling calculation similar to CSR OT	
973	Bulker 5/App.1 , Tanker 9/1.1.1.2	Question	Hull girder ultimate strength	2010/10/12	With respect to hull girder ultimate strength 1. The scantling requirements by hull girder ultimate strength are to be applied within 0.4L amidships in 9/1.1.1.2 of CSR OT. For CSR BC, It is noted that the normal stresses are to be checked within L, please clarify whether the scantling requirements by hull girder ultimate strength are to be applied within L in CSR BC or not. 2. Our understanding is that the modifications to CH5/Appendix 1 in bulker rcn1 to July 08 are also applicable to CSR OT, please confirm.	1. This issue will be submitted to the Harmonisation teams. 2. We confirm the modifications to CH5/Appendix 1 in CSR/Bulk Carrier RCN1 to July 08 are also applicable to CSR OT. The Rules will be amended to incorporate those modifications.	
974	6/1.3.2.3 bis1	Question	Net thickness of stool side plating	2010/3/8	Our understanding is that the following sentence in 6/1.3.2.3 bis1 of CSR BC is only applicable to upper stool, please confirm. [QUOTE] The net thickness of the lower portion of stool side plating is to not be less than 80% of the upper part of the bulkhead plating required by [3.2.3], as applicable, whichever is the greater, where the same material is used.[UNQUOTE]	Yes, your understanding is correct. We will consider a corrigenda to clarify this.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
975	6/1.3.2.3 bis2	Question	Thickness & material requirements for corrugated bulkheads	2010/3/8	Rule Ref.: CSR BC 6/1.3.2.3 bis2 [QUOTE] The net thickness and material of the supporting floors and pipe tunnel beams of corrugated bulkhead, when no stool is fitted, are to be not less than those of the corrugation flanges required by [3.2.3]. When a lower stool is fitted, the net thickness of supporting floors are to be not less than that of the stool side plating required by the first sentence of [3.2.2].” [UNQUOTE] [3.2.2] and [3.2.3] are requirements of flooding condition, which are inconsistent with KC ID210 as followers: QUOTE: KC ID210 In applying this requirement 6.4.2, the net thickness and. material properties required for the bulkhead plating, or when a stool is fitted, of the stool side plating mean that they are required by the scantling requirement except for the grab loading and under flooded condition. UNQUOTE Please clarify above.	We agree that the reply to KC 210 is inconsistent to the original requirements of IACS UR S18 which reads; “the thickness and material properties of the supporting floors are to be at least equal to those provided for the corrugation flanges.” Only requirement for GRAB notation should be excluded. It was also the original intention of KC210. Reference is made to KC 918 for additional information	
977	5/1.3	Question	Application of shear stress check	2010/3/12	From Ch.5 Sec.1 [3], we know that the check of normal stress apply along the scantling length of the hull girder. How about the application of shear stress check and permissible still water shear force? Do they also apply along the scantling length? Please clarify.	The check of shear stress and permissible still water shear force apply along the scantling length of the hull girder. A corrigenda will be considered to clarify this.	
978	Table 3.3.1	Interpretation	Corrosion addition for lower stool	2010/3/30	Ch3 Sec3 Table 1, Corrosion addition for lower stool Reference is made to KC 243. The corrosion addition for hopper plating is smaller than for the lower stool plating. Our understanding is that the reason for this difference is that the hopper plating is cooled down by the ballast water inside in ballast conditions. The lower stool is normally void, so the lower stool plating will not experience the same cooling effect. Based on the above, it seems reasonable to apply tc=3.7 mm instead of tc=5.2 mm to the lower stool plating if the stool is arranged as ballast water tank. Please confirm our interpretation.	We agree with your interpretation.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
980	12/1.2.1.3	Interpretation	Applicability of GRAB requirement	2010/8/20	In a bulk carrier having a ship length of around 160m, lower stools may not be fitted below transverse bulkheads and corrugation may be fitted directly on the inner bottom. In such cases, the GRAB requirement in Ch.12 Sec.1, [2.1.3] is applicable to the lower part of the corrugated bulkhead up to 3m above the inner bottom. However, grab configurations do not come into contact with such corrugation webs because the width and depth of corrugations are always smaller than those of grab appliances (i.e. less than 1m). We are of the opinion that the GRAB requirement is only applicable to the faces of such corrugations. Please confirm.	We agree that the grab requirement is only applicable to the faces of corrugations. We will consider a corrigenda to clarify this.	
982	1/1.1.1.6	CI	Definition of "assigned freeboard"	2010/6/29	Ch 4 Sec.7, 1.2.3 specifies that “the maximum loading condition draught is to be taken as the moulded summer load line draught.” In the above context, Ch1 Sec1, 1.1.6 defines that “the scantling draught considered when applying the present Rules is to be not less than that corresponding to the assigned freeboard.” We understand that the term “assigned freeboard” means the moulded summer load line draught. On the other hand, we understand that the draught of ships to which timber freeboards are assigned corresponds to the loading condition of timber, and that the requirements of the individual Classification Society may apply to this draught. Please confirm that our understanding is correct.	Your understanding is correct. The term “assigned freeboard” means the moulded summer load line draught. The draught of ships to which timber freeboards are assigned corresponds to the loading condition of timber, and the requirements of the individual Classification Society may apply to this draught.	
983	4/3.	Question	Longitudinal strength check at flooded condition	2010/3/16	The query is regarding Chapter 4- Section 3 of CSR for Bulk Carriers, i.e. Longitudinal Strength Check at Flooded condition. 1. Do we have to assume structural damage to the Hull in this case? 2. Or, is it the water ingress from the deck through the Hatch? 3. Please explain if we have to consider the damage from side or the water ingress from top, which results only in hold flooding.	For Ch.4 Sec3, Longitudinal Strength Check at Flooded condition, water ingress of the cargo hold is assumed without any structural damage or filling of adjacent compartments.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
987 attc	4/7.3.6.1& 3, Fig 4.A1.1	RCP	Harbour mass curves for BC-A loaded holds	2010/3/16	We have found that the CSR-BC is unclear about how to construct the mass curve for the harbour condition for loaded holds. Please refer to the attached sketch. Ch 4, Sect 7, 3.6.1 results in line 1 (red). Ch 4, Sect 7, 3.6.3 results in line 2 (blue). Depending on the geometry of the vessel, Ch 4, Sect 7, 3.6.3 may result in line 3 (green). Ch 4, Appendix 1, Figure 1 (a) results in line 4 (black). Various arguments can be made to support the construction of each line. Line 1 comes from a load condition that has been analysed for the design and is therefore well supported. Lines 2 and 3 are based on a simple empirical formula within the Rules. We are not aware of cases of double bottom failure within harbour for UR S25 ships, hence the empirical formula appears valid. However, where the vessel geometry produces line 3, rather than line 2, their would be a good case for increasing the harbour maximum to line 1, which is verified by calculation. Line 4 is not backed by text in Ch 4, Sect 7 and I suggest that the labelling of Appendix 1, Figure 1 (a) is incorrect and that the brackets should be removed so that “1.15(MHD+0.1MH)” becomes “1.15MHD+0.1MH”. Could this please be investigated with a view to IACS placing an interpretation on the Knowledge Centre and/or issuing a Rule Corrigenda item. Please also note this should be considered in conjunction with KC item 633 which is under study by IACS.	Ch.4 Sec.7 [3.6.1] and [3.6.3] are both valid and acceptable hence the final curve (upper limit) should be larger of the two curves. We agree that Fig.1 (a) should be corrected as suggested (Line 2) based on [3.6.3].	Y
995	4/5.2.1.1	CI	FE cargo hold model - weather loads	2010/5/7	Ch. 4, Sec. 5, Para. 2.1.1 states: "The external pressures on exposed decks are to be applied for the LOCAL SCANTLING CHECK of the structures on exposed deck but -----" This is under Para. 2.1 "General" and, therefore, Para. 2.2 Load cases H1, H2, F1 and F2" and Para. 2.3 "Load cases R1, R2, P1 and P2" are controlled by Para. 2.1. In addition, the weather loads require to be applied to the structures on exposed deck only. Please clarify if the weather loads need to be applied to the FE cargo hold model or not?	Yes, the weather loads shall be applied to FE cargo hold model. In order to clarify the Rules, the relevant paragraph is suggested to be modified as “The external pressures on exposed decks are to be applied for the scantling check of the structures on exposed deck but not applied for fatigue strength assessment." (local removed from the sentence) This will be done in the next Corrigenda.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
998 attc	12/1.2.1.3	Interpretation	Applicability of GRAB requirement	2010/8/4	In a bulk carrier having ship length of 160m around, lower stools may not be fitted below transverse bulkheads and corrugation may be fitted on inner bottom directly. In such cases, GRAB requirement in Ch.12 Sec.1, [2.1.3] is applicable to the lower part of corrugated bulkhead up to 3m above inner bottom. However, GRAB will not contact such corrugation webs due to their configuration as follows; - corrugation width and depth are less than 1m, and; - corrugation flanges and webs are perpendicular to each other. Please refer to an arrangement of such a bulk carrier as attached. We are of the opinion that GRAB requirement is not applicable to corrugation webs. Please confirm it.	Grab requirements are not applicable to web of corrugations.	Y
999 attc	8/4.2.3.4	Question	Calculation of stress due to liquid pressure		With respect to Ch.8 Sec.4 [2.3.4] 1. Please specify the definition of the tank top longitudinals in the sentence "… no inertial pressure is considered for the tank top longitudinals…". 2. When calculate the inertial liquid pressure pBW,ij(k),SF for full-filled tank or half-filled tanker, the coordinates of the calculation point taken at the liquid surface should be clarified.	A1 "the tank top longitudinals" in Ch.8/Sec.4/[2.3.4] mean the longitudinals on the top structure of the tank. A2 For the half-filled tanker, when calculating the inertial liquid pressure pBW,ij(k), z=z_SF, y=y coordinate of the calculation point of the longitudinal stiffener. xB, yB and zB are considered in A4 of KC #359	Y
1001	9/1.7	Q&A	Forecastle requirements	2010/5/12	CSR BC Ch.1 Sec.4 [3.13.1] [QUOTE] Ref. ILLC, as amended (Resolution MSC.143(77) Reg. 3(10,g)) A forecastle is a superstructure which extends from the forward perpendicular aft to a point which is forward of the after perpendicular. The forecastle may originate from a point forward of the forward perpendicular. [UNQUOTE] From the above definition, a forecastle is defined as a superstructure, but the requirements of forecastle are given in Ch.9 Sec.1 Fore Part. We propose that 1.The requirements of forecastle given in Ch.9 Sec.1 Fore Part should be transferred to Ch.9 Sec.4 Superstructures and Deckhouses. 2.The requirements of forecastle structure, such as forecastle deck, supporting member, ordinary stiffener and etc., should be added. Please consider.	1.The requirements of forecastle given in Ch.9 Sec.1 Fore Part should be transferred to Ch.9 Sec.4 Superstructures and Deckhouses. This will be considered in the next Corrigenda. 2. The requirements of forecastle structure, such as forecastle deck, supporting member, ordinary stiffener and etc., should not be included. A reference of the forecastle to bow flare reinforcement in Ch.9 Sec.1 should be made. This will be considered in the next Corrigenda.	
1003	9/1.5.2.1	Question	intermediate longitudinal	2009/12/16	For clarity, please give the definition of intermediate longitudinal, referred in Ch.9 Sec.1 [5.2.1].	Intermediate longitudinals (additional stiffeners) are stiffeners installed in the spacing between ordinary stiffeners (so the stiffener spacing is halved).	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
1004	3/6.4.1.1	Question	bulb sections	2009/12/16	In CSR BC, a bulb section may be taken as equivalent to an angle section, which is defined in Ch.3 Sec.6 [4.1.1]. From our experience, for some kinds of bulb sections, the section properties of bulb sections are comparable to those of equivalent angle sections; for others, they are not. For example: the inertial moment about the horizontal neutral axis of a bulb 200x10 1. Equivalent to an angle section, I=1019cm4. 2.Direct method. For Holland Profile, I=1017cm4. For Russian Profile, I=1083cm4. In CSR OT RCN2, the descriptive method, calculating the section properties of a bulb section, is deleted, and a direct method should be adopted. The two set of rules should be harmonized.	Your comment is noted. Ch.3, Sec.6, [4.1.1] will be modified. The following paragraph will be included in [4.1.1]: The sections properties of bulb profiles should be determined by direct calculations. Otherwise... [4.1.1 as it is now].	
1005	6/1	Question	Yield strength of non-rectangular EPP	2010/10/20	When assess the yield strength of non-rectangle EPP, such as EPP of watertight transverse webs of wing tanks, how to measure the longer or shorter side of EPP?	Since this issue involves both CSR BC and OT, it will be submitted to the harmonization team.	
1006 attc	7/4.3.2	Question	Hot spot stress by linear interpolation	2010/1/18	Rule Ref.: Text 7/4.3.2 (bulker) How to obtain the hot spot stress by a linear extrapolation method is not specified in the CSR BC. We find that there are several methods, as shown in the attachment. Please confirm which one should be adopted.	The method to obtain hot spot stress by linear interpolation will be considered during the Harmonization process between CSR OT and CSR BC. In the mean time it may be left to the discretion of the individual class society	Y
1007	2/3.1.2.1	Interpretation	Safe access to cargo holds	2010/2/1	Requirement in Ch 2, Sec 3, [1.2.1] mentions that "Safe access to cargo holds, cofferdams, ballast tanks and other spaces in the cargo area are to be direct from the open deck and ....." . In addition requirement in [1.2.3] states that "Each cargo hold is to be provided with at least two means of access as far apart as practicable. In general, these accesses are to be arranged diagonally.....". In case of a bulk carrier having a forecastle extending afterward the forward bulkhead of forward cargo hold, the forward access may be arranged from the main deck but inside forecastle spaces, which cannot be considered as being from the "open deck" Our interpretation is that such forward access is allowed provided that the forecastle spaces are considered safe, i.e. not intended for the carriage of oil or hazardous cargoes.	It is agreed that the forward access to the forward cargo hold may be arranged from main deck inside forecastle spaces provided that those spaces are considered safe, i.e. not intended for the carriage of oil or hazardous cargoes.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
1009	2/3.2	CI	Definition of single side and double side bulk carriers	2010/1/18	In Ch 2, Sec 3, [2], some requirements are applicable specifically to single side bulk carriers (as in [2.9] and [2.11]) and some others are applicable to double side bulk carriers (as in [2.8] and [2.10]). There is no definition in CSR-BC on what is a single side bulk carrier and what is a double side bulk carrier. As these requirements are originally IMO requirements for means of access, it is assumed that single side and double side bulk carriers are defined according to SOLAS Ch XII/1. Please confirm this interpretation. If this interpretation is correct, it should be convenient to add such definitions in CSR-BC.	The proposed interpretation is correct. Definitions of single side and double side bulk carriers will be added to CSR-BC, in accordance with those of SOLAS Ch XII/1.	
1012	9/2.4.3.1 & KC ID 896	Q&A	Net thickness of PSMs	2010/5/12	With reference to KC ID 896: The answer to KC ID 896 is quoted below: [Quote] A1) Yes, deck PSM have to fulfill the requirements of Ch.6 Sec.4 considering the loads defined in Ch.9 sec.2 [2.2], and in particular the minimum web thickness defined in Ch.6 Sec.4 [1.5.1]. A2) No, the requirement for a minimum web thickness defined in Ch.9 Sec.2 [4.3.1] applies to all the PSM except those of the deck (see answer A1 herein). A rule change will be issued for clarifying this. [Unquote] Ch.9 Sec.2 [4.3.1] only specifically mentions floors. No mention is made of any other PSM. However, Answer 2 (A2) goes beyond the scope of Ch.9 Sec.2 [4.3.1]. A2 implies that all PSM, except those decks, are required to apply the formula given in 4.3.1. If A2 is applied, there will be a large impact on scantlings. In addition, we consider that a technical background clearly explaining the difference between the minimum net thickness of deck PSMs and other PSMs in the same space should be provided. Therefore, please confirm the effective application date of KC ID 896 and if necessary, please revise the answer to KC ID 896.	KC 896 is categorised as a Rule Change as defined in PR32, hence implementation date will be decided by Hull Panel.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
1017 attc	Table 10.3.3	RCP	Minimum breaking strength of mooring lines	2010/2/16	Editorial correction of values in the equipment number table: Minimum breaking strength of mooring lines corresponds to equipment number as defined in Ch.10 Sec.3, Tab.3, and Tab.3 originates from IACS Recommendations, No.10, Tab.5. Therefore, the minimum breaking strength of mooring lines in the both tables are coincident, however, some of the values are different as attached. Accordingly, please correct the wrong values in CSR as defined in Recommendations, No.10.	You are right. Tab. 3 will be modified accordingly in the next Corrigenda.	Y
1018	9/3.3.1.2 & 9/3.1.3.2	Interpretation	Extension of longitudinal structure within the machinery space	2010/3/30	We understand from KC Question ID 700 and 728 that the extension of longitudinal structure for at least 0.3 times the length of the machinery space is only required for the upper portions of the side shell. Due to generally finer hull form in way of the engine room, particularly for the lower part of the aft cross section, it is not always practical to extend longitudinal side shell structure aft of the engine room forward bulkhead for the stipulated 0.3 times of the length of the machinery space. Such extension, especially in the lower part of the hull cross-section below the level of the topside tank, may require deeper side shell web frame structure resulting in a reduction in usable volume and floor area in the engine room space. In every case the hull girder strength, ultimate strength of the cross-section aft of the engine room forward bulkhead are checked and prescriptive buckling check of side shell panels in the machinery space are carried out. Side shell plate panels in the lower hull cross-section are not planar but have a curvature that provides added buckling resistance. Furthermore the satisfactory service experience of numerous bulk carriers of all sizes that have been built without such a specific extension of side shell longitudinal structure could be considered. We request the urgent confirmation of the above interpretation and/or issuance of a CI to this effect.	It would appear reasonable to limit extension of side shell longitudinal structure for 0.3 times the length of the machinery space to side shell structure above the lowest level of the top side tank, subject to the condition that abrupt structural discontinuities between longitudinal and transversely framed structure are to be avoided and that hull girder strength, ultimate strength and prescriptive buckling checks of the cross-sections and side shell panels in the machinery space are performed and satisfied. The extension of longitudinal stiffeners of the upper part of the side shell is to be maintained in view of the generally higher stresses in this area, the relative ease of providing such extension and to improve strength margin in this region of higher stress. Due consideration is to be given to proper tapering of major longitudinal members as required by Ch. 9/3.1.3.2. Notwithstanding the above, bottom shell and bilge longitudinal stiffeners in the aftermost cargo hold of larger and full form vessels are to be extended into the engine room to the extent practicable. We agree with your proposal and a CI will be issued to this effect.	
1022	11/3.2.3.1	CI	Minimum pressure for hose testing in rules & UR S14 2.3	2010/3/8	Ch.11 Sec.3 [2.3.1] hose testing. The Rule requires a minimum pressure of 0.2X10^5 Pa. However, in IACS UR S14 2.3, the minmum pressure for host testing is 2X10^5 Pa. Please clarify whether there is a typo in CSR Bulk Rules or not. If not, please provide relevant background for CSR.	There is a typo in CSR BC. Ch.11 Sec.3 [2.3.1] will be corrected as follows: The minimum pressure in the hose, at least equal to 2•10^5 Pa, is to be applied at a maximum distance of 1,5 m	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
1023 attc	4/6.1.1.1	RCP	Definition of the dry cargo upper surface	2010/6/29	Chapter4_CSR-BC_Sec6_[1.1.1]The definition of the dry bulk cargo upper surface. It is specified in Ch4/6/1.1.1 of CSR Bulk Carrier that " When the dry bulk cargo density is such that the cargo hold is loaded to the top of hatch coaming, the upper surface of the dry bulk cargo is an equivalent horizontal surface to be determined in considering the same loaded cargo volume in the considered hold bounded by the side shell or inner hull, as the case may be." Regarding the above definition of "the hold bounded by the side shell or inner hull", it seems not very precise and might cause some misunderstandings. Take a typical dry bulk cargo hold for example, three different possible boundary definitions marked in red as shown in the attached graphic illustration might be some possible understandings. Two optional proposals for the revision are as below. 1) "When the dry bulk cargo density is such that the cargo hold is loaded to the top of hatch coaming, the upper surface of the dry bulk cargo is an equivalent horizontal surface to be determined in considering the same loaded cargo volume above the lower intersection of topside tank and side shell or inner side in the considered hold bounded by the side shell or inner hull." 2) "When the dry bulk cargo density is such that the cargo hold is loaded to the top of hatch coaming, the upper surface of the dry bulk cargo is to be taken as an equivalent horizontal surface determined by considering the same cargo volume loaded in to a cargo hold with vertical boundaries formed by the transverse bulkheads and side shell or inner side. The spaces occupied by the topside tanks and the upper bulkhead stool should be considered as part of the cargo hold space in the determination of this equivalent horizontal surface.	The Figure 2 in your attachment is correct. In order to describe the equivalent horizontal surface more clearly, a corrigenda is to be carried out. The first paragraph is to be modified as following: When the dry bulk cargo density is such that the cargo hold is loaded to the top of hatch coaming, the upper surface of the dry bulk cargo is to be taken as an equivalent horizontal surface determined by considering the same cargo volume loaded in to a cargo hold with boundaries formed by inner bottom, hopper if any, and side shell for single side skin or inner side for double side skin. Figure 1 in Ch4/Sec6 will be modified accordingly to illustrate the boundary definition	Y
1025 attc	4/6.1.1.1	CI	Hc value of dry bulk cargo in full-filled condition	2010/5/17	Chapter4_CSR-BC_Sec6_[1.1.1] Hc value of the dry bulk cargo in full-filled condition Regarding the hc value for cargo hold being loaded up to the top of hatch coaming: Ch4/Sec6/1.1.1 specifies the procedure of calculating the height of dry cargo upper surface. Meanwhile a formula for calculating the hc value is given specifically for holds of cylindrical shape. Question: For a typical bulk carrier, upper stools are generally arranged in the cargo hold. Obviously, the hc value should be different by using the above two procedures. Which procedure should be used? In other words, should the cargo hold with upper stools be considered as one of cylindrical shape or not?	For holds of cylindrical shape, the volume of upper stool is ignored when hC is calculated by the formula in Ch.4 Sec.6 [1.1.1].	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
1026	4/3.3.1.3	CI	Wave induced bending moment (0.4Mw) for target BM in harbour condition	2010/5/12	Chapter4_CSR-BC_Sec3_[3.1.3] Wave-induced bending moment(0.4Mw) for target BM in harbor condition It is specified in Ch4/3/3.1.3 of CSR Bulk Carrier that the vertical wave bending moment Mwv,p in harbour condition equals to 0.4Mwv. It is not clearly specified whether 0.4Mwv should be included in the target bending moment in harbour condition for direct strength analysis. Please be kindly requested to provide clarification	The wave-induced bending moment 0.4Mwv should be included in the target bending moment in harbour condition for direct strength analysis. This will be specified in the next corrigenda.	
1027	1/1.3.2.1	RCP	Additional GRAB notation for ships using grab	2010/3/30	According to CSR BC Chap1/1.3.2.1 additional class notation GRAB[X], GRAB is mandatory for ships having notation “BC-A“ or “BC-B”. I understand that this requirement is result from UI SC208 and SOLAS XII/6.5.1 and there are no restrictions for GRAB in UI SC208 if any ships want to have notation GRAB. Chap1/1.3.2.1 for ships with notation BC-C causes confusion. For example, the notation GRAB is not mandatory for ships with BC-C to carry coal of cargo density less than 1.0 t/m3. All of us know that grab may be used to discharge coal. Therefore, Please correct a few sentences of Chap1/1.3.2.1 as follows: Mandatory for ships having one of the additional service features BC-A or BC-B, according to [3.1.2]. => Mandatory for ships using GRAB.	As said in the CSR BC, Ch.1 Sec.1 [3.2.1], the assignation of the GRAB notation to a BC-C ship is voluntary and is intended to scope heavy grabs (over 20t of unladen weight). Making this notation mandatory for all ships loaded or unloaded by grabs may induce increases in scantlings even for lighter grabs; this is not the intent of these rules. The text is kept as it is.	
1028	10/1.3.3.2	Question	TB of unit displacement formulae f_b and f_t	2010/3/12	Coefficients of rudder horn formulae in Ch.10, Sec.1, 3.3.2 Please clarify the technical background of the unit displacement formulae f_b and f_t. f_b : This formula has been delivered by multiplying the maximum displacement of cantilever beam by coefficient 1.3. Please show the technical background of the coefficient 1.3. f_t for steel : This formula has been delivered by substituting torsional stiffness factor J_th into the general formula of f_t. The coefficient obtained by the substitution 3.168(=7.92 * 4 / 10) does not match the coefficient 3.14 used in this formula. Please show the technical background of the coefficient 3.14.	f_b and f_t in Ch.10 Sec.1 [3.3.2] are in line with UR S10.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
1029	12/1.2.1.3	RCP	Transverse corrugated bulkheads at lower stools as transverse bulkhead plating	2010/3/30	With regard to the paragraph of Ch.12, Sec.1 [2.1.3], we would request that transverse corrugated bulkheads situated on lower stools are ruled out from application of the 'transverse bulkhead plating'. The paragraph in Ch.12, Sec.1 [2.1.3] contains 'transverse bulkhead plating' as a result of Rule Change Notice No.1 (effective from 1 July 2009) which may cause a confusion as to whether this newly added word implies a transverse corrugated bulkhead on lower stool or not, all the more for small bulk carriers provided with lower stools of which the height is less than 3.0m. It is noted that TB for RCP 4-4 explains that 'this change is made to clarify the requirement by specifying the areas concerned by this calculation (refer to KC ID 313 and 544)'. Besides, TB for RCN No.1-4 explains that 'inner hull up to a height of 3.0m from the lowest point of inner bottom is applied to this requirement'. Notwithstanding these explanations, neither of the two TBs has implemented clarification on application of transverse corrugated bulkheads on lower stools. It is apparent that the Ch.12, Sec.1 [2.1.3] will result into unreasonable and impractical arrangements and scantlings for corrugated bulkheads with lower stools, especially for those of small bulk carriers. The current passage containing 'transverse bulkhead plating' should be interpreted to limit to transverse bulkhead plating where lower stools are not fitted. KC is therefore requested to update the passage in future Rule Change Notice.	The requirements in Ch.12 apply to the following structural elements when they exist in the hold: - plating of inner bottom - hopper tank sloping plate - plating of transverse lower stool (if it exists) - flange plating of transverse corrugated bulkhead - plating of transverse plane bulkhead - plating of inner hull up to a height of 3m above the lowest point of the inner bottom. This includes transverse corrugated bulkheads with or without lower stool.	
1030	3/5.1.4.1	RCP	Protective coating in ballast holds	2010/4/14	Regarding the protective coating in ballast holds, the paragraph of 3/5.1.4 should be deleted in order to be in line with IACS UR Z9. CSR for Bulk Carriers January 2006 Background Document Chapter 3 says that “This regulation (3/5.1.4.1 Protection of ballast hold spaces) is in accordance with IACS UR Z9.” And Z9 stipulates the same requirement of protective coating in both ballast holds and other cargo holds, which is equivalent to 3/5.1.3 of CSR BC Rules. However, 3/5.1.4 requires that all internal surfaces of ballast holds are to have an effective protective coating (It is noted that IACS KC 400 exempts inner bottoms in ballast holds.), and are beyond the requirement of Z9. Therefore, 3/5.1.4 should be deleted so that 3/5.1.3 can cover both ballast holds and other cargo holds..	This KC is same as KC400, that is, Ch.3 Sec.5 [1.3] should have be modified to include dry cargo holds which may carry water ballast and [1.4] should be deleted. A corrigenda will be considered.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
1034	10/3.3.2.4	RCP	Installation of spare anchor onboard	2010/2/24	In order to follow the relevant requirement of UR A1.4.2, please add a following sentence to Ch.10, Sec.3, 3.2.4 of CSR Bulk Carriers. "Installation of the spare anchor on board is not compulsorily required." Otherwise please revise Table 1 in Ch.10, Sec.3 of CSR Bulk Carriers in the same way as Table 11.4.1 in Sec.11 of CSR Oil Tankers.	The installation of the spare anchor is not compulsory required. The text is in line with UR A1 and kept as is.	
1039	9/5.2.2.1	CI	Requirement of ballast hold and hatch cover of the ballast hold	2010/5/17	Regarding the requirement of Ch.9, Sec.5, 2.2.1, we would like to confirm that a ballast hold is not included in ballast tanks and other tanks, and a hatch cover of the ballast hold is required to be weathertight.	Your interpretation is correct. A hatch cover of the ballast hold is required to be weathertight.	
1040	6/4.3.1.2	RCP	Allowable stress factors for floors adjacent to stools or transverse bulkheads	2010/5/5	According to UR S20.3.1, allowable shear stress for floors adjacent to the stools or transverse bulkheads may be taken sigma_F/3^0.5. On the other hand, in CSR-B of Ch.6, Sec.4, [3.1.2], there is no description about this treatment. It seems that to apply this treatment to CSR-B is rational because this requirement has come from UR20. Please consider a RCP to add this treatment into CSR-B.	In CSR-B of Ch.6, Sec.4, [3.1.2], the following treatement will be added: allowable shear stress for floors adjacent to the stools or transverse bulkheads may be taken sigma_F/3^0.5 as notified in UR S20.3.1. A corrigenda will be issued.	
1042	Table 4/A2.1,2,3, 4,5,6	RCP	Loading conditions to be included in Trim & Stability booklet	2010/6/29	We do not consider the "standard loading condition for direct strength analysis" listed under Appendix 2 of CH4 is required to be included in the Trim & Stability booklet. For example, for LC No.6 "Multi Port-3" in Table 1 in Ch.4 Appendix 2, the design value of the sagging bending moment will become quite large if an imaginary loading condition is prepared on purpose to realize the condition corresponding to LC6. Thus, we would say it is not so reasonable in practice to include such an imaginary loading condition in the Trim & Stability booklet. In order to avoid unnecessary argument between Class & Builder, we suggest that the additional statement should be provided which specifies that it is not required to prepare the loading conditions to realize the LCs indicated in the Appendix 2 and that such loading conditions need not to be included in the Trim & Stability booklet.	We agree to your comment that loading conditions indicated in Appendix 2 in Ch.4 are not required to be included in the Trim & Stability booklet. The loading conditions applicable for loading manual is specified in Chapter 4 Section 7 and 8. Would you have any further question, please don't hesitate to contact the IACS Permanent Secretariat.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
1046	3/6.6.52	Question	Steel grade requirement of Bilge Keel	2010/8/4	CSR-B Ch.3, Sec.6, 6.5.2 Bilge keel The following requirement is to prevent cracks propagated to bilge strakes from these occurred in bilge keels due to longitudinal bending moments. “The bilge keel and intermediate flat are to be made of steel with the same yield stress as the one of the bilge strake.” For bilge strakes, even when the use of HT steel is not required by Ch.5, Sec.1, 4.5 for longitudinal strength consideration, HT steel may be used for convenience of design. However, in light of the above, we consider that this requirement may be dispensed with if bilge keels are not located in the HT zones specified Ch.5, Sec.1, 4.5.	Since a large number of comments from shipowners have been received about bilge keel and prevention of damage to its ends, it was decided that the material of the bilge keel should have the same strength as the bilge strake. Similar to long hatch side coamings of 0.15L specified in the IACS UR S6, if the length of the bilge keel is greater than 0.15L, the material of the bilge keel is required to be the same as that of the bilge strake. The material requirement for the bilge keel is also found in Ch3/Sec6/[2.3.1]. The intermediate flat is to be made of steel with the same yield stress as the one of the bilge strake in order to ensure continuity of material.	
1047	4/7.2.1.1	CI	Max cargo mass in cargo holds at max draught condition with 50% of consumables	2010/5/12	In Ch.4 Sec.7 [2.1.1] is written: "For the determination of the maximum cargo mass in cargo holds, the condition corresponding to the ship being loaded at maximum draught with 50% of consumables is to be considered." Is this defined for the short voyage conditions?	Ch.4 Sec.7 [2.1.1] defines the upper limit for the cargo mass in holds, i.e. the pay load, by considering only 50% of consumables at full draught. This has not to be considered as a mandatory design loading condition. This definition of the upper limit is not to be confused with definitions of short voyage conditions.	
1051	Text 5/1.2.2.2	Interpretation	Defenition of Homogenous loading condition to make shear reduction	2010/10/20	In CSR BC, there is no clear definition of a "homogeneous loading" condition. This definition is important to know whether or not it is possible to make a shear reduction according to Ch5, Sec1, 2.2 We think it's possible to use the definition of homogeneous loading condition given in URS 18: "...homogeneous loading condition means a loading condition in which the ratio between the highest and the lowest filling ratio, evaluated for each hold, does not exceed 1,20, to be corrected for different cargo densities." Please let us if you confirm this proposition	We agree with your proposal to use the definition of homogeneous loading condition given in URS 18 in CSR for Bulk Carriers: "...homogeneous loading condition means a loading condition in which the ratio between the highest and the lowest filling ratio, evaluated for each hold, does not exceed 1,20, to be corrected for different cargo densities." The definition will be included in the Rules.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
1054 attc	4/6.1.1.1	Interpretation	Hc value of dry bulk cargo in full-filled condition (Ref to KC ID 1025)	2010/8/11	With reference to KC ID 1025, it seems that the answer do not fully cover our questions. It is true that the formula should be used to calculate hc for holds of cylindrical shape. However, our question is "Should we consider the cargo hold with upper stools as one of cylindrical shape or not?". Most of CSR PT3 members assume that cylindrical shape means that a cargo is longitudinally cylindrical along its entire length and no upper stools should be arranged. For a typical bulk carrier with upper stools, our calculation shows that the two methods in Ch4/Sec6/1.1.1 of CSR-BC will result in different hc values. Therefore, we are expecting an answer of Yes or No with explanations to the question "should the cargo hold with upper stools be considered as one of cylindrical shape?". If Yes, the explanations are expected. If No, clear statements of the rule may be needed. Detailed calculation procedure is attached.	Yes, we consider a cargo hold as having a cylindrical shape if it maintains a cross sectional shape over the hold length with or without upper stools.	Y
1055 attc	Text 6/1.2.4.1	Interpretation	Measurement of adjacent plate width	2010/10/20	Keel Plating The following requirements for keel plating can be found: Ch3, Sec6, 6.2.1. Minimum breadth of the keel "b". Ch6, Sec1, Table 2 Minimum thickness of keel Ch6, Sec1, 2.4.1 The net thickness of the keel plating is to be not less than the actual net thickness of the adjacent 2 m width bottom plating. It is not mentioned, if the adjacent 2 m width bottom plating has to be measured from the edge of the actual keel strake or from b/2. Some current ship designs have an actual keel plating width of more than 3 times the size of b (see attachment). If Ch6, Sec1, 2.4.1 is interpeted in a way that the adjacent plate width has to be measured from the edge of the actual keel strake, the width of affected bottom plating and the potential increase of the thickness depends on this arbitrary strake width. We propose to initiate a Common Interpretation (CI) or to include the outcome of this question in next RCP to clarify that the adjacent plate width has to be measured from b/2 of CL.	Firstly, we do not agree with your interpretation: as for bilge plating, the adjacent 2m are to be considered from the edge of the keel strake, this is in order to avoid large discrepancies in thicknesses for welding. In addition, considering the adjacent 2m starting from b/2 will in most case include the keel strake which may lead to misinterpretations. Consequently the rules are kept as they are and no interpretation is emitted.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
1065	3/2.3.3.1	Interpretation	Indication of gross and renewal thickness in the structural drawings	2010/11/15	Refer to Chapter 3/ Section 2. Quoted 3.3 Available information on structural drawings 3.3.1 The structural drawings are to indicate for each structural element the gross scantling and the renewal thickness as specified in Ch 13, Sec 2.2". Unquoted Our understanding of this paragraph could only be interpreted that all structural drawings submitted to the IACS class are to indicate for each structural member the Gross and RENEWAL THICKNESS. We would appreciate if our understanding is correct.	As you mention, Chapter 3 Section 2 3.3.1 states that for each structural member, gross scantling and renewal thickness should be indicated. However, for clarification of extension and alternative methods we refer to KC777, KC948 and KC1058. A common position will be issued by the harmonization project.	
1074 attc	9/3.2.2	Interpretation	Definition of Margin Plate	2010/11/15	There is no definition of “Margin Plate” in CSR Bulk Carrier. 1. Rule Application of CSR Bulk Carrier: Chapter 9, Section 3/2.2. Table 1: Minimum Thickness Application of Margin Plate. 2. Since there is no definition about “Margin Plate” in CSR Bulk Carrier Rule, we are using the “Margin Plate” definition in CSR Tanker (Ref. Sec.4/ Table 4.1.1) 3. According to the definition of terms in CSR Tanker, we may think of the following two cases; Case 1 & Case 2 (see attachments) 4. Does you consider both cases are Margin Plate? or One of two cases is Margin Plate?	The definition of Margin Plate in Ch9/Sec3/Table 1 should be given and in line with CSR OT in which the definition comes from IACS Recommendation 82,"Surveyor’s Glossary, Hull terms and hull survey terms". Both Case 1 and Case 2 are Margin Plate. A corrigenda will be considered.	Y
1077 attc	Bulker 3/6.5.7	Question	Depth of cut-outs	2010/11/10	Harmonisation request for depth of cut-outs and naming of cut-outs/slots? (Original request: Please refer to attachment)	Your comment is noted. We will retain your comment for consideration during the harmonisation of the two CSR Rules.	Y
1082 attc	2/2.5.1.1	RCP	Definition “T1” specified in Ch.2/Sec.2/5.1.1 of CSR for Bulk Carriers based on Reg.39(1)	2010/11/15	We consider that a rule change for CSR Bulk Carriers should be immediately implemented as follows: The definition “T1” specified in Ch.2/Sec.2/5.1.1 of CSR for Bulk Carriers based on Reg.39(1) of ILLC should be amended according to Res.MSC.223(82) as attached. In addition, other requirements referred to in International Conventions may need to be amended accordingly. Please consider.	The text will be amended accordingly. As other international texts are included in CSR BC, a complete review will be made and its results will be included in a future rule change.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
1091	2/2.5.1.1	RCP	Table 3/1.4-3 3/6.7.3.6 11/1.1.1.1	2011/6/6	The spelling of 'shear strake' shall be corrected to 'sheer strake' in the following sections.. 1. Chapter 3, Section 1 Table 4-3: Shear strake at strength deck 2. Chapter 3, Section 6 7.3.6 Sheer strake ...If the shear strake is rounded, its radius, in mm, is to be not less than 17ts, where ts is the net thickness, in mm, of the sheer strake. 3. Chapter 11, Section 1 1.1 Cut-outs, plate edges 1.1.1 ...This also applies to cutting drag lines, etc., in particular to the upper edge of shear strake and analogously to weld joints, changes in sectional areas or similar discontinuities.	Thank you for your comment. This will be considered in the next editorial correction.	