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

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
4	6/2.1.1.7	Question	anodes	2006/3/5	Where anodes are fitted in ballast tank … are to be submitted for approval" Anode installation shall be in accordance with the manufacturer's recommendation and shall be submitted to the Buyer for approval. It is the Builder's normal practice. Is it necessary additional approval process by class society ? If necessary, please advise the approval procedure or guideline for anode installation in ballast tank.	The requirement is to submit a drawing showing the distribution of anodes throughout the ballast tanks and connection details for the anodes in order that compliance with the requirements in 6/2.1.2.4-7 can be assessed. The approval by class relates to the attachment of the anodes to the hull structure and not to the capacity/location in terms of protection efficiency which is a matter between builder and owner.	
27	7/4.4.2.1	Question	bow flare slamming pressure	2006/4/5	As gamma decreased, the bow flare slamming pressure should increase. Please incorporate this effect. It is well known the smaller bow flare angle gives the greater impact pressure due to pitch motion.	The Rules are concerned with the bow impact pressure (not bow flare slamming pressure) as a result of the bluff bow of the ship moving forwards into the on-coming waves. Because most tankers have very full bows, then the phenomena of bow flare slamming as a consequence of the combined heave and pitch of the ship to the waves is not so critical. Hence this has not been addressed in this version of the Rules.	
38	4/3.6.1.3	Question	knuckle and the support	2006/4/5	Generally, the distance between the knuckle and the support is not to be greater than 50mm.The following underlined wording to be added. Generally, the distance between the knuckle and the support is not to be greater than 100mm. Where distance is greater than 100mm, special attention is to be paid.	We prefer to keep the 50mm limit, but note that the present text provides for acceptance of alternative configurations. Other configurations with a distance in excess of 50mm may be accepted with due consideration to stress level and fatigue stresses.	
50	6/4.3.2.1	Question	high heat input welding	2006/5/5	This paragraph should be modified as below for clarification. It is not suitable to describe high heat input welding at 4.3 (Hot forming). It should be described at 4.4 (Welding) and a quantitative value for high heat input should be given. "Confirmation is required to demonstrate the mechanical properties after further heating meet the requirements specified, by a procedure test using representative material, when considering further heating other than 4.3.1.1 of thermo-mechanically controlled steels (TMCP plates) for forming and stress relieving.	We agree with your comment and have revised the text of paragraph 4.3.1.2 in Corrigenda 1 published in April 2006 to state - "Confirmation is required to demonstrate the mechanical properties after further heating meet the requirements specified by a procedure test using representative material, when considering further heating other than in 4.3.1.1 of thermo-mechanically controlled steels (TMCP plates) for forming and stress relieving	
51	6/4.4.1.1	Question	approved welding procedures	2006/5/5	The second sentence of the following should be deleted considering that the subject sequences are not the classification society's issue."All welding is to be carried out by approved welders, in accordance with approved welding procedures, using approved welding consumables and is to comply with the Rules for Materials of the individual Classification Society. The assembly sequence and welding sequence are to be agreed prior to construction and are to be to the satisfaction of the Surveyor, see Sub-Section 5."	Class has no involvement in the assembly sequence, and necessary details with regard to welding sequence are covered by the approved welding procedure. We agree with the comment and have removed the second sentence in Corrigenda 1 published in April 2006.	
54	8/6.3.2.1	Question	bottom slamming loads	2006/5/5	Please provide us with the background why the extent in height has been increased to 500 mm, compared to current rule requirement.	The extent of the area to which strengthening against bottom slamming loads is made has been increased somewhat from that in the present Rules due to damages recorded to existing ships in operation. It is seen from damage records that it is important to cover the turn of bilge to a sufficient height, because the curve bilge plating may be subject to the 'snap-through' effect.	

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55	Table 9.2.1	Question	Yield utilization factor	2006/5/5	1.According to "JTP Background Document", the yield utilization factor for structures at tank boundaries is set to a value less than that for internal structures in tanks to account for the stress induced by the lateral pressure loads. So, it is understood that a tank boundary plate, for a certain loading condition, may be regarded as an internal structure if it is not subjected to lateral pressure load in the relevant loading condition. Please describe the above in the Note. 2.Thank you for your understanding. Our comment is based on "JTP Background Document" and we agree to JTP's philosophy of rule development, consistency and transparency. We also do not wish to put any "operational restrictions" nor increase load cases. We would like you to study on the additional FEM load cases as you had done last year. 3. In addition, please confirm that the increased yield utilization factor can be applied to tight girders between ballast tanks. Otherwise, your detailed explanation would be appreciated.	1. We understand the concept of your comment. We further understand that the request is to increase the allowable stresses for the cargo tank longitudinal bulkheads, tight floors, girders and webs for the loading conditions where no net pressure is applied to the member in the FE loading conditions and retain the current lower allowable stresses for loading conditions where these structures are subject to liquid pressure from one side. It is noted that the scantlings in many of the areas mentioned are mainly dominated by the buckling requirements and that your requested change will only affect scantlings which are determined by yield requirements and hence will have limited effect. The longitudinal bulkhead in way of transverse bulkheads is the principal area where the required thickness will be affected especially in FEM cases with all cargo tanks empty or full across. In the final version of the Rules, the only FE load cases that are used to check the 100% hull girder shear load situation are the fully loaded across and the fully empty across tank conditions. If the allowable stress is increased, then the following might also need to be considered: (1)The intended criteria are designed to cover conditions where not all the tanks are empty or full across. It is necessary to ensure that these conditions are still covered in the Rules given that even the shear force of a slightly different loading condition may not reach the maximum assigned value but the shear stress could be higher on one longitudinal bulkhead if the loading is not symmetrical transversely. (2)The shear force and stress in the harbour condition where one tank is full and the adjacent tank is not full (e.g. half full) or one tank is empty and the adjacent tank is not empty (e.g. half full).Therefore, whilst we know that in the design Rule FE loading conditions some tank boundaries will not be subject to tank pressures or the tanks on each side of certain tank boundaries will be simultaneously loaded, this may not always be the case in service. We do not wish to put any "operational restrictions" on simultaneous loading. While we understand that we have taken an "engineering approach" to envelope certain conditions in order to account for operational considerations, if we were to add additional considerations such as your suggestion we would very likely have to add additional FEM load cases in order to more accurately reflect the wide range of possible load scenarios. We will therefore keep the Rules as they are currently, but we will retain your comment for future consideration while working on future Rule updates. (Continues to the next page.)	

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55	Table 9.2.1	Question	Yield utilization factor	2006/5/5	(See previous page.)	(Continues from the previous page.) 2. The following Rule clarification to Table 9.2.1 has been made in Corrigenda 1 published in April 2006 that the yield utilisation factor for longitudinal bulkheads between cargo tanks may be taken the same as non-tight structural members for FE load cases where either both sides of the bulkhead are empty or loaded. 3. There are no load cases in the CSR with single sided pressure for tight girders between ballast tanks and hence increasing the allowable yield utilisation factor to 1.0 for such structural members can only be done if additional load cases with single sided pressure are added. We have however performed additional studies on the tight floors/stringers/girders between ballast tanks and find that the present Rule text is somewhat conservative. The Rule Change Proposal in this connection is now under review by IACS.	

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57	2/3.1.8.1	Question	fatigue assessment-cargo tank structures	2006/5/5	For the fatigue assessment of cargo tank structures, a mean SG of 0.9 is to be used. This mean SG used is to reflect an 'average' SG of oil cargo carried by the ship throughout its life. A higher value will be required if it is intended to carry higher density oil cargo on a regular basis. Subject sentences to be deleted. We are afraid that the reduced figure, i.e. 0.9 for S.G, might cause argument between shipbuilders and shipowners because they cannot assure whether the assumption of mean S.G. of 0.9 is sufficient or not during the 25 years' operation. All other sentences mentioning 0.9 for S.G should be deleted from JTP rule.	The fatigue calculation is to be based on the loading conditions most commonly used, e.g. homogeneous full load and normal ballast draft. These are the conditions that the ship will trade with for the majority of the ship's life and consequently the most relevant loading conditions for calculation of fatigue life as fatigue is an accumulative process. We have in addition put a threshold value of 0.9 in the Rules to avoid artificial homogeneous loading conditions with very low cargo density. From an operational point of view this means that, with respect to fatigue, the master can trade however he wants as long as the scantling draught is not exceeded. The ambiguous term of ;A higher value will be required if it is intended to carry higher density oil cargo on a regular basis; has been deleted due to the difficulty in defining this and potential misunderstanding or conflict between builder and buyer over this item as mentioned in the Rules. We do not see the need for further correction of the Rule text in this respect but will explain the concept in detail in the Background document. The choice of density to use in the fatigue calculations will have an effect on scantlings and end connection details of stiffeners on the cargo tank boundaries except for the deck and transverse bulkheads. The amount of increase will depend on whether the fatigue requirement is dominating or not.	
58	2/ Table 2.7.3	Question	BWE conditions	2006/5/5	In general, BWE should be performed under the favorable weather condition. Accordingly it should be reconsidered2.We do not understand why JTP class does not establish the allowable sea condition for operators to safely perform BWE. Recalling the first sentence in Sec. 2/4.1.4.1 (d) of JTP rule, please reconsider and rationalize the JTP rule.	1. We agree that BWE should preferably be performed under favourable weather conditions. However, due to past experience on discussions with owners and builders as to definition of favourable weather conditions and difficulty for the master to quantify the actual sea state the Rules require that the strength of the ship is verified for BWE conditions without applying a load reduction factor and corresponding operational limitation. 2.The main difficulty in this issue is for the master to assess if the actual sea-state being experienced at sea is within the term "favourable weather conditions" or not. If a knock down factor was to be applied, e.g.0.8 factor on dynamic loads typically equating to 10-6 probability level (1year max.) the corresponding significant wave height for this condition would need to be specified and the master would have to be in the position to determine weather or not the actual sea state was more severe than this limit. As mentioned in our previous answer the classification societies are constantly coming into arguments with both owners and builders on the ambiguous wording of "not to be performed under heavy weather". Based on this, plus, when establishing the rules for the BWE conditions we determined that there would be limited and reasonably small increases in terms of total steel weight that the present BWE conditions are causing, we will keep the Rule text as is.	

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61	8/2.5.7.8	Question	stool top plating	2006/5/5	(b) stool top plating :the thickness and material yield strength of the stool top plate is not to be less than the attached corrugated bulkhead flange or web. This requirement (b) should be removed, considering that local fine mesh analysis should be performed mandatorily.	The present requirements of 8/2.5.7.8 (b) are based on existing text in ABS Rules and are similar to requirements in the Common Structural Rules for Bulk Carriers. Please note that the thickness requirement is primarily experienced based and the stool top plate extension requirement is related to having sufficient structure to enable welding of the corrugation to the stool top. Further a local fine mesh FE analysis will not address these issues.	
62	8/2.5.7.10	Question	stool bottom plating	2006/5/5	b) stool bottom plating : „The thickness and material yield strength of the stool bottom plate is not to be less than the attached corrugated bulkhead flange or web (c) stool side plating and internal structure. Within the region of the corrugation depth above the stool bottom plate the thickness of the stool side plate is not to be less than 80%; of that required by 2.5.7.2 for the corrugated bulkhead flange at the upper end and is to be of at least the same material yield strength. This requirement (b) should be removed, considering that local fine mesh analysis should be performed mandatorily.	The present requirements of 8/2.5.7.10(b) are based on existing text in ABS Rules and are similar to requirements in the Common Structural Rules for Bulk Carriers. Please note that the thickness requirement is primarily experienced based and the stool bottom plate extension requirement is related to having sufficient structure to enable welding of the corrugation to the stool bottom. Further a local fine mesh FE analysis will not address these issues.	
63	8/2.6.1.7	Question	Webs of the primary support	2006/5/5	2nd and 3rd sentences should be re-written to permit reduction, considering that FE analysis is performed.	Webs of the primary support 2nd and 3rd sentences should be re-written to permit reduction, considering that FE analysis is performed.members are to be stiffened in accordance with Section 10/2.3. The webs of the primary support members are to have a depth of not less than as given by these requirements. Lesser depths may be accepted where equivalent stiffness is demonstrated. In no case are the depths of primary support members to be less than 2.5 times the depth of the slots for stiffeners, if the slots are not closed.From our experiences using the equivalent stiffness/inertia described in 3/5.3.3.4, we consider that most of today's designs will be able to comply with this criteria.	
64	9/ Table 9.1.1	Question	partial safety factor	2006/5/5	The partial safety factor, 1.3 for GammaW looks too big. This factor should be decreased, unless it can be supported by detailed explanation together with damage experience.	The ultimate hull girder strength assessment is an assessment of the hull girder ultimate strength when subjected to an extreme load. The reference formula for the wave bending moment is taken as the existing IACS URS11 formula. This formula is however based on an assumption of equal probability for all headings. This is reasonable for standard responses but will not be correct for the hull girder ultimate strength assessment. If a ship encounters the 25 year maximum storm it is more likely to go up against the waves and hence have a higher weighting on the head sea than the equal probability assumption. This alone gives a 10%; increase on the moment. Additional safety margins are also included in the hull girder ultimate check due to consequence of failure and lack of redundancy. Further details on the requirements are given in the background document.	

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66	7/2.1.4	Question	loading condition	2006/5/5	The calculated value is much higher than that of the actual loading condition, especially at midship and forward part. So, this requirement is to be deleted or mitigated.	The Rule required still water shear force is in line with the shear generated from the loading patterns used in the finite element analysis and also close to that shown in actual loading manuals. The minimum shear requirements have been included to ensure a certain degree of operational flexibility regardless of conditions in the manual. It should be further noted that the minimum values are in no way extreme as they are based on conditions with all cargo tanks across empty on a draught of 0.55Tsc/0.9Tsc for ships with two and one longitudinal bulkhead respectively and draught of 0.8Tsc/0.6Tsc for all cargo tanks across full for ships with two and one longitudinal bulkhead respectively. Review of typical loading manuals show that the Rule minimum value is less than typical maximums found in the manual but higher than the permissible limits for bulkheads that are not designed for uneven loading. The consequence of the Rule minimum shear requirement is that there will be no change in scantlings for the bulkhead in way of maximum shear from manual but the longitudinal bulkhead in way of some of the other transverse bulkheads might need a slight increase locally. The amount of patch work strengthening will be reduced and the operational flexibility will be increased.	
80	6/ Table 6.3.1	Question	Corrosion Addition	2006/9/5	Corrosion Addition for Typical Structural Elements Within the Cargo Tank Region 1) Please provide with a table for structural elements outside the cargo tank region. 2) Corrosion additions for weather deck and side plating of void space are to be provided.	1)Table 6.3.1 contains “combined” example results for listed structural items within the cargo tank region based on Table 12.1.2. For additional locations not included in Table 6.3.1, please obtain corrosion additions using Table 12.1.2 directly. 2) The corrosion addition may be derived directly from Table 12.1.2.	
83	7/4.2.3.6	Question	sloshing pressure	2006/9/5	For tanks with internal longitudinal stringers and or girder/web frames, the distribution of sloshing pressure across these members is shown in Figure 7.4.4.It is understood that the sloshing pressure for the brackets of these members is 20 kPa as discribed in 7/4.2.4.1. This answer is now superseded by the answer to KC ID 899.	Correct. This is also clarified in Section 8/6.2.2	
85	App. C/1.4.4.11	Question	fatigue calculation	2006/10/5	Span of Longitudinal in fatigue calculation:The span of longitudinals i.w.o. the bilge may be reduced when they are supported by bilge brackets.	The decision whether the bilge bracket provides support depends on the actual depth, length and scantlings of the bilge bracket itself. A review will have to be made in each instance depending on the actual offered arrangements.	

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86	Table 8.2.5	Question	stiffener arrangements	2006/10/5	To be modified as follows: = 12 except for the lower 15 % bending span of vertical stiffeners = 10 ~ 12 for the lower 15 % bending span of vertical stiffeners, the exact value is to be calculated based on Table 8.3.5, combining Load model A and D.	This requirement applies to typical stiffener arrangements. The strength model used in the evaluation is a simplification and these requirements are consistent with present Rule practice.	
87	Table 8.2.6	Question	stiffener arrangements	2006/10/5	To be modified as follows: = 0.5 except for the lower 20 % shear span of vertical stiffeners = 0.5 ~ 0.7 for the lower 20 % shear span of vertical stiffeners, the exact value is to be calculated based on Table 8.3.5, combining Load model A and D.	This requirement applies to typical stiffener arrangements. The strength model used in the evaluation is a simplification and these requirements are consistent with present Rule practice.	
89	8/2.6.7.2	Question	horizontal stringer	2006/10/5	P design pressure for the design load set being considered, calculated at mid point of effective bending span, lbdg-hs, of the horizontal stringer, in kN/m2It is understood that the design pressure is to be calculated at the midpoint of the loading breadth.	Yes you are correct. In the case of horizontal stringer the pressure is to be taken at the mid-span of the horizontal stringer and at the midpoint of the loading breadth. This is also described in 3/5.3.1.	
90	8/2.6.7.4	Question	horizontal stringer	2006/10/5	S sum of the half spacing(distance between stringers) on each side of the horizontal stringer under consideration, in m. It is understood that the “half spacing” means the distance between the stringer under consideration and the mid point of the shear span of vertical stiffener.	The half spacing is to be taken as the half of the actual distance between the member concerned and the member above or below.	
92	8/6.2.4.1	Question	Sloshing assessment	2006/10/5	Sloshing assessment of stiffeners on tank boundaries:Please clarify that the shear area need not be checked for stiffeners on tank boundaries.	You are correct to question this, however, we had originally included this check but since it does not govern it was then excluded. We will add a note in the background document explaining that the shear assessment of stiffeners has been omitted as it is not governing.	
98	10/2.4.2.3	Question	PSM	2006/10/5	Other StructureIt is understood that small intermediate brackets, i.e. docking bracket, bilge bracket which are not PSMs may be regarded as tripping brackets	You are correct. For such isolated brackets, 10/2.4.2.3 may be applied.	
99	10/2.4.2.3	Question	Tripping bracket	2006/10/5	Tripping bracket:No requirement is given for the thickness of tripping bracket when its edge is stiffened.	The thickness requirement of tripping brackets is given in form of a minimum thickness requirement given in Table 8.2.1.	
101	Table 10.3.1	Question	buckling assessment	2006/10/5	It is understood that the ratios, da/(ala) and db/la are not to be taken greater than 0.7.	It is correct that Case 6 is applicable for ratios equal or less than 0.7. This case is buckling assessment of the entire panel with opening. For cases where the ratio exceeds 0.7 it is no longer relevant to asses the panel but than the plate fields next to the opening are to be assessed using case 5 and with stresses corrected due to the presence of the opening.	
102	11/2.1.2.10	Question	Plate bulwarks	2006/10/5	Plate bulwarks are to be stiffened by a top rail and supported by stays having a spacing generally not greater than 2.0 m.The requirement of stay spacing is not acceptable except for bow bulwark.	This item has been addressed in the Corrigenda 1 document posted on the IACS web site, which states that the spacing requirement given in 11/2.1.2.2 applies to bulwarks situated on the freeboard and forecastle deck only.	

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117	6/5.7	Question	Weld sizes	2006/8/16	When a fillet weld is sized under the CSR for tankers, then the reference thicknesses used are the gross thicknesses of the items to be joined. The weld throat thickness will therefore be increased by the same percentage as the increase in thickness for the element(s) being joined. Generally, the combined throat thicknesses of the fillet welds will be less than the thickness of the items being joined and so with the same percentage increase, the absolute corrosion allowance for the weld will be less than that for the item being joined. Please could you comment on whether or not this is an accurate outline of the situation.	It is confirmed that the weld sizes in the IACS CSR for Tankers are based on the gross required thicknesses of the items being joined. The associated weld throat thickness will be increased and/or decreased accordingly if the required gross thicknesses change. However, it should be noted that minimum weld sizes are also applied and therefore if a required gross thickness of a design is reduced (e.g. by reducing stiffener spacing) the weld may not always be reduced if the weld size is controlled by a minimum requirement. With regard to corrosion allowances in the welds, the welds themselves are not normally measured during in-service inspections and therefore discrete corrosion allowances are not provided for the welds. The required weld sizes in the CSR for Tankers have been developed based on the existing rule welding requirements of the class societies associated with gross scantlings and also include increases to the corrosive areas near the top of the tanks where experience has shown that the adjacent plating required increased margins due to corrosion. The assessment of welds is made during close-up survey which includes review of localized pitting, grooving and edge corrosion that may affect the welds. In addition typically if a localized plate renewal must be made due to local corrosion it will include any suspect welds.In summary, the welding typically does not include a discrete corrosion allowance, rather they are assessed in service during close-up survey inspections.	
118	4/2.4.1	CI	Net properties for bulb profiles	2006/9/1	4/2.4.1.4 and 5 specify a simplified procedure for how to determine net properties for bulb profiles using necessary input from Table 4.2.1 (HP bulb profiles) and Table 4.2.2 (JIS bulb profiles). 1) Please confirm that net properties for bulb profiles not covered by Table 4.2.1/4.2.2 shall be calculated by accurate methods deducting corrosion margin as shown in Figure 4.2.12. 2) Can accurate calculations in accordance with Figure 4.2.12 also be accepted for the HP and JIS Bulb profiles or is 4/2.4.1.4 and 5 mandatory for those ? 3) In an actual case the simplified procedure was found conservative underestimating net section modulus by 15%. For actual stiffener (HP320x12) Table 4.2.1 is reported to overestimate the area reduction ab.15% and moment of inertia reduction about 20%. The table should be consider revised.	1)That is correct. 2)Yes, more accurate calculation of profile properties can be accepted in lieu of results obtained by procedure given in 4/2.4.1.1 and 5, provided the corrosion margin is deducted as shown in Figure 4.2.12. 3)Noted, update of Table 4.2.1 and 4.2.2 will be considered.	
120	Sec 6	CI	Use of stainless steel for internal bulkheads	2006/9/11	Designer wants to use stainless steel for internal bulkheads of a checmical tanker. Section 6 doesn't give any advice re stainless steel. Steel factor k ? Corrosion addition ? Material Code: 1.4462 according to German Standards.	Currently coverage of stainless steel is outside scope, and therefore individual societies approach is invoked. When the yield stress for stainless steel is taken based on design temperature lower than 80 degrees, then this information should be included in the loading guidance information.	
121	6/3.1.1.2 & 6/3.2.1.1	CI	Cargo tank corrosion additions	2006/9/1	Are the corrosion additions defined in 6/3.2.1.1 applicable to the cargo tanks of an Oil-Chemical tanker with its cargo tanks coated according to IBC code?	The corrosion additions defined in 6/3.2.1.1 are applicable to the cargo tanks of Oil-Chemical tankers without consideration of the coating system provided onboard, even for coating complying with IBC Code.	

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122	Fig. 4.2.12	Question	Corrosion additions for profile shapes	2006/9/1	In the case of Angle and Flat bar profiles, the corner radius is not considered (only right angled corners are considered). Is it possible to apply the same principle to modify the sectional area in the case of profile shapes actually used in the shipyard?	Figure 4.2.12 depicts how the corrosion additions are deducted, i.e. one half of the corrosion addition is to be deducted from all exposed surfaces. For the angles bars, corrosion additions may be deducted from all exposed surfaces of the actual exact shape, without converting to the built-up shape.	
123	Table 6.5.3	Question	Weld preparation	2006/8/31	At the weld connection between Upper Deck and the Sheer Strake, when the stringer gross plate thickness exceeds 15mm, vee preparation with an angle of 50 is demanded. As per the current shipyard practice, this angle is 40 or 45. Is it required to change that practice?	As given in the Note 3 of Table 6.5.3, if weld procedure approval is obtained, the reduction of the angle to 40 or 45 is possible.	
124	6/5.8.1.1	Question	Welding for structures subject to high tensile stresses	2006/9/27	What is the standard value of the high tensile stress mentioned here? What is the limit of the stress for which this rule can be applied?	Since the formula in this section is a function of actual working stress, it may not be appropriate to specify certain threshold value or working stress.	
125	7/2.2.3.1 & 7/2.2.3.5	Question	ρ for ships carrying cargo with high specific gravity	2006/9/26	What is the value of ρ to be used for Harbour condition and Tank testing calculation in the case of ships designed to carry cargo with high specific gravity?	The value of ρ to be used is as follows: In Harbour --- Designed specific gravity of the tank Tank Test --- 1.025	
126	8/1.3.2.2	Question	Calculation of hull girder shear strength	2006/9/27	In the calculation of hull girder shear strength, q1-net50 is the first moment of area about the horizontal neutral axis of the members between vertical level at which the shear stress being determined and the vertical extremity of the effective shear carrying members. In this case, is it required to consider all strength members as in IACS URS11?	In the calculation of first moment "q1-net50", all the effective longitudinal strength members (including longitudinals) are to be considered (not only the effective shear carrying members).	
127	8/2.2.3 & Table 8.2.5	Question	Assignment of Longl. Space	2006/9/1	How is the Longl. Space (mm) decided in the case of longitudinal at the ship side close to the bilge and the longitudinal at the bottom close to the bilge?	The spacing between the outermost and the 2nd outermost bottom longitudinals is to be used for the outermost bottom longitudinal. Similarly, the spacing between the lowest and the 2nd lowest side longitudinals is to be used for the lowest side longitudinal. This is applicable irrespective of whether bilge bracket is fitted or not.	
128	8/2.5.7.2	Question	Section modulus of corugated bulkhead	2006/8/31	The plate thickness at the upper 1/3 part of the corrugated bulkhead can be reduced by 20% than the thickness at the lower part, but the net section modulus at the lower, upper and the center part has to be as per Sec.8/2.5.7.6. Is the upper part required to have the section modulus as per Sec.8/2.5.7.6 even after reducing the thickness by 20%?	The upper part of the corrugation, with the thickness reduced by 20%, is also required to comply with Sec.8/2.5.7.6	

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129	8/2.5.7.2	Question	Rounding of reduced bulkhead thickness	2006/8/31	After reducing the thickness of the upper part of the Vertical Corrugated BHD to 80% of the lower part thickness, can the rounding be done by taking the nearest 0.5 mm, or to be round up?	The nearest 0.5mm may be taken.	
130	8/2.6.4	Question	Effective span of deck transverse	2006/10/9	How is the effective span of the 'On deck' Deck Trans decided?	Deck transverses above deck do normally not have brackets below deck at the end connections and then the effective span is the distance between the end supports. The span is typically the distance from where the inner side is welded to deck to the where the longiudinal stool side plate is welded to the deck. Please note that the section modulus and shear area requirements in 8/2.6.4.3 and 8/2.6.4.4 are not applicable to this type of configuration. Section 8/2.6.1.2 refers to Section 8/7, which is to be applied where the basic structural configurations or strength models assumed in Section 8/2 to 8/5 are not appropriate. Or alternatively, direct calculation including FEA may be used. Please note that, however, some additional calculation with using the density of 1.025 and full scantling draught may be necessary since FEA as per Appendix B is not sufficient due to the following reasons: 1. The prescriptive requirements should use cargo density of 1.025 whereas FEA in Appendix B uses 0.9 in general. 2. Green sea pressure in the prescriptive requirements is to be based on the scantling draught whereas the green sea pressure in FEA in Appendix B is based on 0.9Tsc in seagoing condition.	
131	Sec 8	Question	Transverse web in hopper, pipe duct keel & lower stool	2006/9/27	There are no rule requirements corresponding to bending and shear for Trans webs in Hopper, Pipe Duct Keel and Lower stool. Is it required to apply Sec.8.7 in this case or the confirmation by FEM is enough?	Members should comply with the minimum thickness (Table 8.2.1 /Table 8.2.2), stiffness and proportion (10/2) and FEM requirements (9/2	

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132	Sec 8	Question	No. of sections for local calculations	2006/9/11	At how many sections in the direction of the ship length should the local calculation be carried out? Is it at the Aft, Mid and Fore sections of the cargo tank? From a practical point of view, to what extent the calculations are necessary?	As per the rules, all the sections should satisfy the required scantlings. The required scantling values at each section (especially outside amidships) are different because the values of the longitudinal bending moment and the distances from the center of gravity position for each section are different. In general, aft and fore end of each tank. Additional mid location may be also necessary, where section shape or trend of SWBM/WIBM changes.	
134	Table 10.3.1	Question	axial Compressive Stresses	2007/6/21	In Case 6, where da/α la>0.7, is it OK to use Case 3 or 4 for the panel outside opening (with considering free edge effect)?	Case 3 and Case 4 are for axial compressive stresses and not for shear stresses. Therefore, Case 3 and Case 4 cannot be used for shear buckling. Where a cut out has a size beyond the limit of d_a/al_a<=0.7 or d_b/l_a<=0.7, only small strips are left beside the opening. The whole shear is transformed in a S-shape deformation of the strips. 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 any additional shear buckling criteria for such panel.	
135	App B/2.2.1.12	Question	Sniped stiffeners	2006/9/11	For sniped stiffeners, how to take into account the reduction to 25% in one element? 1. Take 25% of the average area over one element taking account the actual shape of sniped part, or, 2. Calculate the average area for 2dw part (taking account the actual shape of sniped part) and the rest separately. Reduce 2dw part to 25%. Then take the average of 2dw part and the rest. 3. Apply 25% of intact area to 2dw part with ignoring the actual shape of sniped part. Then take the average of 2dw part and the rest. Does this apply for web stiffeners, which do not take hull girder stress?	Recommend modelling as following: If a stiffener sniped in both sides and three or more elements are applied to such stiffener in the model, two end stiffeners can be modelled with cross section area as 25% An-net50 as in Table B.2.1, the rest of elements can be modelled with cross section area as 100 An-net50.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
138	App. C, Table C1.7 Note (1)	Question	Attachment length	2006/9/11	150mm should include (ignore) the size of scallop? 2. If flat bar size is 150mm but its soft toe is 200mm, the "one grade up" does not apply?	Attachment length is defined as "length of the weld attachment on the longitudinal stiffener face plate without deduction of scallop". 2. The attachment length is larger than 150 mm, therefore it cannot be upgraded.	
139	App. C, Table C1.7 Note (6) (7)	Question	Range of Dynamic Wave Zone	2006/9/27	What is the range of Dynamic Wave Zone in Inner hull? Center L.BHD and Double bottom girder included in Dynamic Wave Wetted Zone?	The words "Dynamic wave wetted zone" only apply to the "at side" part of the sentence. It means Note 6 applies to "dynamic wave wetted zone at side" AND "in way of bottom" and "in way of inner hull below 0.1D from deck at side". Section 9/3.3.1 and Appendix C/Table C.1.5 do not cover double bottom girders. Therefore, fatigue assessment is not required for double bottom girders. Note 6 in Table C.1.7 does not apply to inner longitudinal bulkheads. Note 7 in Table C.1.7 applies to inner longitudinal bulkheads.	
140	App. C, Table C1.7 Note (6) (7)	Question	Definition of "conventional slot"	2006/10/24	Does the conventional slot configuration include collar plate? What is the definition of "conventional slot"? Is it affected by collar plate?	1. "conventional slot" refers to the shape of the opening for the stiffener. Examples are shown in Figure 6.5.9 for example. 2. Collar plate is required for the cases 1 and 4 in Figure C.1.11 in the application of Note 6 in Table C.1.7. Please note that, in case the collar plate is welded to the face of the flange, then ID31 and Note 5 apply.	
141	App. C, Table C1.7 Note (7)	Question	Class for conventional slot	2006/9/27	Class F should apply for "conventional slot". In this case, if "tight collar" is fitted, can class E apply?	Class F should apply in general for "conventional slot" unless alternative condition in Corrigenda 2 is satisfied. In case tight collars are fitted on deck and within 0.1D below deck at side, Note (5) applies instead of Notes (6) and (7). This means that Class F should be also applied for connections with tight collars in this region.	
142	1/1.1.1.1	CI	application of CSR	2006/9/27	What is the scope of application of CSR Rules for Oil Tankers as regard to the type of cargoes ?	In addition to the conditions specified in 1/1.1.1.1, the CSR for Oil Tankers is only applicable to oil tankers having integral tanks for carriage of oil in bulk, which is contained in the definition of oil in Annex 1 of MARPOL 73/78. FPSO, FSO and ships only carrying oil or oil products in independent tanks, can be excluded.	
143	7/3.3.3.3	CI	Definition of Cb-LC	2006/9/27	In 7/3.3.3.3, the definition of Cb-LC is not provided. How this definition should be interpreted ?	The definition of Cb-LC is to be interpreted as: Cb-LC = DeltaLC / (L B TLC) where: DeltaLC: moulded displacement volume at TLC, in m^3; TLC: draught at amidships, in the loading condition being considered, in m.	
144	Table 8.2.2	Question	Minimum thickness requirement for cross-tie	2006/9/1	Is there minimum thickness requirement to the cross tie? Table 8.2.2 does not indicate cross tie.	The minimum thickness requirement for "Web and flanges of vertical web frames on longitudinal bulkheads, horizontal stringers on transverse bulkheadd and deck transverses (above and below upper deck)" is to be applied for cross tie. A Rule change to include this effect will be considered.	
145	10/2.4.2	Question	Proportions of brackets	2006/9/27	May this requirement be dispensed with if the end bracket need not be taken into account in the bending span correction?	The requirement of Section 10/2.4.2.1 may be dispensed with if all other strength and fatigue requirements (if applicable) including compensation for non-continuous flange or web are satisfied without the end bracket. The requirement of Section 10/2.4.2.3 needs to be complied with.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
146	10/3.2	CI	Buckling capacity requirements	2006/10/9	Reference: a.) CSR for Tankers Section 10/3.2. b.) ABS Rules Part 3 c.) National Advisory Committee for Aeronautics (NACA, Report Tn 3783) The subject buckling capacity requirements of Ref. (a) for determining the acceptable elastic behavior of the vessel's structural plate panels is considered to be extremely conservative, and should be rectified. The criterion is based upon the assumption of a simple supported panel mode with a resulting (K) buckling coefficient value equal to only (4) for long plates. The stated criteria should be amended with consideration being provided for the actual edge support conditions, utilizing the rotational stiffness of the structural boundary members in question. The Bureau's previous boundary (K) values of Ref. (b) implemented in the mid 1990's were similar to those adopted by NACA as released in the year of 1957 for the aircraft industry per Ref. (c). The resulting ABS plate (K) values as derived from the boundary sectional profiles were later reduced for "specific vessel types", but were not eliminated as is the case for CSR. Hence, assuming that adequate (net) axial compression and bending is provided by the plate boundary members, the corresponding buckling coefficients should be increased with consideration to the proportional limit or transition point. The net thickness of the plate panels should be based upon the example as denoted herein without the additional stated CSR "so-called" reduction factor of (C). Example: Net Thickness Requirements (tnet)for Flat Plate Panels tnet = [fp/ 185,400 (Ki)].5 x S Where; fp = Hull- Girder compressive stress expressed in N/mm2 K = Buckling coefficient S = Spacing between members C1 = Long plate or shear increase per the boundary member sectional profile C2 = Wide plate increase per the boundary member sectional profile Ki = (K) x C1or C2 It is respectfully requested that the Bureau's concurrence and/or comments thereto be expedited.	It is correct that the buckling coefficient given in Table 10.3.1 is representative for a simply supported plate, without consideration of the rotational stiffness imposed by the edge stiffeners. However, it should be noted that the buckling requirements of 10/3.2 are ultimate strength criteria. Although the rotational stiffness of the boundary elements will have some influence on the theoretical elastic buckling load of a perfectly flat plate panel, nonlinear finite element analyses of stocky plates typically used in shipbuilding have shown that the effect on the ultimate strength is quite small. It is therefore our opinion that the buckling factors specified in Table 10.3.1 are appropriate for the Prescriptive Buckling Requirements (section 10/3), which is intended as a simple and conservative check. However, it should be noted that in the Advanced Buckling Analyses (section 10/4) used for plates subjected to combined stress fields, the interaction between plates and stiffeners is accounted for.	
147	8/6.4.7.6	Question	Bow impact region - primary support members	2006/9/12	8/6.4.7.6 indicates the following formula: Aw-net50=(5 fpt Pim bslm lshr) / Ct τ yd fpt=lslm/lshr Inputting fpt into the above equation, Aw-net50=(5 lslm Pim bslm)/Ct τyd which means that lshr has no influence to this equation, unless lslm is greater than lshr. Is this correct?	The conclusion is correct. The parameter definition specifies that lslm is not to be taken as greater than lshr. Consequently lshr has influence on the equation as a limiting parameter when lslm is greater than lshr.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
151	8/2.6.1.1	CI	Scantlings of the primary support members in the cargo tank region	2007/10/5	Ref. 8/2.6.1.1 "The following requirements relate to the determination of scantlings of the primary support members in the cargo tank region for the extents shown in Figure 8.2.4" It is noted that Figure 8.2.4 specify transverse and primary support members within the cargo/ballast tanks. Does that mean 8/2.6 not apply to deck transverses fitted above deck (not within cargo tank)? Please clarify which prescriptive requirement appy do deck transverses fitted above deck.	Figure 8.2.4 should be read in conjunction with Section 8/2.6.1.2, which describes more detailed application of the prescriptive requirements in Section 8/2.6. As such, the section modulus and shear area criteria for primary support members as contained in Section 8/2.6 are applicable to the structural elements as listed in Section 8/2.6.1.2. The section modulus and shear area criteria for primary support members of structural configurations other than those listed in therein are to be obtained by calculation methods as described in Section 8/7. Please note, however, that all other criteria (e.g. minimum thickness (Section 8/2.1.6), web depth (Section 8/2.6.4.1), moment of inertia (Section 8/2.6.4.2), slenderness ratio (Section 10/2.3)) are still applicable. Where it is impractical to fit a deck transverse with the required web depth, then it is permissible to fit a member with reduced depth provided that the fitted member has equivalent inertia to the required member in accordance with Section 3/5.3.3.4. This equivalent inertia can be also demonstrated by "equivalent deflection". We will update the Rules to clarify the application.	
153	2/3.1.8.2, App C/1.3.2	Question	Cargo mean density used for simplified fatigue calculations	2006/10/9	The treatments of the cargo mean density used for the simplified Fatigue Calculation in Appendix C: Are the cargo mean density used 0.9 specified in Sec.2/3.1.8.2 or the density corresponding to the loading condition at the scantling draught in full load homogeneous loading condition under the condition of approval of the Class? If the design specification of ships gives the cargo density corresponding to the alternate loading condition, which is regarded as the option contracted by shipbuilder and ship owner, can the classification society be disregarded such option under the approval of such design?	1. The cargo density of 0.9 tonnes/m3 or the cargo density of homogeneous scantling draught, whichever is greater, is to be used. 2. As specified in Section 2/3.1.10.1.(g), higher cargo density for fatigue evaluation for ships intended to carry high density cargo in part load conditions on a regular basis is an owner's extra. Such owner's extra is not covered by the Rules, and need not be considered when evaluating fatigue strength unless specified in the design documentation.	
155 attc	C/1.4.5.14	Question	Weld Connection	2006/10/5	On the premise that the requirement of 1.4.5.14 is limited to apply to weld connection between the hopper plate and inner bottom, is the example shown the figure below acceptable as the improvement measure for fatigue strength complying with the requirement?	Proposal considered satisfactory in relations to the stipulated rule requirement in case where fatigue life improvement is desired as per Appendix C 1.4.5.14. The grinding requirement could be based on International Institute of Welding (IIW) Recommendations.	Y
156 attc	Figure C.2.2	Question	Dressed & Ground smooth	2006/11/6	(1) It is requested to clarify the "dressed" and "ground smooth" which are stated in Figure C2.2 of Appendix C and to specify in the detailed procedure of such improvement measure. (2) In the Figure C2.2 of Appendix C, extent of dressing both side of floor. VLCC: 250mm, Suezmax: 200mm, Aframax: 150mm, Product: 100mm Is value able to be applied to grinding of the weld toe, too? (3) We would like to know the reasons why the recommended value of the extent of dressing is different corresponding to the vessel size. It is seemed to be little difference the structural arrangement of such hopper parts regardless the ship size.	1)Dressing to read as bead dressing i.e. as per attached figure. "Grinding smooth" means smooth concave profile and small weld flank angle. The rules need update to clarify this. 2)That is correct, extent of "grinding smooth" is the same as the extent of dressing 3) We will consider future update of the rules e.g. apply one limit of 200mm for all size of tankers.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
157	App B/3.1.2.1	Question	Screening criteria for fine mesh analysis	*2006/10/23*	(1) According to the requirement of 3.1.2.1, the toe of bracket fitted to lower part of transverse in cargo tank is to be evaluated by fine mesh analysis if the screening criteria given in 3.1.6 are not complied with. Where the hull scantlings of such part is increased based on the results of coarse mesh analysis until such part will become to comply with the screening criteria, we confirmed whether the fine mesh analysis of such part is required or not. (2) If the considered structure complies with the screening criteria but stress obtained by fine mesh analysis does not complied with the criteria specified in Table 9.2.3, is scantling of the structural member required to increase?	(1) If the structural members comply with the screening criteria due to an increase of scantlings based on results of coarse mesh analysis, the fine mesh analysis is not required. (2) If user does fine mesh analysis and see the failure, the fine mesh analysis results should be used for scantling or configuration amendments.	
158	App C/2.1.1.2	Question	Bilge knuckle of bent type	2006/10/9	Where the bilge knuckle is the bent type, is it not necessary to carry out the fatigue check to such type because the standard structural details and minimum requirement to such part are given in Figure C.2.4?	The Rule Appendix C/2.1.1.2 reads: “When alternative design is proposed, a suitable finite element (FE) analysis should be used to demonstrate the equivalency of the detail in terms of fatigue strength.” As a minimum, a comparative hotspot stress analysis should be carried out, using the recommended design as benchmark.	
159 attc	9/3.3	Question	Required Structural Details to fatigue check	2007/11/8	(1) Are the following structural details only required to fatigue check and are the following method for fatigue check applied to each structural detail? (a) longitudinal stiffener end connection (b) scallops in way of block joints on the strength deck (c) welded knuckle between inner bottom and hopper plate (2) We have no fatigue damage of scallops in way of block joints on the strength deck. If the fatigue damage of such part were recorded, we would like to know the damage details such as sketch of damage, number of damage, the longitudinal location including on-deck or under deck, type of longitudinals, elapsed time after service, ship’s size.	(1) Yes, your understanding is correct. With regard to item (b), as indicated in Appendix C/1.6.1.1, unless the specification in Section 8/1.5.1.3 for class F2 is satisfied, the scallops in way of block joint on strength deck is to comply with Figure C.1.12, then fatigue check is not required. Only for option II in Fig C.1.12, alternative scallop geometry may be accepted subject to demonstration of satisfactory fatigue check. Please see Appendix C/1.6.1 and Notes to Fig.C.1.12. (2) Fatigue cracks are recorded for half circular scallops in way of block joints in the main for oil tankers trading in harsh environment. The typical crack location is at location A defined in the below figure. The stress concentration factor at this location obtained by FE analysis reads 2.4 for half circular scallops and the fatigue strength becomes critical in case butt welds are located in the bay of the scallop. By elongated scallops as defined by Figure C.1.12 (II) the stress concentration is reduced to about 1.3. More details on ship type, number of damages and elapsed time are however not available.	Y
162	10/2.2.2.1	Question	Minimum moment of inertia for stiffeners	2006/10/9	It seems that requirement of minimum moment of inertia (Inet) is very small (about 10% of actual moment of inertia, in general). Is this requirement, especially unit of the parameters, correct?	The formula and the unit are correct. This requirement is intended to provide a minimum level of scantlings for stiffeners at locations where the loads are small. It is not critical for the stiffeners fitted on tight boundaries in general, where the lateral pressure usually will be dimensioning for the stiffeners. However, this requirement may be sometimes critical for the stiffeners fitted on non-tight members, where no lateral pressure is acting.	
163	4/2.4.2	Question	Properties of local support members	2006/10/9	In this section, actual moment of inertia calculation for stiffener having inclination angle between stiffener web and attached plate is not provided. Don't we have to consider the inclination angle for moment of inertia for compliance with the requirement of Inet as given in Section10/2.2.2.1?	Where the inclination angle between stiffener web and attached plate is less than 75 degrees, this angle is to be also considered for moment of inertia in a similar manner as that for section modulus as given in Secton 4/2.4.2.3. We will consider a Rule change to reflect this.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
164	8/6.3.7.5	Question	Net web thickness of primary support members	2006/10/9	According the formula of tw-net in Section 8/6.3.7.5 (tw-net=(s/70)(sigma_yd/235)^0.5), the requirment for HT steel is severer than that for mild steel. Is this correct?	The formula is correct. The formula is a slenderness ratio requirement for web plate of primary support members. which is similar to the one given in Section 10/2.3.1.1. Since higher tensile strength steel will be subjected to higher working stresses in general, the required thickness with respect to buckling will be thicker than that for mild steel.	
165	4/2.5.1, 4/2.5.2	Question	Properties of primary support members	2006/10/9	For primary support members, there are no specific description of shear area, section modulus and moment of inertia where the angle between the web and the attached plate is less than 90 degrees. Understand that the actual shear (web) area as given in Section 4/2.5.1 and the section modulus as given in Section 4/2.5.2 are to be adjusted in a similar manner as indicated in Section 4/2.4.2 for local support members. Please confirm.	Your understanding is correct. We will consider a rule change to reflect this.	
166	4/3.4.3.3	Question	Connection between primary and local support members	*2006/10/23*	When web stiffener is not fitted, i.e. Aw-net=0, the load W1 transmitted through shear connection will be taken W1=W*(alpha_a+1) and the load W2 transmitted through PSM web stiffener will be taken W2=W*(-alpha_a). In this case, can we interpret that W1=W, W2=0?	Correct. The expression W1=W*(alpha_a+....) only applies in case the PSM web stiffener is connected to the longitudinal stiffener. In case the PSM web stiffener is not connected to the longitudinal stiffener, W1=W as indicated in Section 4/3.4.3.3. Also, W2=0 in such case. We noticed that the current Rules are not clear in this connection. We will consider updates of the Rules to improve clarity.	
167	8/1.4.2.6, 8/1.4.2.8	Question	Assessment of compressive buckling strength	2006/10/9	If plate or stiffener locate at just 0.5*D, which criteria (1.0 for above 0.5*D, or 0.9 for below 0.5*D) should be applied?	0.5D position may be included in the group of "above 0.5D". We will consider a Rule change to reflect this.	
168	10/3.3.3.1, Table 10.3.2	Question	Net sectorial moment of inertia of built-up stiffeners	2006/10/9	When calculating Iw-net of L2 or L3 type built up stiffeners, can we use the formula for "bulb flat and angles"?	Yes, the formula for "bulb flat and angles" may be used for L2 or L3 type built up stiffeners.	
171	8/1.1.2.2	Question	Loading conditions to include in Loading Manual.	*2006/10/25*	Should the loading conditions listed in Section 8/1.1.2.2 be included in the loading manual (Trim & Stability Booklet) as it is? Or, can they be submitted separately only for the approval of ship's strength during the design stage?	The loading conditions and design loading and ballast conditions as indicated in Section 8/1.1.2.2 are, in general, to be included in the Loading Manual. If there are design loading or ballast conditions, which are for design purpose only and are not intended to be used for the actual operation, such conditions shall be submitted for approval of ship's strength during the design stage. Such design loading and ballasting conditions may not be included in the Loading Manual. In such a case, they may be submitted in a separate booklet, but are to be placed onboard the ship. We will consider Rule updates to reflect this.	
172 attc	11/1.3.3.1 & 11,1.3.3.1	Question	Pipes of Wall Thinkness less than 6mm	2007/10/29	GL has received the attached question from SAMSUNG. Will pipes of wall thickness less than 6mm be accepted ?	Having investigated the Rules, we arrived at a conclusion that the requirements in Section 11/1.3 to sounding pipes are not appropriate. We intend to remove sounding pipes from the requirements of Section 11/1.3 at the next Rule change.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
175	App. C, Table C1.7 Notes (1) & (2)	CI	Selection of SN curves for fatigue details	2006/10/9	Regarding the selection of SN curves for fatigue details given in CSR Rules Tab. C.1.7, the notes at the beginning are confusing since we are in both situations of notes 1 & 2. For example, if we have bulb stiffeners with flat bars at ends less than or equal to 150mm. In one case we can upgrade the SN-curve and in the other one, we have to downgrade and so we assume finally that we use the same curve without taking account of the Notes 1 & 2. Could you please confirm if it is correct?	You are correct. As such, if there is a bulb stiffener and the clearance between the edge of the stiffener flange and the face of the attachment (in this case is a flat bar) is less than 8 mm, the fatigue class needs to be downgraded. If the attachment length of the flatbar is less than 150mm, the fatigue class needs to be upgraded. Then, it goes back to the fatigue class specified in the Table C.1.7.	
178	App D/1.1.2	Question	Background to advanced buckling analysis	2006/10/9	In Appendix D/1.1.2, the rule reads that the reference advanced buckling procedure is given in the Background to Appendix D. The detailed Background should be added to the Appendix D in order to carry out the advanced buckling analysis by each society, according to the JTP rules.	The general procedure for carrying out advanced buckling analysis is given in D/2 and information necessary for such analysis is available there. Alternative methods may be used provided that the effects described in D/2 are accounted for, and that the alternative method gives results that are comparable and consistent with those obtained using the reference procedure. The permissible utilization should be corrected according to D/1.1.2.3. The reference results are collected in tables in the background documentation to Appendix D. The background document will be available in the near future and we do not agree to take the backround information into the common rules.	
179	Fig 8.2.5, 8/2.5.7.9	Question	Corrugated bulkhead requirements	*2006/10/23*	Kindly inform us about the background of Tanker CSR Sec. 8.2.5.7.9 (b). In the given example the existing design (corrugated bulkhead without a stool, directly attached to the inner bottom and the hopper plating) shows a thickness of corrugation of 24mm. The inner bottom plating is of 11.5mm the existing hopper plating is of 12.5mm. The example is a 19800 tdw Oil Chemical Carrier.	The requirement of Section 8/2.5.7.9.(b) for inner bottom and hopper plating for corrugation without lower stool is based on the same principle as the requirement for lower stool top plate for corrugation with lower stool as given in Section 8/2.5.7.8.(b), i.e. the thickness and material of the stool top plate is not to be less than those required for the attached corrugation plating. This requirement was originally derived from the existing ABS Rules Pt.5 Ch.1 Sec.4/17.7.1 and IACS UR S18.4.1.(a), and is to alleviate the effect of possible design and/or fabrication misalignment and to provide appropriate load transmission between the corrugation flange/web and the double bottom structure (e.g. bottom floor, girder, inner bottom longitudinals, brackets, etc.).	
180	8/5.2.2.2	CI	Aft peak floors and girders - bracket requirements	2006/10/9	Figure 8.5.1 (b) shows that if the total length lstf-t exceeds 2.5m, bracket is to be fitted at the lower end. In such case, can we also consider the bracket fitted on the back side of the stiffener effective? Or, it is to be considered non-effective in accordance with Section 4/2.1.1.4?	The bracket fitted on the opposite (back) side of the stiffener can be also considered effective for the purpose of this requirement. Please note that Section 4/2.1.1.4 states that the brackets fitted on the side opposite to that of the stiffener are not to be considered as effective “in reducing the effective bending span”. However, this is for reduction of the bending span for the calculation of required section modulus, and is not for the end fixity. Therefore, the bracket fitted on the opposite side of the stiffener may be considered effective for application of the requirements of Section 8/5.2.2.2.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
181	8/3.4.3.2, 8/4.4.2.5 & 8/5.4.3.2	CI	Bending span to calculate web depth of primary support members	2006/10/9	8/3.4.3.2, 8/4.4.2.5, 8/5.4.3.2 require that web depth of deck primary support members is not to be less than 10% of bending span. Can we consider pillar or other rigid structure (e.g. bulkhead fitted above or below the PSM) in the bending span for the proportion requirement?	The purpose of the proportion (depth) requirement is to limit excessive deflection. If a primary support member is partly or fully supported by other rigid structures, e.g. pillars, other intersecting primary support members or strong structures above or below the deck, such effect can be taken into account. Please note that the proportion (depth) requirement can be also demonstrated by "equivalent inertia" in accordance with Section 3/5.3.3.4. And, this "equivalent inertia" can be also demonstrated by "equivalent deflection", i.e. compare the maximum deflection of the member being considered with the maximum deflection based on an equivalent section given by Section 3/5.3.3.4.	
183	1/1.1.1	Question	Scope of application of Rules	*2006/10/25*	Do CSR Tanker Rules apply to OBO carriers ? (Ref: previous Q&A ID # 142)	CSR Tanker Rules is not applicable for OBO Carriers.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
184	8/4.2.4	Question	double bottom centreline girder	2006/10/25	According to Sec.8/4.2.4, minimum height of double bottom centreline girder is stated with reference to Sec.5/3.2.1. Can the height of the centre line girder be locally reduced below this e.g. in way of sump under main engine or other type of recess arranged in the double bottom?	The double bottom and centreline girder height requirements of 8/4.2.1.1 and 8/4.2.4.1 may be considered as the general requirements for the nominal (regular part) height of the double bottom in engine room. A local sunken inner bottom plate forming a small well or recess (e.g., for arrangement of propulsion main engine), where the double bottom height is lesser than the required height, may be acceptable provided that the overall strength including continuity of the longitudinal members of the double bottom is not thereby impaired.	
185	Figure B.3.1 & App. B/3.1.2	CI	Rules for bent type lower hopper knuckle.	2007/10/1	According to the current Rules for bent type lower hopper knuckle, where hot spot fatigue analysis is not carried out (provided that the details as indicated in Figure C.2.4 are complied with), no further calculation than global FE is required. However, at least local fine mesh analysis should be carried out in such case to see the stress level.	It is confirmed that no additional (fine mesh) analysis of bent lower hopper knuckle is required unless required in accordance with 9/2.3.1.3.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
187	8/1.1.2.2(c)	Question	Additional design conditions	2006/10/25	Section 8/1.1.2.2(c) specifies "Additional design conditions". 1. Any criteria such as draft, trim, and propeller immersion shall be applied to this condition? 2. Does this condition have to meet the IMO 73/78 SBT condition as mentioned in "Guidance Note"?	1. No. Draft, trim, propeller immersion such as indicated in Section 8/1.1.2.2.(a) and (b) need not be applied in the design ballast condition. 2. No. This condition does not have to meet the IMO 73/78 SBT condition. The "Guidance Note" is to read in the way that, if IMO 73/78 SBT condition uses all the fully filled segregated ballast tanks in the cargo tank region only, such condition can be also used as the design ballast condition as specified in Section 8/1.1.2.2.(c). We will consider Rule updates to improve clarity.	
196	8/3.9.5.1	CI	8/3.9.5.1 Formula	2006/10/25	8/3.9.5.1 Formula for the permissible load on pillar Wpill-perm has wrong numeral condsidering the units: W= 10*A*eta*Sigma should read A*eta*sigma*10-1	Agreed.	
198	6/3.2.1.2 & Table 6.3.1	Question	stiffener arrangements	2006/11/10	It seems that "Internal members and plate boundary between spaces with the same category of contents that are categorized into Stiffener on boundaries to heated cargo tanks specified in the 2nd column in the table" are not applicable to the structural members in ballast water tanksPlease indicate example.Or has it described on the item of "Plate boundary between spaces having a different category that are categorized into Heated cargo tank specified in the 2nd column in the table"?	The section of the table applies to "Internal members" OR "plate boundary between spaces with the same category of contents"A stiffener is "in" a ballast tank.	
199	7/4.2.1	Question	impact assessment	2006/11/5	As for the additional impact assessment, assessment procedure should be unified by IACS.	The majority of tank dimensions will comply with the limits quoted for the applicability of the sloshing formula. Therefore it is not expected that an impact assesment will be carried out for conventional designs as a matter of routine. For this reason the agreement of a unified assessment procedure for sloshing is included in the "list of items for long term" development.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
200	8/1.1.2.2	Question	FPT	2006/11/4	1)It is stated that a fore peak ballast tank is to be full in CSR. However, neither Unified Requirements S11 Rev.5 nor current class rules specify such a requirement. It is not necessary that F.P.T is to be full because the strength is checked in accordance with UR S11. 2) We understand that the purpose of the Loading Manual is to ensure safety operation of a ship in service. However, such a condition that F.P.T is full and propeller immersion is 50 percent might result in the problem for the safety operation and is not appropriate to be included in the Loading Manual. 3) Has the background document including additional information been posted on the web?	These comments came during of hearing for rule change proposal 1, adopted by IACS Council September 2006 and the reply should be considered in that context. 1) The design heavy ballast condition is included in the CSR tanker rule to ensure that master can fill the fore peak tank in heavy weather without exceeding design hull girder bending or shear limits.The yard may specify additional operational ballast conditions for use in heavy weather including empty or partially filled fore peak tank in order to give better propeller immersion.The requirement to include a heavy ballast condition with full fore peak tank is already in the rules and is not proposed to be changed by this rule proposal. You may also wish to refer to the background document which will be posted on the web soon for additional information. 2) The intention of the trim requirement, which is similar to MARPOL Annex I Reg.13, is also for the disposition of the segregated ballast tanks not only for the aggregate capacity. This trim condition implies a safe ballast voyage. If the trim is too large, even if the forward and stern draughts limitations are satisfied, the vessel's bottom forward is likely to have higher probability of having slamming due to ship motion in heavy sea.The trim requirement was introduced at the same time that the partial ballast tank filling was introduced in order to reflect "practical" or ""actual vessel operation" type of ballast conditions. Also, both UR S25 and CSR for Bulk Carrier have the same requirement of trim in both normal ballast and heavy ballast conditions. Although these requirements are for bulk carriers, there should be no difference in this philosophy 3) We expect to post the background document on the web within the end of the year.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
201	10/2.2.2	Question	stiffness and proportions	2006/11/10	Application of the rules in “2 Stiffness and Proportions” should be reconsidered. 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 “3 Prescriptive Buckling Assessment” and “Direct Buckling Assessment by PULS”, it is not necessary to check the buckling strength of the structure members above using the rules in “2 Stiffness and Proportions” in which actual working stresses are not taken into account.	For plates and stiffeners subjected to longitudinal stress due to hull girder bending, the requirements of 10/2 will usually not be governing. The minimum stiffness requirements are included in order to ensure that members with small design stresses will have a certain minimum stiffness. This is considered as an additional safety measure, in the case of loads that is not explicitly accounted for in the design phase. This is similar to the use of minimum thickness requirements	
202	10/2.2.2	Question	stiffened panel	2006/11/21	Concerning the clarification that reference yield stress of the stiffened panel is to be taken to the minimum yield stress of the attached plate, in case that in-plane stress is dominant, this clarification is reasonable.However, in case that it is determined based on the bending stress such as panel strength subject to the lateral pressure, it is unreasonable for the purpose of ensuring the minimum stiffness of stiffeners. Therefore we ask you to reconsider the application of the reference yield stress taking into account the above.We propose that reference yield stress is to be taken to the minimum yield stress of the stiffener as original text or to be taken to the specified minimum yield stress of the material of the attached plate when the in-plane stress is dominant.	The requirement is intended to provide a minimum stiffness with respect to column buckling due to in-plane stress. In this context, the yield stress of the plate is relevant. For a stiffener subjected to lateral pressure, the scantling requirements of Section 8 will usually be governing.	
203 attc	D/5.2.3.2	CI	plate breadth	2006/11/28	Figure 5.6, Note It is unclear that modification of plate breadth can be applicable provided that the web/collar plate is to be attached to the both sides of the passing stiffener or only one side of it. Please clarify the applicable of the modification of plate breadth.	The note to Figure D.5.6 states that the modification of plate breadth is applicable provided that the web is attached to the passing stiffener. Hence, it is not required that the web need to be attached to both sides of the stiffener.	Y
229	4/3.2.5.1	Question	Tp net	2006/11/13	Sniped ends tp-net Question: Please kindly confirm, that the denominator 1000 must be squared in the formula for tp-net.	We confirmed. The formula should be:"tp-net = c1*sqrt((1000l-s/2)*sPk/10^6)"The formula will be corrected at the next corrigenda.	
230	4/3.2.6.1 & Fig 4.3.2	Question	end connections	2006/11/13	Understand that the "end connections" mentioned next to "end brackets" in the first sentence of Section 4/3.2.6.1 includes the connection with web stiffeners or tripping brackets, regardless of whether the web stiffeners or tripping brackets are used for the span correction or not. Please confirm.	Your understanding is correct. Please note that, as indicated in the same paragraph, in areas where the shear stress is less than 60 percent of the allowable limit, alternative arrangements may be accepted.	
231	8/1.1.2.2	Question	propeller immersion	2006/12/1	Is the propeller to be fully immersed during all ballast exchange procedure on CSR tanker?	Requirements for propeller immersion during ballast exhange are not covered by these Rules. Such operational requirements during ballast water exchange sequences are to be satisfactorily dealt with by the flag Administration or Recognized Organization approving Ballast Water Management Plan.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
232	Table 12.1.2	Question	plate boundary	2006/11/13	Note 4 in Table 12.1.2 states that 0.7mm to be added for plate boundary between water ballast and heated fuel oil tanks. This Note addresses plate only, and does not address stiffeners fitted on such boundary. Is this the intent of Rules? For consistency, similar approach that used for the stiffeners in a ballast tank and attached to the boundary between water ballast and heated cargo oil tanks should be applied.	We will update the Rules to include an additional corrosion addition for stiffeners fitted on the boundary between water ballast and heated fuel oil tanks.	
233	4/3.3.2.2	Question	end connections	2006/11/8	End connection of primary support members.The prescription "Brackets are generally to be radiused or well-rounded at their toes" does not correspond to the practice in the actual design. This description should be deleted.	The description is general and should not or is not intended to exclude designs without radiused or rounded toes.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
234	4/3.3.3.1	Question	end connections	2006/11/14	End connection of primary support membersThe prescription "The two arms of a bracket are to be of approximately equal lengths" is inconsistent with the description "bracket with a length to heigth ratio of 1.5 is effective to lessen the bending span" in Section 4/2.1.4. The sentence "The two arms of a bracket..." should be deleted.	We note your comments. We will delete the sentence "The two arms of a bracket are to be of approximately equal lengths" at the next rule change.	
235	7/4.3.2	Question	BWE conditions	2006/11/30	The operation of ballast water exchange in heavy weather is assumed in the bottom slamming requirement. This is considered excessive because ballast water exchange should be carried out in calm sea. The loading condition for ballast water exchange should be excluded from the conditions on which the reinforcement for bottom slamming is based.	Comment is noted. We are conducting investigating into the issue raised.	
236	8/1.1.2.1	Question	UR S25	2006/11/3	Loading Manual, Heavy ballast conditionIt is difficult for us to understand why the fore peak ballast tank is to be full under heavy ballast condition. In heavy weather, it is very important to keep both forward draft and proper propeller immersion adequate to avoid occurrence of bottom slamming and propeller racing. If the fore peak tank is full, it will be very difficult to make heavy ballast condition with proper propeller immersion. The minimum propeller immersion of 50% prescribed in IACS proposal is shallower than our experience. Propeller immersion of 55-60%, which is deeper than that under normal ballast condition, will be adequate in heavy weather. Therefore, partially filling condition of the fore peak tank should be allowed for heavy ballast condition. Even if the fore peak tank is partially filled, there will be no problem because the strength is checked under the condition of the fore peak tank. Furthermore, the bottom forward structure is reinforced taking account of the shallowest forward draft in the loading manual. Your understanding of UR S25 is not sufficient. In bulk carriers, heavy ballast condition using a deep tank hold is normal in heavy weather. The heavy ballast condition of bulk carriers is equivalent to that of oil tankers. Therefore, this rule change should be reconsidered.	|The design heavy ballast condition is included in the CSR tanker rule to ensure that master can fill the fore peak tank in heavy weather without exceeding design hull girder bending or shear limits.The yard may specify additional operational ballast conditions for use in heavy weather including empty or partially filled fore peak tank in order to give better propeller immersion.The requirement to include a heavy ballast condition with full fore peak tank is already in the rules and is not proposed to be changed by this rule proposal. You may also wish to refer to the background document which will be posted on the web soon for additional information. The intention of the trim requirement, which is similar to MARPOL Annex I Reg.13, is also for the disposition of the segregated ballast tanks not only for the aggregate capacity. This trim condition implies a safe ballast voyage. If the trim is too large, even if the forward and stern draughts limitations are satisfied, the vessel's bottom forward is likely to have higher probability of having slamming due to ship motion in heavy sea. The trim requirement was introduced at the same time that the partial ballast tank filling was introduced in order to reflect "practical" or ""actual vessel operation" type of ballast conditions. Also, both UR S25 and CSR for Bulk Carrier have the same requirement of trim in both normal ballast and heavy ballast conditions. Although these requirements are for bulk carriers, there should be no difference in this philosophy.	
237	8/2.5.5.1 & 8/2.5.5.1 & 8/3.9.2	Question	bending moment factor	2006/11/6	In the CSR, the following bending moment factors(=fbdg) are used for vertical and horizontal stiffeners, respectively a) 12 for horizontal stiffeners (Load distribution is constant) b) 10 for vertical stiffeners(Load distribution is triangle shape)However, it is considered reasonable to apply more appropriate value of fbdg to the stiffeners in lower part of tight bulkhead on which the load of trapezoidal shape works.	The bending moment factor fbdg=10 is kept for the entire bulkhead for simplicity and to keep some margin for additional stresses not accounted for in this prescriptive calculation e.g. stresses induced due to deflection of lower stringer or carry-over bending moment from neighbouring stiffener.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
238	10/3.4.1	Question	PSM	2006/11/7	Buckling of web plate of PSM in way of openingsRegarding the buckling strength of the concerned area, the procedure of evaluation is complicated and the number of loading conditions for evaluation is large. This will make it a very hard work to evaluate the buckling strength of the concerned area even by using software like Excel. We request that the procedure be simpler like "buckling control of the previous rule of DNV class".	The feedback is noted and understood however at the moment we consider the requirement sufficiently clear and workable. Improvements will be continuously considered as we gain experience with the use of the rules.	
239	B/2.3	Question	FEM	2006/11/7	Appendix B, Number of loading conditions of FEMA large number of loading conditions are still used for FEM. The evaluation of the worst condition can be executed by using the function of CSR software with a relatively few efforts. Although identifying loading conditions which do not satisfy strength criteria is necessary to study countermeasures, a large number of loading conditions will make the study difficult. The number of loading conditions should be decreased.	Your comments are noted. At present there are no plans to carry out further work to simplify the FEM procedure, although this may be considered by IACS in the future.	
240	7/4.2.1.2	Question	impact assessment	2006/10/30	Corrigenda 2, Text 7/4.2.1.2 1) Editorial correction. Instead of 0.095, it should be 0.95hmax. 2) As for the additional impact assessment, the assessment procedures should be unified by IACS.	1)This has been corrected in Corrigenda 2. 2)The majority of tank dimensions will comply with the limits quoted for the applicability of the sloshing formula. Therefore it is not expected that an impact assesment will be carried out for conventional designs as a matter of routine. For this reason the agreement of a unified assessment procedure for sloshing is included in the "list of items for long term" development.	
241	Fig 7.4.6	Question	bow impact angle	2006/11/8	Please correct Figure 7.4.6 according to the description of bow impact angle.	The figure is correct, but we will consider clarifying the rule text.	
242	10/2.2.2.1	Question	Stiffness of stiffeners	2006/11/7	Application of the rules in Section 2 "Stiffness and Proportions" should be reconsidered. At least longitudinal structural members(such as deck plating, skin plating, inner bottom plating and longitudinal stiffeners attached to them) are to comply with "3 Prescrpitive Buckling Assessment" and "Direct Buckling Assessment by PULS". Since the rules in "2 Stifness and Proportions" do not take account of actual working stresses, it is unnecessary to check the buckling strength of those structural members using the rules in "2 Stiffness and Proportions".	For plates and stiffeners subjected to longitudinal stress due to hull girder bending, the requirements of 10/2 will usually not be governing. The minimum stiffness requirements are included in order to ensure that members with small design stresses will have a certain minimum stiffness. This is considered as an additional safety measure, in the case of loads that is not explicitly accounted for in the design phase. This is similar to the use of minimum thickness requirements	
252 attc	Table 9.2.2	Question	cross tie buckling	2006/12/1	An anomaly has been found in utilization factor for cross tie buckling of table 9.2.2 (direct calculation) and Sec 8 2.6.8 (rule calculation) that the utilization factor for direct calculation is lower than that for rule calculation. The utilization factor for direct calculation should be at least same as that for rule calculation as more precise estimation is made by FEM. The anomaly should be corrected as a corrigenda.	We note and agree with your comments. We intend to modify the utilisation factors for FE in Table 9.2.2 at the next occasion of the Rule change.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
254	8/2. 10/2	Question	Enlarged stiffeners	2007/2/23	What criteria are to be applied to the enlarged stiffeners without web stiffening used for PMA?	Enlarged stiffeners (with or without web stiffening) used for Permanent Means of Access (PMA) are to satisfy the following requirements:1) Buckling strength including proportion (slenderness ratio) requirements for Primary Support Members (PSM) as follows: For stiffener web: 10/2.3.1.1(a) slenderness for PSM 10/3.2 plate buckling For stiffener flange: 10/2.3.1.1(b) slenderness for PSM 10/2.3.3.1 tripping brackets For web stiffeners: 10/2.3.2.1 slenderness for Local Support Members (LSM) 10/2.3.2.2 web stiffener inertia 10/3.3 stiffener buckling Note: Note 1 of table 10.2.1 is not applicable. 2) All other requirements for Local Support Members as follows in general (except that PSM (or part of it) is used for PMA platform, for which the requirements for PSM should be applied): Corrosion additions: Requirements for LSM Minimum thickness: Requirements for LSM Fatigue: Requirements for LSM Note: The answer in the previous KC ID 152 is superseded by the above answer.	
260	Table 8.2.7	Question	static load	2006/11/13	In Table 8.2.7, for design load set "8", the load component is "Pin-Pex" and the associated draught is 0,25TSC. According to Table 8.2.8, the design load combination for design load set "8" is "S", i.e. Static.Static load combination is defined in Table 7.6.1 and Pin is defined as being the greater of Pin-test an an other pressure.In the case where the greater is Pin-test, what is the value of Pex to consider: the one corresponding to 0,25 TSC, or another value, corresponding to the draught during testing which could be zero?	0.25Tsc is to be used. This is a simplification of the criteria to cover harbour condition and tank testing condition in one static condition.	
261	Table 6.5.2	Question	leg size	2006/12/8	Table 6.5.2 gives the minimum leg size to be complied with in all cases, and minimum leg size in the table is 4.0mm. However, there are some locations where even such small leg size is not necessary from strength point of view, such as beams and stiffeners in deck houses. Because of thin plate thickness thereof, larger leg size tends to lead to larger plate distorsion, and thus poor quality. Therefore, we propose to reduce the minimum leg size to 3mm in deck houses and superstructures.	The proposal will be considered in future Rules update.	
262	8/2.3.1.2	Question	net thickness	2006/12/1	According to Section 8/2.3.1.2, where no intermediate brackets are fitted between the transverses, sa and sb are not to be greater than one-third of the bilge radius or 50 times the applicable local shell plating thickness, whichever is the greater.Is the "local shell plating thickness" as-built thickness? If it is to be "net" thickness, most existing vessels will fail.	"local shell plating" in this paragraph is "net" thickness. However, having investigated the requirement of the maximum stiffener spacing adjacent to bilge, e.g. "sa" and "sb", we also noted that this requirement may become too conservative on some tanker designs. Consequently, we intend to remove this requirement (last part of 8/2.3.1.2) at the next Rule change.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
263	8/3.2.4 & 8/3.2.5	Question	floor	2006/11/30	8/3.2.4 and 8/3.2.5 state that the minimum depth of the floor at the centreline (as well as a centreline girder, where fitted) is not to be less than the required depth of the double bottom in the cargo tank region.This means that, in case of VLCCs, the depth of the floor at centreline (or girder) must be at least 2.0m. However, we have experiences of successful operation of VLCCs, which do not satisfy this requirement.We would appreciate it if you could add the following sentence, "Less depth of floors and centreline girders may be adopted as long as structural adequacy is demonstrated in terms of stress and buckling through finite element analysis taking account of static and dynamic loads including bottom slamming load."	We note your comments. We will consider Rule updates to incorporate your comments.	
264	8/6.4.7.2	Question	Plate Panels/Framing	2007/2/20	8/6.4.7.2. requires that, to limit the deflextions under extreme bow impact loads and ensure boundary contraint for plate panels, the spacing ,s, measured along the shell girth of web frames supporting longitudinal framing or stringers supporting transverse framing is not to be greater than S=3+0.008LZ. However, some existing vessels have the spacing greater than that, but don not have any adverse experience, particularly in this kind of empincal and arrangement: requirement, we consider it appropriate and propose to add "in general".	We note your comments. We will consider Rule updates to incorporate your comments.	
265	Table 6.3.1 & Table 12.1.2	Question	round gunwale	2006/11/7	In case of round gunwale, where is the border between deck plating and side shell for determination of applicable corrosion additions?	It is at lower turn of gunwale radius.	
266	2/3.1.8.2	CI	fatigue assessment	2006/11/13	Because the fatigue assessment is based on full tank condition, the text of 2/3.1.8.2 is misleading as it does not state that the representative mean cargo density is derived from the cargo density corresponding to a full tank as specified in C/1.3.2.1.	Agreed the Rule text will be amended to read: 2/3.1.8.2 For the fatigue assessment of cargo tank structures, a representative mean cargo density throughtout the ship's life is to be used. The representative mean density is to be taken as 0.9 tonnes/m3 or the cargo density from the homogeneous full load condition at the design draught if this is higher.	
267	D/5.2.3.2	Question	buckling	2007/1/3	A) D/5.2.3.2 text on reason for use of figure D.5.6 implies that Fig D.5.6 is only used for cases where advanced buckling method cannot model the panel geometry and only for un-stiffened panels. This is not correct. B) In application of D/5.2.3.2 it should be clarified if the peak stress on the short edge of Fig D.5.6 is based on the value where the web attaches to the bulkhead plate OR based on the value by interpolation corresponding to the height hstf/2. C) The application of Fig D.5.6 should also be applied to SP-M2 type.	a) Your comments are noted and agreed. We will update the Rules so that Figure D5.6 also covers panel edge restraint (as well as panel geometry) and stiffened panel (as well as un-stiffened panel). b) The idealization in Figure D.5.6 give some credit to the panel due to the "strong" edge constraints from stiffener by shortening the panel width. Stress is always taken form the centroid of each element within the panel and then take stress average accordingly to D/5.3.2.1. There is not interpolation that any particular high stress spot taken into consideration. We intend to update the Rules to make this clear. c) Yes. This will be taken care by the Rule update in a).	
279 attc	1/1.1.1	Question	application of CSR	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	Attachments
281	C/1.4.1.3	Question	fatigue assessment	2006/11/13	The fatigue calculation is based on homogeneous full load and normal ballast conditions with a proportion of ship's life of .5 each. This may be realistic for a pure oil tanker. But in case of product tanker the loading conditions are different. Here we will not have the strict regime of one journey in full load condition is followed by a journey in ballast condition. The CSR for Bulkers offer an approach which is dependent of the ship's size, based on the assumption that smaller ships operate in a different trade. How can this be handled within CSR for Tankers?	The voyage assumptions for fatigue calculation are the same for crude oil tankers and product oil tankers.	
285 attc	8/2.6.9	CI	design still bending moment	2007/1/17	Reference is made to CSR tanker rule Sec.8/2.6.9 "Primary support members located beyond 0.4L amidships", a clear understanding is desirable about the span as shown in attached plotter in order to calculate the bending moment and shear force i.e. Mend,Mmid/Qend,Qmid in the formula 2.6.9.2 /3 respectively.	Both the bending and shear spans may be measured between the inner knuckles.	Y
295	6.5.5.2	Question	Slot Welds, Closing Plate	2006/12/8	In this sentence, maximum width, wslot, is defined and Technical Background says that this requirements are in accordance with LR rules Pt.3, Ch 10,2.4.Judging from LR rule and other relevant rules, we assume that "maximum" is editorial error and "minimum" is correct. Please kindly confirm.	We confirm that "maximum" is editorial error and "minimum" is correct. We will correct this in the future Rule update.	
296	10/2.2.1.1 & 10/2.3.1.1	Question	Stiffness and Proportions	2006/12/8	CSR rules define "Rounding of Calculated Thickness" according to Sec.3.5.4. In general, requirement value is set as "tnet = ", however, section 10.2.2/2.3 is set as "tnet >= ".We assume that "Rounding of Calculated Thickness" can't apply to Sec.10.2.2/2.3, since this requirements give minimum proportion. (For example)If the calculated thickness is tnet=10.20mm, (a)Required net thickness will be 10.5mm in Sec 10.2.2/2.3. (b)Required net thickness will be 10.0mm except 10.2.2/2.3. Please kindly confirm.	"Rounding of Calculated Thickness according to Sec.3.5.4" is to be applied to Section 10/2.2 and 2.3 also.	
297 attc	Table 10.3.4 & 10/3.5.1	Question	Cross Ties	2006/12/19	In the Table 10.3.4, typical section of cross ties are listed. However, in some cases, flange of cross ties aren't Type A but Type B (see attachment).In this case, can we use calculation formula for "Type A" also to "Type B"? Or other calculation formula will be added especially for "Type B" in the future?Please kindly confirm.	Formula for "Type A" may not fit "Type B" shape. We will update the Rules to allow direct calculation of torsional properties or to include formulation for "Type B".	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
298	B/2.7.2	Question	FEM	2007/2/20	Appendix B.2.7.2 “FEM Stress Assessment” Appendix B.2.7.2.4 defines the shear stress correction. If the model thickness (tmod-net50) is based on t2-net50 described in Table B.2.2, the calculated value of “τ cor” in 2.7.2.4 will be smaller than “τ elem”. From the view point of simple shear correction, it seems to be appropriate and acceptable. Please kindly confirm.	1) Unless the criteria of B/2.7.2.5 are satisfied, in general, the shear stress correction as given in B/2.7.2.4 is to be applied where there are small openings not accounted for in the model (e.g. the case of row 1 in Table B.2.2, cut-outs for local stiffeners, scallops, drain and air holes, etc.) 2) If there are no additional small openings not accounted for in the model and the von-Mises stress calculated based on tau_elem (based on t2 without correction by B/2.7.2.4) is satisfactory, then the correction of shear stress by B/2.7.2.4 is not necessary because tau_elem will be more conservative than the shear stress after applying the correction. However, we suggest to apply the shear stress correction even in this case for consistent application. 3) If there are additional small openings not accounted for in the model or if the von-Mises stress based on tau_elem (based on t2 without correction by B/2.7.2.4) is NOT satisfactory, then the correction of shear stress by B/2.7.2.4 is necessary to accurately calculate the actual shear stress.	
310	Fig C.2.2	Question	kuckle connection	2006/12/19	We have been informed that IACS are discussing / have decided to increase the building tolerance for the lower knuckle connection from 0.15 t to t/3 with a maximum of 5 mm. Will appreciate if you could discuss in detail the effect that the subject change will have on stresses / fatigue life for a connection designed as per CSR for a typical Aframax, Suezmax and VLCC hopper. Our understanding is that no thickness or welding improvements have been proposed to counterbalance whatever negative effect the increased tolerance will have.	This change of the building tolerance was made in RC Notice No.1 adopted in Sept '06 and will effect on 01/04/2007. This change is a correction of irrelevant tolerance, i.e., the previously cited 0.15t was related to the alignment of face plates of primary support members and was not applicable to the alignment of the hopper area. Since this change is a correction of irrelevant tolerance, no thickness or welding improvements to counterbalance this change is applicable.For the welded knuckle between inner bottom and hopper plate, fatigue analysis using a FE based hot spot stress analysis is carried out. Hot spot stresses are to be calculated using an idealized welded joint with no misalignment since the FE model is made with thin shell elements. Since the actual structure in way of this connection has substantial plate thickness, certain building tolerance may be accepted provided it is within certain established limits. The revised building tolerance is still more stringent than the building tolerance in accordance with IACS Recommendation No.47 "SARQS", which is generally applied for the existing Rules.	
315	8/6.4.5.1 & 8/6.3.5.1	Question	Section modulus	2007/1/5	1. Section 8/6.4.5.1 states "The effective net plastic section modulus, Zpl-net, of each stiffener, in association with the effective plating to which it is attached, is not to be less than”. However, the formula of Zpl-net in Sec. 4/2.4.3.2 does not seem to include the effective attached plating. How to calculate it? 2. Section 8/6.3.5.1 states “The net plastic section modulus, Zpl-net, of each individual stiffener, is not to be less than”. This sentence does not include the wordings “effective” and “in association with the effective plating to which it is attached”. What are eventually different in the actual Zpl-net between 8/6.3.5.1 and 8/6.4.5.1?	1. The effective plating of width equal to the stiffener spacing is implicitly accounted for in the formulation of Sec 4/2.4.3.2. In the formulation for plastic section modulus the plastic neutral axis is assumed to reside in the plating. 2. No difference is intended between 8/6.3.5.1 and 8/6.4.5.1. We will consider making the wording of 8/6.3.5.1 consistent with 8/6.4.5.1.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
316	6/2.1.1.2	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.	The above requirement simply uses the wording 'date of adoption of the amended SOLAS regulation II-1/3-2'. It is considered necessary to clarify the meaning of this date. 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))	
320	8/1.1.2.5 & 8/1.1.2.6	Question	UR S11	2007/1/11	S11.2.1.5 in UR S11 (Rev.5) clarifies that stipulations regarding partial filling of ballast tanks in ballast loading conditions (S11.2.1.3) and peak tanks in cargo loading conditions (S11.2.1.4) need not be applied when a vessel is performing ballast exchange using sequential method, i.e. during ballast exchange sequences it will be permissible to have partial filling of ballast tanks without the need for verifying that design stresses are not exceeded in all levels between empty and full. CSR Section 8, 1.1.2.5 and 1.1.2.6 contain, if not the same text, the same requirements as S11.2.1.3 and S11.2.1.4. However, there appears to be no text in the CSR clarifying that these requirements need not be applied during ballast exchange sequences using the sequential method. I presume that there is no intent to have differing requirements in CSR and UR S11.	For design purposes, the current CSR 8/1.1.2.5 for ballast conditions and 8/1.1.2.6 for cargo loading conditions do not necessarily require stress and buckling check at partial filling conditions if the stress levels are below the stress and buckling acceptance criteria for loading conditions with the appropriate tanks full and/or empty. Therefore, the clarification of S11.2.1.5 in UR S11 (Rev.5), i.e. exclusion of sequential ballast water exchange from stress and buckling check at partial filling condition, is not necessary for the current CSR. However, in the future, we intend to update the CSR to make it consistent with the updated UR S11.	
325	Table 4.2.1	Question	corrosion addition	2006/1/2	The values for the correction of the areas are up to 15% above the accurate values.- What is the background?- Is this necessary?We recommend deltaA=1,12*hstf (mm**2 per mm corrosion)	This problem has been higlighted. The futur Rule Change will propose to remove the text from 4/2.4.1.3 to 4/2.4.1.5 including the tables, as considered as redundant with the net section properties of bulb profiles defined geometrically by the Figure 4.2.12.	
326	Table 4.2.1	Question	net plastic section modulus	2007/1/5	Section 4.2.4.3: The formula for the effective net plastic section modulus results in very conservative values vs. direct calculations. - What is the background? In our opinion direct calculations of section moduli are acceptable.	The intention of prescribing the rule capacity model is to ensure common application of the requirements. Substitution of Rule calculation by direct calculation methods is not acceptable. As a simpification the rule formulation assumes that the plastic neutral axis resides at the junction between plate and attached stiffener. The formula is therefore a summation of the moment of area about the plastic neutral axis with two corrections: 1)The factor fw accounts for the reduction in effectiveness of the web in carrying normal stress due to web shear. 2)The factor gamma accounts for reduction in effectiveness of the flange due to asymettric bending for unsymmetrical stiffeners.	
335	7/4.3.1	Question	BWE conditions	2007/1/23	Where minimum draft of some loading conditions during the sequential ballast water exchange is less than 0.02 L (e.g. about 0.016L on a VLCC), how to determine the reinforcements for slamming in this case?	The requirement was based on LR Rules for Ships, Part 3, Chapter 5, Section 1.5 and the formulae were good for minimum draft forward between 0.01L and 0.045L. Therefore it is technically acceptable to apply the requirements for ships having bottom draft not less than 0.01L.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
338	11/1.3	Question	sounding pipe	2007/1/11	The CSR requirement to sounding pipe are found to give increased pipe thickness compared with current class rules. What is the background ?	Having investigated the Rules, we arrived at a conclusion that the requirements in Section 11/1.3 to sounding pipes are not appropriate. We intend to remove sounding pipes from the requirements of Section 11/1.3 at the next Rule change. The requirement to sounding pipe may be based on individual class society rules, subject to Owner acceptance, until this Rule Change becomes effective.	
347	Appendix A.2.3	Question	Formulae for critical Stressess & Buckling of transversely stiffened plate panels.	2007/8/22	11) In Appendix A, [2.3], there are editorial errors in the formulae for critical stresses in the following requirements: [2.3.4] - Beam column buckling [2.3.5] - Torsional buckling of stiffeners [2.3.7] - 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 Appendix A, [2.3.8] - Buckling of transversely stiffened plate panels, the coefficient is missing in the first line of the formula giving the critical stress, between yd and the first bracket. Please confirm?	1) It is right, the critical stresses used in [2.3.4], [2.3.5] and [2.3.7] are respectively: - In [2.3.4], for σE1 > σyd*ε/2, σC1 is equal to σyd*(1 - (σyd*ε)/(4*σE1)) - In [2.3.5], for σE2 > σyd*ε/2, σC2 is equal to σyd*(1 - (σyd*ε)/(4*σE2)) - In [2.3.7], for σE4 > σyd*ε/2, σC4 is equal to σyd*(1 - (σyd*ε)/(4*σE4)) 2) It is right, the critical stress σCR5 in [2.3.8], in the first line of the formula is equal to: σyd*Φ*(s/(1000*lstf) *(2.25/βp - 1.25/βp^2) + 0.1*(1-s/(1000*lstf))*(1+1/β p^2)^2)	
349	8/2.4.1.3	Question	through thickness	2007/2/20	According to Section 8/2.4.1.3, is it necessary to use special material with specified through-thickness properties for inner bottom plate in way of corrugated bulkhead stools?	Section 8/2.4.1.3 states that particular attention is to be given to the through-thickness properties. Consideration to through-thickness properties (use of special material, i.e. Z plate) depends on the level of tensile strain in direction perpendicular to plate and on the plate thickness for avoiding lamellar tearing. See also Section 6/1.1.5 "Through thickness property" and Section 6/5.8,"Weld for structures subject to high tensile stresses". According to the usual building standard, Z plate is generally not requested for the inner bottom plate in way of the lower stool connection.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
350	8/1.1.2.2	Question	propeller inspection	2007/2/20	With respect to propeller inspection afloat condition specified in section 8/1.1.2.2 of CSR for double hull tankers, we would like to have your formal opinion on the following questions referring to the extraction from the original. 'Extraction' propeller inspection afloat condition, in which the propeller shaft centre line is at least Dprop/4 above the waterline in way of the propeller, where Dprop is the propeller diameter. (1) What is the purpose of propeller inspection afloat condition? (For strength check only or to provide the practical condition for propeller inspection afloat under prevailing circumstance) (2) In case the propeller shaft centerline does not emerge by Dprop/4 above the waterline in way of the propeller due to the lack of ballast water capacity in fwd water ballast tanks, is it allowed to fill the cargo tanks with ballast water as necessary on the assumption that oil contaminated ballast water will be processed and discharged in accordance with the relevant regulations of MARPOL ANNEX‡Tat harbor and/or sheltered water? We understand that in no case ballast water shall be carried in cargo tanks except the cases specified in regulation 18.3. of MARPOL ANNEX), however referencing the exceptional cases of regulation 18.3.2 and considering the nature of propeller inspection afloat condition we believe that it will be acceptable to fill the cargo tanks with ballast water temporarily for the given purpose.	1) The purpose is to ensure design harbour bending moment limits allow propeller inspection and it is implicitly assumed this condition will help ensuring that the master has sufficient flexibility for intermediate loading conditions which may be desired in harbour. 2) We agree necessary trim and draughts may be obtained by filling seawater in cargo tanks. In such a case, the maximum weight of water ballast to be put in cargo tanks is to be clearly mentioned in the corresponding load case.	
388	6/2.1.1.2	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).	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
390	8/2.6.1.2 & 8/2.6.4	Question	FE analysis	2007/2/20	According to the answer for Question ID: 45, additional structural assessment (FE analysis) against green sea pressure at the scantling draught is necessary for above deck transverse. However I think that we don't need additional FE analysis at the scantling draught for above deck transverse. As you see in Table 8.7.2, the external draught for Shell Envelope is the scantling drought. In general, the scantling drought is the basic factor in prescriptive strength formulations. However, 0.9*Tsc are to be used in FE analyses as given in Appendix B, instead of Tsc. In other words, the draught for local scantlings is Tsc and the draught for FE analysis is 0.9 Tsc. So we don't need additional FE analysis at the scantling draught for above deck transverse. It's not a simple problem to add another loading condition at scantling drought into Table B.2.3. The drought is related to SWBM, SWSF and dynamic load cases.	For primary support members, the CSR requires compliance with the prescriptive requirements as given in Section 8/2.6 and the strength assessment requirements as given in Section 9 and Appendix B (FE Analyses). Both of these requirements are to be independently complied with except that the prescriptive section modulus and shear area requirements may be reduced to 85% provided that the reduced scantlings comply with the FE requirements. As indicated in Section 8/2.6.1.2, however, the prescriptive section modulus and shear area requirements as given in 8/2.6.4.3 and 8/2.6.4.4 are not applicable to deck transverses fitted above deck, and Section 8/7 is to be used instead. Section 8/7 serves as general "tool box" type requirements. Therefore, simple beam analysis or more advanced FE analysis may be used for this purpose. If a FE model is used for this purpose, the FE model used for compliance with Section 9/2 and Appendix B may be also used. In two load cases; green sea at draft (1.0Tsc) and tank pressure with cargo density (1.025) are to be adjusted to make the load compatible with that of the prescriptive requirements. If a simple beam analysis is used for this purpose, Load Model A (fbdg=12, fshr=0.5) in Table 8.7.1 may be used to calculate the bending moment and shear forces at the ends. It is suggested to apply this method since, in general, this method is much easier than FE method. Again, after calculating the prescriptive requirements (based on FE or beam analysis), the required prescriptive section modulus and shear area requirements may be reduced to 85% provided that the reduced scantlings comply with the FE requirements in accordance with Section 9 and Appendix B.	
391	C/1.4.1.5	Question	density function formula	2007/2/20	The following formula of probability density function in C/1.4.1.5 appears to be incorrect. "f(S)=(xi/f1)(S/f1)^(xi-1)exp(-S/f1)^xi" The last part of the formula should be "exp(-(S/f1)^xi)" not "exp(-S/f1)^xi"	You are correct. The formula will be corrected at the next rule corrigenda.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
392	8/1.1.2.2	Question	SWBM	2007/2/20	[CSR for Tankers Sec.8, 1.1.2.2] In present rule, 'conditions covering ballast water exchange procedures' is described as a subordinate concept of '(a) Seagoing conditions including both departure and arrival conditions'. For the consideration of ballast water exchange in departure condition, additional hogging SWBM will be considered in case of sequential method. It is presumed about 20% more than which is considered in half / arrival condition and all other seagoing conditions. (For handy or Panamax tankers in which hogging is dominant) It is practical that exchange procedures are carried out approaching arrival ports and ballast exchange is carried out under the full responsibility of Captain, it will be reasonable proposal to require ballast water exchange with half and arrival conditions. Suitable notice for bunker conditions may be required in Stability booklets or Ballast water management plan.	The Rules require that ballast water exchange procedures (condition just before and just after ballasting and/or deballasting any ballast tank) are to be included in the loading manual. However, there are no specific requirements about when ballast water exchange operation should be carried out in terms of departure/intermediate/arrival conditions during a voyage. Unless otherwise specifically required by the flag Administration, it should be determined by the designer/builder and/or owners considering the vessel's intended operation.	
394	4/1.1.5.2	Question	ballast loading condition	2007/2/20	It is specified in 4/1.1.5.2 that the minimum design ballast draught is not to be greater than the minimum ballast draught "Tbal" for any ballast loading condition in the loading manual including both departure and arrival conditions. Does the above "any ballast loading condition in the loading manual" include the ballast water exchange conditions? In other words, is it required in CSR Tankers that any ballast water condition should be carried out in the greater than the above "Tbal" at amidships?	Yes. The wording "any ballast condition" in the definition of "Tbal" includes ballast water exchange conditions. The minimum design ballast draught is to be determined so that the draft is not greater than the minimum ballast draught including ballast water exchange conditions.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
396	C/2.4.2.7	Question	Fatigue Stress Assessment	2007/6/13	We carried out a fatigue strength assessment on a lower hopper knuckle of VLCC in accordance with CSR. In the assessment, we intended to increase the cargo density from 0.9t/m^3 specified as a minimum one. We generally understood that higher cargo density or accelerations acting on cargo tanks decrease fatigue life of the lower hopper knuckle. However, we obtained longer fatigue life by increasing the cargo density. It differs from our understanding and knowledge. The cause is in the combination formula prescribed in App.C.2.4.2.7: S=f_modelǀ0.85(S_e1 + 0.25S_e2) - 0.3S_iǀ for full load condition, where S_e=stress range caused by external pressures; and S_i = stress range caused by internal pressures. We would like to ask you to reconsider the formula technically.	In general, the stress range caused by dynamic external pressure is higher in way of hopper knuckle than that caused by internal pressure. The formulation in Appendix C2.4.2.7 has been derived based on this premise and calibrated with a cargo density of 0.9t/m3. Also considering that the actual cargo densities used in the ordinary oil tanker operation are even smaller than the specified maximum cargo density as per Section 2/3.1.8.2, it is our intention to limit the cargo density to 0.9t/m3 only for fatigue assessment of hopper knuckle connection even if a higher cargo density is used for fatigue assessment of ordinary longitudinal stiffener end connections. Consequently, cargo density of 0.9t/m3 is to be always used for fatigue assessment of hopper knuckle connection. We will update the applicable rule text to clarify this.	
397	6/5.7.1.2	Question	Stiffeners	2007/3/9	According to Sec.6 5.7.1.2, the leg length of fillet weld is taken as the greatest of (a), (b), ©. We are studying one tanker which length is about 180meters. The leg length of stiffeners to non-tight bulkheads in ballasts tanks is calculated at about 4.0mm by (a) and (b). By (c), however, it increases to 6.5mm or 6.0mm to comply with the minimum leg size of Table 6.5.2. stiffeners are determined as 150x11 flat bars, and arranged at every side shell longitudinal's position at every web section. Pressures on non-tight bulheads are incomparably less than those on tight boundaries such as side shell, upper deck, bottom, inner bottom and inner hull. Low pressures are emphasized by Sec.8, 2.5.8, which requires aggregate opening area over 10% of the area of the non-tight bulkhead. Having these understandings, we would like to ask if it is possible, as like Table 6.5.1, to require different leg lenths to minimum between ' tight' and 'non-tight' bulkheads. The exemption from 5.7.1.2 (c) or less minimum requirement in Table 6.5.2. as like Table 6.5.1 in case of stiffeners to plating of non - tight boundaries may be methods.	The following “Rule Clarification” to Table 6.5.2 has been included in Corrigenda 1 to CSR for Tankers (effective 1 April 2006): “For items c) and d) a reduction to 5.5mm leg for the secondary structural elements of carling, buckling stiffeners and tripping brackets may be applied without additional gap control.” We interpret that the Rule clarification also applies to the non-tight bulkhead stiffeners in double skin spaces. We intend to include this effect into the rule text at the next rule change.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
399	8/2.5.6.5	Question	web plate thickness	2007/2/20	According to 8/2.5.6.5, where the flange and web plate thicknesses are different, then the thicker net plating thickness is to be as calculated by the formula in this paragraph. Is this requirement applicable to "cold formed corrugation" having the same thickness for corrugation flange and web? If this requirement is to be based on AS-BUILT thickness, presume that this requirement needs not be applied to cold formed corrugation. However, if this requirement is to be based on the REQUIRED thickness, this requirement is to be applied to cold formed corrugation since the local requirements for flange and web are different. Please advise.	This requirement is to be based on the actual thickness, and needs not be applied to cold formed corrugation having the same thickness for corrugation flange and web.	
407	9/2.2.5.5	Question	Corrugated bulkhead requirements	2007/2/20	The section in reference requests to apply a permissible stress which is reduced by 10% if no stool is arranged underneath a corrugated bulkhead. Comparing with already existing designs this leads to increased plate thickness. We would like to know the techical background for this requirement.	For ships with a moulded depth less than 16m, omission of lower stool is allowed in accordance with Sec.8/2.5.7.9. This paragraph was introduced in the rules just before the final CSR was published (in Oct.05 after the 3rd CSR draft) reflecting the industry comments. Since the prescriptive requirements for corrugation web shear, flange buckling and section modulus requirements as given in Sec. 8/2.5.7.3, 8/2.5.7.5 and 8/2.5.7.6 were calibrated with corrugated bulkheads having lower stool, those requirements are not applicable for the corrugated bulkheads without lower stool. An additional factor of safety in FE Analysis (10% reduction in the stress and buckling acceptance utilisation factors) was introduced in the absence of applicable prescriptive requirements for those bulkheads. Also, service experience indicates that corrugated bulkhead designs without a lower stool are more critical (e.g. prone to local fracture) than those fitted with a lower bulkhead stool due to higher stress level and alignment problems with the supporting structure in the double bottom. Having said the above, however, we see a need for future development/re-calibration of the prescriptive requirements for those without lower stool in association with possible adjustment of utilization factors in FE Analysis.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
412 attc	C/1.4.5.12	Question	Thickness Effect	2007/3/30	There were some doscissopms pm tjoclmess effect fp the 2nd draft. And the final reply from JTP was that it would be retained in the JTP Rules. With this regard, Yagi et al. [Ref.1 and 2] conducted comprehensive parametric experiments to revela thickness effect with thinkness ranging from 10mm to 80mm. In these papers, it is concluded that the as-welded joints with constant sized attachemnts in tension have a thickness effect exponent of - 1/10 compared to the rule value (-1/4) based on DEn and IIW fatigue guidelines, while as-welded joints under bending stress have severer thickness effect o f an exponent of -1/3. It was also found out that the thickness effect becomes much milder if the weld profile is improved by grinding. We would appreciate it if these items will be further studied for furture improvement of the CSR. Reference document: Ref. [1] J.Yagi, S.Machida, Y. Tomita, M.Matoba, I.Soya: influencing Factors on Thickness Effect of Fatigue Strength in As-Welded joints for steel structures, journal of SNAJ Vol.169 (1991) (in Japanese); Ref.[2] J.Yagi, S.Machida, Y.Tomita, M.Matoba, I.Soya: Thickness effect criterion for fatigue evaluationof welded steel structures, journal of SNAJVol.169 (1991) (in Japanese)	The power index for stress concentration factor due to thickness effect is based on DEn recommendation of -0.25. DEn recommended S-N curves also used in the Common Structural Rules. For small attachments only, e.g. web stiffener connection to face plate of longitudinal stiffener, a different index is used by some design codes (which produces a less conservative result than using index of -0.25) and this may be considered in future rule improvement. For assessment of hopper knuckle connection (cruciform joint, see CSR Appendix C, 2.4.3), it is considered that a power index of -0.25 is appropriate. Grinding can reduce effect due to thickness, however, the power index is in an order of not less than -0.2 in general, hence we consider that the power index of -0.25 is still appropriate considering that the variation in workmanship and CSR also allows a separate improvement factor for ginding.	Y
420 attc	3/5.1	Question	Calculating the scantling of the plate strake	2007/11/22	In calculating the scantling of the plate strake A shown in Fig.1 (see attachment), do we need to apply 1.7+1.0>>3.0+0.5=3.5 mm to the strake A in whole or only to the EPP A? Please clarify.	a) The effect of heating from sun is assumed to extend 3.0m from weather deck. This distance 3.0m is the same on both sides of the inner side using the height in the lowest tank as reference and not as shown in the figure where different reference points are used to measure the 3m in ballast and in the cargo tank. The corrosion addition for inner side within 3.0m from weather deck will then be 1.7+1.7+0.5= 4.0 and 1.0+1.2+0.5= 3.0mm below. There are no intermediate zones. b) If corrosion margin in EPP A is 4.0mm then scantling requirement for the entire Strake A is determined on the basis of 4.0mm (Note: This answer is now superseded by the answer to KC ID 1072.)	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
421	7/2.2.3.3	Question	Flow Through Pressure	2007/6/11	Even if Flow-Through Method is used, it might be possible to reduce the pressure during pump operation by special consideration for pipe arrangement or pumping operation. In such cases, is it possible to use the actual pressure drop less than the default value of 25kN/m2?	The pressure drop for calculation of flow-through pressure should be taken as a minimum 25kN/m2. This value needs to be increased where piping arrangements may lead to a higher pressure drop in accordance with Section 7/2.2.3.3.	
423	Text 9/3.2.3.1	Question	Fatigue Strength	2007/6/19	If a design fatigue life of more than 25 years (e.g. 30 years, 35 years etc.) is specifically requested on CSR tanker, how the criteria are to be modified to calculate the requirements meeting the requested fatigue life? Note: This question is only for fatigue strength, and is not for scantling and strength (FE) assessments.	We would like to point out that the following comments relate to an increased target fatigue life which is not the same as an increased expected service life. Specifying target fatigue life above 25 years is a way to optionally increase the safety margin for the fatigue damage calculation. The input values for the number of cycles (NL), the design life (U), in formula in C/1.4.1.4 may be adjusted to correspond with an increased target fatigue life as requested. Or, the acceptance criteria, DM <=1, can be adjusted as DM <= 25/(design fatigue life). It should be noted that the same corrosive environment correction factor (fSN) of 1.06 is to be used regardless of the optional increased target fatigue life. The corrosive environment correction factor of 1.06 is based on a corrosion protection period of 20 out of 25 years or 20% of the service life uncoated. This means no additional input or change of the factor is required when performing fatigue calculations with an extended target fatigue life compared to the default 25 years.	
427	A/2.2.2.4	CI	Transversely Stiffened Plates	2007/6/11	App A/2.2.2.4 When calculating the contribution of transversely stiffened plates in the HG ultimate strength, hard corners of 20 tgrs extend at both ends of the plate. On the other hand, for the load shortening portion of the stress-strain curve, the full plate breadth (to intersections of other plates) are considered. This approach is fine. However in the last sentence of the note, the full area of the plate is to be taken ie the breadth between the intersecting plate. In such a case the sections corresponding to the 20tgrs at both ends are considered 2 times, one time in elastic perfectly plastic (area correspoding to 2*20tgrs) and a 2nd time if the full area of the plate is used. I suggest the note be changed and interpretation be made, indicating that the full area of the plate is to be taken ie the breadth between the intersecting plate for the load shortering portion of the stress-strain curve but only the area of the transverse plate between the 20 tgrs limits be considered in order to count one time the total area of this transverse plate.	We agree with the comment. The Note in A/2.2.2.4 is to be understood as follow: For transversely stiffened plate, the effective breadth of plate for the load shortening portion of the stress-strain curve is to be taken as the full plate breadth (lstf used in 2.3.8.1), i.e. to the intersection of other plates – not from the end of the hard corner if any. The area on which the value of sigCR5 defined in 2.3.8.1 applies is to be taken as the breadth between the hard corners, i.e. excluding the end of the hard corner if any.	
430	10.2.2	Question	Stress Level	2007/5/1	Should case (a) & (b) are to be applied regardless of stress level?	Yes. The inertia requirements of (a) and (b) in Table 10.2.2 are to be applied regardless of the stress level.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
431	8/2.3.1.2	Question	Adjacent stiffener spacing	2007/5/1	In accordance with 8/2.3.1.2, "a" and "b" in Figure 8.2.1 are generally to be less than 1/3 of each corresponding adjacent stiffener spacing. What's the background of this requirement? What kind of structural problem can we expect In case of a> Sa/3 or b>Sb/3?	The requirements for "a" and "b" (i.e. maximum 1/3 adjacent stiffener spacing) are derived from the existing class Rules (DNV Rules PT.3 Ch.1 Sec.6 C307). The thickness requirement for bilge shell without longitudinal stiffening as given in Section 8/2.2.3.2 is for the buckling strength of unstiffened cylindrical shell against lateral external pressure. Since the formula for bilge shell is applicable for a cylindrical shell having perfect curvature, it is necessary to limit certain irregularity (e.g. flat part "a" and "b" at the connection to bottom and side shell). Therefore, excessively large "a" and "b" may cause buckling problem of the bilge shell.	
433	8.6.2	Question	Hull Girder Stress Direction & Stiffener Flange	2007/5/1	Please confirm whether, in the calculation of Msw-perm-sea, sagging or hogging bending moment is to be used according to direction of sloshing pressure. In case of compressive stress at stiffener flange, hull girder bending moment, which induces compressive stress at same, is to be used.	We confirm that sagging or hogging Msw-perm-sea is to be used so that the hull girder stress direction agrees with the local stress direction at the stiffener flange. We found that the current text "The greatest of the sagging and hogging bending moment is to be used" in the definition of Msw-perm-sea in Table 8.6.2 was inadvertently copied from the same definition in Table 8.6.1, and is not appropriate for stiffeners. We will update the definition as similar to Mv-total in Table 8.2.5 at the next chance of rule change. Until this Rule change, the Msw-perm-sea can be defined as "permissible hull girder hogging and sagging still water bending moment for seagoing operation at the location being considered, in kNm. The sagging or hogging bending moment leading to the maximum combined stress in absolute value at the level of the flange is to be used.	
434	7.4.6	Question	Formula	2007/5/1	According to the formula of the bow impact pressure, the maximum pressure is found for a flare angle of 90 degrees. However, if we follow the figure 7.4.6, 90-degree flare angle means a absolute vertical side shell. This kind of bow shape should have lower wave impacting pressure. Can you confirm your formula and/or your figure?	The formula and figure are correct. The Rules are concerned with the bow impact pressure as a result of the bluff bow of the ship moving forwards into the on-coming waves. Because most tankers have very full bows, then the phenomena of bow flare slamming as a consequence of the combined heave and pitch of the ship to the waves is not so critical. Hence this has not been addressed in the current Rules.	
435	7/2.2.3.3	Question	Ballast Tank	2007/6/12	According to Table 7.6.1, the pressure in Static (harbour/tank testing) condition of ballast tanks (excluding flow-through BWE operation) is to be taken as the greater of: a) Pin-test, and b) Pin-air + Pdrop where, Pdrop is added overpressure due to sustained liquid flow-through air pipe or overflow pipe in the case of overfilling or filling during flow through ballast water exchange as defined in Section 7/2.2.3.3. In this connection, is it necessary to add Pdrop of 25kN/m2 in the above item b)? Please note that in general "overfilling" is not supposed to be done. Also, flow through ballast water exchange is not applicable since this question is for "static" condition.	Water discharging out of air pipes may be unacceptable in general. However, accidental overfilling ballast tanks is not unusual event. Therefore, the added overpressure Pdrop of 25kN/m2 is to be applied for such accidental overfilling.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
437	11/1.4.17.1	Question	Side scuttles	2007/6/12	According to Section11/1.4.17.1, side scuttles, in the external bulkheads of deck houses and weathertight doors, are to be of substantial construction in accordance with a recognised national or international standard. In this connection, (1) Is it necessary to calculate the glass thickness of windows and sidescuttles using the pressure head "hdes" for exposed bulkhead plating of deck house indicated in Section 11/1.4.10.1? (2) If the answer to item (1) is yes, is it necessary to meet the glass thickness requirements on all deck levels including Navigation Bridge Deck?	(1) Yes, the pressure head "hdes" as given in Section 11/1.4.10.1 may be used for the calculation of glass thickness since it is the same as that commonly used in recognised national or international standard (e.g. ISO, BSMA). (2) Yes, this requirement is applicable to all exposed bulkheads on all levels.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachm ents
438 attc	1/1.1.1.2, 2/3.1.7.1 & 1/1.1.1.1	Question	unrestricted worldwide navigation	2009/11/2	The following rules, 1/1.1.1.1. and 1/1.1.1.2 of CSR/Tanker do not clearly specify that the Rules are applicable for unrestricted worldwide navigation as clearly specified in 1-1/1.1.2 of the CSR/Bulker Carrier. The Rules basis for worldwide operation (i.e. unrestricted) can only be assumed from the rules of 2/3.1.7.1 " To cover worldwide trading operations.... the CSR/Tanker should be designed based on the North Atlantic wave environment for its entire design life". [QUOTE] CSR/Tanker 1/1.1.1.1 These Rules apply to double hull oil tankers of 150m, L, length and upward classed with the Society and contracted for construction(1) on or after 1 April 2006. The definition of the rule length, L, is given in Section 4/1.1.1.1. 1/1.1.1.2 Generally, for double hull tankers of less than 150m, L, in length, the Rules of the individual Classification Society are to be applied. 2/3.1.7 External environment 2/3.1.7.1 To cover worldwide trading operations and also to deal with the uncertainty in the future trading pattern of the ship and the corresponding wave conditions that will be encountered, a severe wave environment is used for the design assessment. The rule requirements are based on a ship trading in the North Atlantic wave environment for its entire design life. CSR/Bulk Carrier 1-1/1.1.2 These Rules apply to the hull structures of single side skin and double side skin bulk carriers with unrestricted worldwide navigation, having length L of 90 m or above. [UNQUOTE] Q1: Does this difference in application of the Rules between CSR/Tanker and CSR/Bulk Carrier intentionally provide for CSR/Tanker in order to cover a restricted service double hull oil tanker (L>150m) by the CSR/Tanker? Q2: Or, is IACS considering to modify the CSR/Tanker text in order to harmonise to CSR/Bulk Carrier? Q3: If the answer of Q1 is affirmative, CSR notation will be provided for oil tanker regardless its intended service, unrestricted or restricted. Has this policy ever discussed within IACS and firmly decided? Q4: If the answer of Q2 is affirmative, CSRs cover only oil tankers and bulk carriers, of which general configurations are specified in each Rules, intended to operate unrestricted worldwide navigation only and these ships for restricted service operation are not within the scope of CSRs. Hence, the applicable requirements for these ships are to be referred to each society's Rules. Is this understanding correct? Please confirm.	Please see attached file: 5.2 - (CIP) Common Interpretations November 2009	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
449	A /2.1.1.1	Question	Hull Girder Stress Modulus	2007/5/1	Sigma_yd is defined as specified minimum yield stress of material that is used to determine the hull girder section modulus. When material of deck plate and deck longitudinal are different or higher than the design yield stress for longitudinal strength, which yield stress should be used? Please clarify. Case-1: Deck plate is of HT36 and deck longitudinal is of HT40. The hull girder section modulus is determined for HT36. Yield stress for HT36 should be used? Case-2: Deck plate is of HT36 and deck longitudinal is of HT40. But the hull girder section modulus is determined for HT32. Yield stress for HT32 should be used?	Where the material properties of deck plate and deck longitudinals are different, in general, the lower material property is used for the determination of the hull girder section modulus on tankers. Therefore, the wording “that is used to determine the hull girder section modulus” in the definition of sigma-yd in Appendix A/2.1.1.1 was put with the intention to use the lower material property of deck plate and deck longitudinals. Consequently, for both Case-1 and Case-2, HT36 should be used. Please note that Case-2 is very unusual case on tankers and, therefore, the current rule wording does not fit. We intend to update the definition to make this clear.	
458 attc	4/2.1.1	Question	Double Skin Construction	2007/7/13	Wing ballast tank space is “Double Skin Construction”, and therefore effective bending span of the stiffeners in this space is in general to be obtained in accordance with Figure 4.2.1 for “Double Skin Construction”. However, if an access opening is provided (see attached figure), is it necessary for the stiffener in way of the opening to consider as “Single Skin” and obtain the effective bending span in accordance with Figure 4.2.2?	The mid stiffener as indicated in the attached sketch may be considered as “double skin construction” for the purpose of determining the effective bending span and effective shear span in accordance with Figure 4.2.1 and Figure 4.2.4, respectively, provided that the opening is only in way of one stiffener and that the opening edge, on the side of the stiffener under consideration, is stiffened with a vertical stiffener spanning between the horizontal stiffeners above and below.	Y
463	4/3.2.6.1	Question	block fabrication butt	2009/3/31	Section 4/3.2.6.1 states "Air, drain holes, scallops AND BLOCK FABRICATION BUTTS are to be kept at least 200mm clear of the toes of end brackets , end connections and other areas of high stress concentration measured along the length of the stiffener toward the mid-span and 50mm measured along the length in the opposite direction". [1] In this connection, we presume that if scollop in way of block fabrication butt is closed, this requirement will not apply. Please confirm. [2] If so, the wording "and block fabrication butts" is not necessary and can be removed. Please advise.	If the shear stress is less than 60 percent of the allowable limit then air, drain holes, scallops and block fabrication butts can be located in the area inside 200mm clear of the toes of end brackets, end connections and other areas of high stress and 50mm measured along the length of the opposite direction regardless of whether the openings or the scallops are closed or not closed. If the air, drain holes, and scallops are not closed, the opening is to be deducted for shear stress calculation.	
464	6/5.7.1	Question	Weld Factors	2007/6/11	It seems that weld factor "f_weld" for the connection between web and flange of builtup stiffeners is not defined in the Rules. What weld factor is to be used?	The same weld factors "f_weld" as that used for the connection between the stiffener web and attached plating are to be used.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
466	4/Figure 4.3.6	Question	Definition of "dw"	2007/6/12	In the lower part of Figure 4.3.6, "dw" is defined as "minimum depth of the primary support member web stiffener/backing bracket, in mm". However, "dw" in Figure 4.3.6.(a) is not taken as the minimum depth but is taken as the full depth of the flat bar. This is also not consistent with dw" in Figure 4.3.6.(c), which is taken as the minimum depth at the cutout. It may be more consistent and understandable if "dw" in Figure 4.3.6.(a) is measured similarly to Figure 4.3.6.(c).	We agree that "dw" in Figure 4.3.6.(a) should be taken at the cutout similarly to Figure 4.3.6.(c), i.e. dw=dwc in such case. We will update Figure 4.3.6.(a).	
467	Table 9.2.3	Question	Element Adjacent to Weld	2007/6/12	Rule Ref. : CSR for Tankers Sec.9, Table 9.2.3 Please clarify whether it is adjacent to weld or not, the element in contact at a point. e.g) a free-edged element of bracket toe next to snipped flange	Element in contact with welding at a point is to be treated as "element adjacent to weld" in the application of Table 9.2.3.	
472	8/2.6.7.1	Question	PMA Requirement	2007/9/4	According to PMA requirement, continuous athwartship PMA is to be arranged on transverse bulkhead at a minimum of 1.6m to a maximum of 3m below the deck head. If such PMA is also supporting the vertical stiffeners on the transverse bulkhead (like other ordinary horizontal stringers), presume that it should have sufficient SM and shear area in accordance with 8/2.6.7.2 and 2.6.7.4. However, it is unreasonable to fit horizontal stringer for PMA meeting the web depth requirement of 8/2.6.7.1. Please confirm that of 8/2.6.7.1 is not applicable to such horizontal stringer fitted near the deck head on transverse bulkhead. Or, is it necessary to make all other structural members satisfactory with ignoring the existence of horizontal stringer for PMA?	Where PMA platform is also supporting the vertical stiffeners on the transverse bulkhead, it should have sufficient SM and shear area in accordance with 8/2.6.7.2 to 2.6.7.5. Section 8/2.6.7.1 is not applicable to horizontal stringer used for PMA platform fitted near the deck head on transverse bulkhead. If all other structural members (e.g. vertical stiffeners and adjacent lower horizontal stringer) are satisfactory with ignoring the existence of horizontal stringer for PMA, then SM, shear area and web depth requirements need not be applied to the horizontal stringer. However, in all cases, minimum thickness (8/2.1.6) and proportion ratio requirements (10/2.3) should be complied with.	
480 attc	Fig 4.3.1	Question	Stiffeners	2009/4/8	Where a discontinuous stiffener is connected to the stiffener fitted on the back side of the bulkhead or deck, presume that "l-bkt" may be measured including the back side stiffener as shown in the attached Figure. Please confirm.	l-bkt is to be measured excluding the back side stiffener.	Y
481	Sec.6 / 3.1	RCP	Full corrosion addition for oil chemical tankers	2007/8/28	With reference to KC ID 121: The requirement to apply the full corrosion addition for oil chemical tankers designed to transport cargoes falling under the IBC Code appears to be too resstrictive. In view of the high quality of coatings and the permanent maintenance of the coating we propose to reduce the corrosion additions. Maintaining the protective coating in the cargo hold area is of vital interest to the ship owner. Damages to the coating could pollute the cargo which would lead to economic losses to the ship owner. These economic impacts are more severe than the consequneces of possible damages to the ship structure caused by corrosion. Consequently the full corrosion additions are additional steel weight which most likely will not be subject to corrosion.	The comment is noted however it is decided that the same corrosion margin shall be applied in cargo tanks with or without coating.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
487	2/3.1.2.4	Question	Limitation of "B/D" ratio	2007/8/28	Section 2/3.1.2.4 indicates limitation of "B/D" ratio together with some other factors with respect to environmental loading. If a vessel's "B/D" ratio exceeds the limit of 2.5 by approximately 10%, are the current requirements applicable without any additional correction?	The limits provided in Section 2/3.1.2.4 are assumptions made in the determination of the environmental loading. In case limitations are exceeded, then special consideration is to be given by the individual classification society as stipulated in Section 3/4. The structural safety of the design is to be at least equivalent to that intended by the Rules.	
488	10/3.3.3.1	Question	torsional buckling mode	2007/7/4	There is a difference (other than "unit" difference) between CSR Tanker and CSR Bulk Carrier in the formula of "epsilon" (degree of fixation) of torsional buckling mode. Please explain the reason for the difference.	The difference is not intentional and the "epsilon" is correct in the CSR bulk carrier. "epsilon" in CSR tank is identical to the source criteria however the factor was upgraded to account for the net scantling approach used in CSR and this update is not included in CSR tank. We will correct CSR tank in line with CSR bulk.	
496	Table 10.3.2	Question	Difference in Equation	2007/6/29	In the torsional buckling rules we have noticed a difference in the equation for St. Venant's moment of inertia. I will just show the part of the equation that is different (the other parts match). CSR-BC (6.3/Table 5)IT = {…. 1 - 0.63*tw / hw …} CSR-DHOT (Section 10 / Table 10.3.2) IT = {…. 1 - 0.63*tf / (ef-0.5tf) …} The difference here is that for CSR-BC tw is used and for CSR-DHOT tf is used.	CSR/Tanker contains a typographical error and will be amended to correspond with CSR-BC.	
499 attc	App A/2.2.2.3 & 2.2.2.4	CI	Hull Girder Ultimate Strength	2008/10/9	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
503	7/4.3.2	Question	Slamming Pressure	2007/8/27	Slamming pressure : The operation of ballast water exchange in heavy weather is assumed in the bottom slamming requirement. This is considered excessive because ballast water exchange should be carried out in calm sea. The loading condition for ballast water exchange should be excluded from the conditions on which the reinforcement for bottom slamming is based.	This question has been handled also previously in the Knowledge Center and the answer was "Comment is noted. We are conducting investigating into the issue raised." We have investigated the possibility to change this requirement and concluded that we will keep the requirement as is at the moment. Bottom slamming calculation at minimum ballast water exchange draught was introduced consistently for CSR Bulk and Tank at late stage of the CSR development as a response to question from Owner representatives on when and under what conditions ballast water exchange can take place. Another option considered was to introduce a new "operational condition" and this would have complicated the rules further.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
505	Sec.6/5	Question	Welding Require-ments	2007/11/18	Welding requirements: a) Please clarify if Table 6.5.2 apply only to fillet weld or also to partial penetration welding? b) The reference to weld factor f_1 in Section 6/5.7.4.1 seems wrong. We assume it should be weld factor f_weld.	We respond to the question in the same order as they appear: a)Table 6.5.2 is applicable to all type of welding b)Yes we agree the factor should be fweld, not f1. The rules will be corrected at first opportunity.	
506	7/3.4	Question	Reducing the dynamic hull girder loads	2007/9/5	Is there a possibility to reduce the dynamic hull girder loads for a CSR Tanker, if it operates solely in a restricted area, like the Caspian Sea?	In case the tanker is designed particularly for operation in lake or river and will not be ocean going, then the CSR notation is not mandatory. However in case the CSR notation required or desired for possible future ocean going operation, then the dynamic loads given in the rules need to be applied without reduction.	
509	C/2.4.2.6	Question	Obtaining stress by linear interpolation or other interpolation methods	2007/9/5	The Rule shows that the stress may be obtained by linear interpolation or other interpolation methods. The problem is that stresses obtained by different interpolation methods are different evidently. For example, the stress obtained by Lagrange method is less than one by linear interpolation. So the results of the fatigue assessment are quite different. The interpolation method is proposed to be clarified in the Rule.	The fatigue method has been calibrated on a linear interpolation between elements. Consequently the interpolation method to be used is the linear one between the centres of gravity of the 1st and 2nd elements from the structure intersection.	
512	2/2.1.2.1	RCP	Modification as audit in sense of Quality Control	2007/10/15	We propose the following modification as audit in sense of Quality control is not actually performed as requested in the Rules: - Replace "undertake and audit" in para 2.1.2.1 below with "ensure compliance". 2.1.2.1 Classification Societies develop and publish the standards for the hull structure and essential engineering systems. Classification Societies undertake and audit during design, construction and applicable internationsl regulations when authorised by a National Administration.	The following changes will be made: 2.1.2 Classification Societies 2.1.2.1 Classification Societies develop and publish the standards for the hull structure and essential engineering systems. Classification Societies undertake an audit during design, construction and operation of a ship to confirm compliance with the classification requirements and the applicable international regulations when authorised by a National Administration. will be replaced by: 2.1.2.1 Classification Societies develop and publish the standards for the hull structure and essential engineering systems. Classification Societies ensure compliance with the classification requirements and the applicable international regulations when authorised by a National Administration during design, construction and operation of a ship. 2.1.3 Responsibilities of Classification Societies, builders and owners 2.1.3.1 (b) design aspects: the classification society is responsible for a technical review and audit of the design plans and related documents for a ship to verify compliance with the appropriate classification rules. will be replaced by: the classification society is responsible for a technical appraisal of the design plans and related documents for a ship to verify compliance with the appropriate classification rules.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
513	1/1.1.1.1	CI	Conversion of a single hull tanker into a double hull tanker	2007/8/28	if an existing single hull tanker is converted into a double hull tanker, does it have to comply with CSR?	When an existing single hull oil tanker is converted into a double hull oil tanker, the CSR are not applicable.	
519 attc	App A 2.3	CI	Calculation procedures for ultimate strength	2008/1/7	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	App A /2.2.2.2	CI	Plates stiffeners	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	App A/2.2.3.	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
531	C/1.4.4.11	Question	stress factor in simplified fatigue strength calculation	2007/10/2	The stress factor in simplified fatigue strength calculation. The subject Rules say "Kd factor may be determined by FE analysis of the cargo hold model where the actual relative deformation is taken into account". In this case, which loading conditions should be considered ? Although simplified fatigue assessment just consider normal ballast condition & homo loading condition, there is no ballast loading conditions in FE loading cases except for emergency ballast loading condition which we think it is not appropriate to be considered.	IACS have no common procedure for determination of Kd by FE analysis this need to be particularly considered by each class society.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
539	Table 9.2.1 & Rule Change Notice 1/ Corrigenda 1	Question	Centreline bulkhead in case of Load Case B6	2007/9/11	For the centerline bulkhead in case of Load Case B6 in Appendix B, the yield utilisation factor is taken as 1.0 for non-tight structural members in accordance with Rule Clarification of Corrigenda 1. Is this interpretation also applicable to water-tight bottom girder under centerline bulkhead at the same load case? According to Rule Change Notice 1, tight girders are now in the same category as centerline longitudinal cargo tank bulkheads.	In order to obtain max shear force on the longitudinal bulkhead the cargo tanks need to be full abreast, and in this condition (B6-head-sea) there is marginal net pressure on the longitudinal bulkhead between cargo tanks. We may therefore disregard the in plane stresses on the bulkhead due to lateral pressure for this particular condition and apply the criteria for non-tight structure. The same does not apply to watertight girder in double bottom under the centre line bulkhead because the size of the tanks may allow for a combination of high hull girder shear force and lateral pressure on the centre line girder.	
541	11/1.4.5.1	CI	Definition of h_tier for decks	2007/9/4	With reference to 11/1.4.5.1 definition of h_tier : "For decks with position second tier or higher above the freeboard deck, generally used only as weather covering, the value of htier may be reduced, but in no case is it to be less than 0.46" When can the structure be considered to be "weather covering" and h_tier be reduced to 0.46?	To be considered weather covering the deck need to meet the following conditions: 1. decks located on/above second tier above freeboard deck 2. where decks to which the side shell does not extend 3. decks do not protect openings connected to spaces below freeboard deck	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
550	11/3.3.2.3	CI	Difference between the ground bar thickness and bilge strake thickness	2007/8/28	Where the ground bar thickness and the bilge strake thickness are different, how to determine the material grade of the ground bar?	The material Class of the ground bar is to be determined in accordance with Tables 6.1.3 for "bilge strake" (i.e. Class III for 0.4L Amidships, Class II for outside 0.4L Amidships). Then the material grade of the ground bar is to be determined in accordance with Table 6.1.2 using the thickness of the ground bar.	
554	8/6.2.5.4	Question	"s_trip" (mean spacing between tripping brackets)	2008/3/6	The Rules specify "s_trip" (mean spacing between tripping brackets) for the calculation of the REQUIRED section modulus of tripping bracket in way of its base. However, the Rules do not specify the effective breadth of the attached plate (web of the primary support member) for the calculation of the ACTUAL section modulus. Please clarify.	It is suggested that the associated plate breadth be a fraction of ltrip. The difference in the section modulus of the tripping bracket will not be significant. It is proposed that that fraction is 1/3.	
555	10/2	CI	Stiffness and proportions applied to Deckhouse and Superstructure	2007/9/28	Please advise if the stiffness and proportions requirements in SECTION 10/2 are to be applied to Deckhouse and Superstructure.	Section 10 does not apply to deckhouse and superstructure.	
556	Section.8/ 1.4.2	Question	Buckling assessment using thickness (tij-net50), using shear force correction	2007/9/3	Please confirm whether buckling assessment (Section 8/1.4.2) is to be carried out using a thickness (tij-net50), using shear force correction. In the assessment of hull girder shear strength (Section 8/1.3.2), tij-net50 is calculated using shear force correction.	The hull girder shear stress to be used for buckling shall be calculated using equivalent thickness of plate tij-net50 as given in 8/1.3.2.2 and including shear force correction. However the buckling capacity shall be calculated with as built thickness minus 0.5tcorr. The rules text will be amended to clarify this.	
561	Table 8.2.1 & Table 8.2.2	CI	Minimum Thickness requirement for Watertight DB floor	2007/9/28	Should the minimum thickness requirements be taken as the greater of Table 8.2.1 and Table 8.2.2 or be applied seperately. Please clarify. Example: Watertight DB floor (using L2=300): LSM Table 8.2.1 = 4.5+0.02*L2 = 10.5mm PSM Table 8.2.2 = 5+0.015*L2 = 9.5mm Is the minimum requirement 9.5mm or 10.5mm?	Both tables are applicable to any structural member that can be located in both tables. So in the example both tables apply to watertight DB floor so the requirement is decided by Table 8.2.1 giving the highest requirement.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
562	1/1.1.1.1	RCP	restricted service/unrestricted worldwide navigation	2009/11/2	The first sentence of Sec1, 1.1.1.1 states: "These Rules apply to double hull tankers of 150m length, L, and upward classed with the Society and contracted for construction on or after 1 April 2006." However, we believe that CSR for double hull tankers is not applicable to those intended for a restricted service because CSR was developed for tankers trading in the North Atlantic wave environment for their entire design life as stated in Sec 2, 3.1.7.1 as follows: "To cover worldwide trading operations and also to deal with the uncertainty in the future trading pattern of the ship and the corresponding wave conditions that will be encountered, a severe wave environment is used for the design assessment. The rule requirements are based on a ship trading in the North Atlantic wave environment for its entire design life." Accordingly the first sentence of Sec1,1.1.1.1 should be amended being in consistency with Ch1, Sec1, 1.1.2 of CSR for bulk carriers, as follows: "These Rules apply to double hull tankers of 150m length, L, and upward classed with the Society for unrestricted worldwide navigation and constracted for construction on or after 1 April 2006."	Please see reply to KC ID 438.	
572	8/2	CI	Enlarged stiffeners without web stiffening used for PMA	2007/9/27	Rule Ref.: Text 8/2. 10/2 What criteria are to be applied to the enlarged stiffeners without web stiffening used for PMA?	Enlarged stiffeners (with or without web stiffening) used for Permanent Means of Access (PMA) are to satisfy the following requirements: 1) Buckling strength including proportion (slenderness ratio) requirements for Primary Support Members (PSM) as follows: For stiffener web: 10/2.3.1.1(a) slenderness for PSM 10/3.2 plate buckling For stiffener flange: 10/2.3.1.1(b) slenderness for PSM 10/2.3.3.1 tripping brackets For web stiffeners: 10/2.3.2.1 slenderness for Local Support Members (LSM) 10/2.3.2.2 web stiffener inertia 10/3.3 stiffener buckling Note: Note 1 of table 10.2.1 is not applicable. Buckling strength of longitudinal PMA platforms without web stiffeners may also be ensured using the criteria for LSM 10/2.2 and 10/3.3, including Note 1 of Table 10.2.1, provided shear buckling strength of web is verified in line with 10/3.2. 2) All other requirements for Local Support Members as follows in general (except that PSM (or part of it) is used for PMA platform, for which the requirements for PSM should be applied): Corrosion additions: Requirements for LSM Minimum thickness: Requirements for LSM Fatigue: Requirements for LSM Note: The answer in the previous KC ID 152 and 254 is superseded by the above answer.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
573 attc	8/2 & 8/7	Question	Scantling requirements	2008/3/28	Please clarify which prescriptive scantling requirements apply to deck transverse fitted above upper deck.	Please see attached file: 2.7- (CIP) Common Interpretations April 2008	Y
574 attc	Text B/2.7.3.7	CI	Buckling assessments for corrugated bulkheads in the cargo tank	2008/3/28	The requirement of the buckling assessments for corrugated bulkheads in the cargo tank FE analysis are particularly given in 10/3.5.2 and B/2.7.3.7. However the rules does not fully adress the detail procedure of the buckling assessment particularly with regard to the location to be taken and the average procedure of the element stresses. Please clarify.	Please see attached file: 2.8 - (CIP) Common Interpretations April 2008	Y
575 attc	7/4, 8/2, App.B & App.C	CI	Tank approval procedure for cargo tanks	2008/3/28	Please clarify CSR tank approval procedure for cargo tanks design for carriage of high density cargo with partial filling and restriction on max filling height.	Please see attached file: 2.9 - (CIP) Common Interpretations April 2008	Y
576 attc	App.B	CI	Procedures of stress assessment and buckling assessments	2008/3/28	Depending on the actual opening and stiffening arrangement, or whether the openings are modelled or not in cargo tank FE or local fine mesh FE model, procedures of stress assessment and buckling assessments could be different. However, the current Rules do not specifically address these different procedures. Please clarify.	Please see attached file: 3.0 - (CIP) Common Interpretations April 2008	Y
577 attc	Text 4/2	CI	Evaluation of shear strength of primary support member	2008/3/28	Please clarify how to evaluate shear strength of primary support member with curved or shallow brackets	Please see attached file: 3.1 - (CIP) Common Interpretation April 2008	Y
578 attc	3/5.3.3.4	CI	Inertia / Stiffness when web depth is less than rule minimum	2008/3/28	Please clarify how to calculate equivalent moment of inertia /stiffness when web depth is less than rule minimum.	Please see attached file: 3.2 - (CIP) Common Interpretation April 2008	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
588	7/6.2.1.1 & Table 7.6.1	Question	Ballast water exchange with Dilution method	2008/1/26	According to Table 7.6.1, no requirements are given for ballast water exchange with “Dilution Method”. Dilution Method means that the ballast water is filled through the top of the tank and simultaneous discharged from the bottom at the same flow rate. The ballast exchange system maintains this process to keep a constant level in the tank. In case of malfunction of ballast exchange system or of the discharge pump it can happen that the ballast water can flow through overflow or other arrangements. Kindly please clarify how to handle the method.	The pressure in the tank during ballast water exchange with "Dilution Method" is assumed equal to or lowers than pressure with full ballast tank. Introduction of a particular design load case is therefore not considered applicable.	
591	8/6.4.7.5 & Table 2.5.2	Question	"Z sub net50" equation	2007/11/22	The parameter, "C sub s: permissible bending stress coefficient" as defined in 8/6.4.7.5 refers to the acceptance criteria set AC3 in 2/Table 2.5.2, in which the applicable reference for PSM is written as "Plastic criteria". From the appearance of the "Z sub net50" equation in 8/6.4.7.5 and our commonly used engineering assessments, the requirement for member properties of the PSM is to be of an elastic SM. Kindly advise if "Plastic criteria" in the 4th column of 4th entry of 2/Table 2.5.2 is to read "(XX%) yield stress "or"C sub s"in 8/6.4.7.5 is simply to read, "permissible bending stress coefficient=0.8 (without "for acceptance criteria set AC3").	We confirm that "Z sub net50" in 8/6.4.7.5 is to be elastic SM. We intend to fix the Rule text at the next chance of corrigenda.	
593	6/2.1.2.2	Question	Permanent Anodes in tanks made of, or alloyed with magnesium	2007/11/22	1) The 1st sentence of Section 6/2.1.2.2 indicates that permanent anodes in tanks made of, or alloyed with magnesium are not acceptable except in tanks solely intended for water ballast. From this sentence, it appears that the “tanks solely intended for water ballast” include ballast tanks adjacent to cargo tanks. If so, this requirement conflicts with IACS UR F1.2 and the existing ABS Rules 5C-1-1/5.9.2 as follows: - IACS UR F1.2 indicates “Magnesium or magnesium alloy anodes are not permitted in oil cargo tanks and tanks adjacent to cargo tanks”. - ABS Rules 5C-1-1/5.9.2 indicates “Magnesium and magnesium alloy anodes are not to be used”. Please advise. 2) The 2nd sentence of Section 6/2.1.2.2 indicates that impressed current systems are not to be used in tanks due to the development of chlorine and hydrogen that can result in an explosion. From this sentence, it appears that the “tanks” mean “any tank including ballast tanks not adjacent to cargo tanks”? If so, this requirement conflicts with IACS UR F1.1 and the existing ABS Rules 5C-1-7/31.13 as follows. IACS UR F1.1 indicates “Impressed current systems are not permitted in oil cargo tanks”. ABS Rules 5C-1-7/31.13 indicates “hull fittings….containing terminals for anodes or electrodes of impressed current cathodic protection system are not to be installed in cargo tanks. However, they may be installed in harzardous areas, such as cofferdams adjacent to cargo tanks….provided all of the following are complied with:…….” Please advise.	1)The 1st sentence of Section 6/2.1.2.2 is to read “Permanent anodes in tanks made of, or alloyed with magnesium are not acceptable except in tanks solely intended for water ballast that are not adjacent to cargo tanks. 2)The 2nd sentence of Section 6/2.1.2.2 is to read “Impressed current systems are not to be used in cargo tanks due to the development of chlorine and hydrogen that can result in an explosion. We intend to fix the Rule text accordingly at the next chance of corrigenda.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
595	3/5.2.1.3	CI	Required Scantling for Group Stiffeners	2008/1/9	It is understood that the required scantling for grouped stiffeners can be applied to the stiffeners used with the same scantling in groups longitudinally, vertically or horizontally regardless of spacing and effective span of stiffeners. Please clarify.	Grouping is limited to one panel (e.g. plates and stiffeners limited by PSM) and the stiffeners are compared using the requirements stated for grouping within that panel, based on the requirements in Section 8. The concept of grouping is based on that we may allow some stiffeners to be slightly below the requriement, as long as others are well within such that the total strength of that panel is not compromised	
596	6/5.7	Question	One sided welding	2007/11/20	One sided welding has been accepted by some existing class rules for stiffeners fitted in deck houses or superstructures. Please consider acceptance of one side welding also for CSR provided that: 1. Ths welding is limited to the welding between stiffeners and attached plates in deck houses and superstructure only. 2. Welding at the ends of stiffeners are to comply with 6/5.7.5	One side continuous fillet welding could be accepted for stiffeners in deck houses or superstructures subject to the following; 1. Exclusion from application of this welding method Positions affected by concentrated loads and excessive vibration such as under winches, cranes, davits and machineries. 2. Welding size is to be of the fillet required by 6/5.7.1 for intermittent welding, where f2 factor is to be taken as 2.0. 3. Welding at the ends of stiffeners is to comply with 6/5.7.5	
597	8/5.2.2.1 & 8/5.2.2.2	CI	Requirements applicable to all aft peak floors	2007/11/16	Interpretation for 8/5.2.2.1 & 5.2.2.2. Are these requirements applicable to all aft peak floors regardless of vertical location & structural arrangement? We understand that the application of these requirements up to the perforated flat if fitted is enough not necessary to apply for all floors.	Stiffening arrangement in 8/5.2.2.1 & 8/5.2.2.2 is to protect against propeller induced vibration and apply to stiffeners on floors in lower bay between shell plate and first deck of perforated flat above top of propeller.	
599	4/3.2.3.4	Question	Simular requirements of CSR, DNV & LR Rules	2008/1/10	Understand that the requirement of CSR 4/3.2.3.4 is coming from DNV Rules Pt.3 Ch.1 Sec.3 C200 and LR Rules Pt.3 Ch.10 3.4.1. Both DNV and LR source Rules have similar requirements such as: DNV Rules: “In case of different arm lengths a1 and a2, the sum is not to be less than 2a and each arm not less than 0.75a” LR Rules: “a+b>=2.0L, a>=0.8L, b>=0.8L” In view of the above, could you consider similar provision also for CSR 4/3.2.3.4?	Your proposal is noted and will be considered in connection with next revision of the rules.	
600	6/2.1.2.6	Question	Anodes attached to stiffeners or aligned in way of stiffeners	2007/11/22	6/2.1.2.6 indicates: "Anodes are to be attached to stiffeners or aligned in way of stiffeners on plane bulkhead plating, but they are not to be attached to the SHELL". Does this "SHELL" mean bottom and side shell only, or include internal bulkhead/deck plating?	"Shell" means side and bottom shell plating only.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
602	8.3.1, Table 8.4.1& Table 8.5.1	Question	Thickness for superstructure decks	2007/11/24	It appears that the minimum thicknesses for superstructure deck and decks in deck houses have not been defined in Tables 8.3.1, 8.4.1 and 8.5.1. Please advise what minimum thickness requirements are to be applied for such decks. Or, no minimum thickness required?	Table 8.3.1, 8.4.1 and 8.5.1 only apply to structure covered by Section 8 and do not apply to superstructure deck and deck houses.	
605	C/1.4.4.11	Question	Wash Bulkheads in wing cargo tanks	2007/11/16	On VLCCs having wash bulkheads in wing cargo tanks but no wash bulkheads in center cargo tank at the same section, presume that Kd factor for typical frame location may be used for the location in center cargo tanks, which is the same secton as wash bulkheads in wing cargo tanks. As such,the Kd factors required for transverse/wash bulkhead connections need not be applied for such location in center cargo tank where no wash bulkhead actually exists. Please confirm.	The arrangement described with wash bulkhead in Wing Tanks is the most common structural arrangement for VLCC and Kd=1.15 apply to all longitudinals without exception.	
606	8/6.3.7.5, 8/6.4.5.4 & 6/3.3	Question	Net web thickness "tw-net"	2007/11/22	1) Presume that the net web thickness “tw-net” used in Sections 8/6.3.7.5 and 8/6.4.5.4 are of FULL corrosion addition (not of HALF corrosion addition). Please confirm. 2) It seems that application of corrosion additions for the proportion (slenderness) requirements in Section 10/2 is missing in Section 6/3.3 while this Section covers all other criteria (e.g. hull girder, local scantlings, minimum thickness, hull girder ultimate strength, FE, backling, fatigue, etc.). Please include proportion (slenderness) requirements in this Section.	1. tw_net is based of full corrosion. 2. Full corrosion addition is to be used for slenderness requirement for primary supporting members	
607	8/6.2.3.1 & 8/6.2.4.1	Question	Indicate the wording "forming tank boundaries"	2007/11/22	8/6.2.3 and 8/6.2.3.1 indicate the wording “forming tank boundaries”. Similarly, 8/6.2.4 and 8/6.2.4.1 indicate the wording “on tank boundaries”. However, understand that these requirements are also applicable to wash bulkhead. Therefore, the wording “tank boundaries” is not appropriate, and to be removed. Please confirm.	We confirm that these requirements are also applicable to wash bulkhead and the wording should be modified.	
608	Table 6.5.4	Question	Welding Factors	2008/1/10	From the welding factors indicated in Table 6.5.4, it seems that the welding factor for “To face plate” is not greater than that for “To plating”. If so, presume that “Note 3” is also applicable to the weld factor for “primary support member of gross face area greater than 130.0 at ends” to “face plate in tanks” of “0.59”. Please confirm and edit the Table as appropriate.	“Note 3” should apply also to the weld factor for “primary support member of gross face area greater than 130.0 at ends” to “face plate in tanks” of “0.59”. We intend to correct the Table 6.5.4 at the next chance.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
641	Table 6.5.2	CI	welding leg length in ballast tanks	2008/3/6	According to Table 6.5.2, min. welding leg length in ballast tanks outside cargo tank region is the general value to 4.5mm and 6.0 of min. welding length is only applicable for cargo tank region. In our experience ballast tanks outside cargo tank region i.e. A.P. & F.P Tk are more critical w.r.t. corrosive environment, vibration, high acceleration and bow impact. We propose the following C.I./correction of Sec.6 Table 6.5.2. d) All welds in cargo tank region and ballast tanks, except in (c) ------ 6.0	We do not see any necessity of rule change at the moment therefore the current requirements are retained as it is.	
642	C/1.4.4.19	Question	Corrosive correction factor (fSN)	2008/2/13	We would like to know if the corrosive correction factor (fSN) used in the nominal stress approach (App. C, 1.4.4.19) may be used in the hot spot stress (FE Based) approach (appendix C.2 of CSR for Oil Tankers). The coefficient (fSN) is not mentioned in Appendix C/2.4.3.1.	fSN is not included in the formula given in C/2.4.2.7 and does not apply to hot spot stress fatigue calculation for hopper corner.	
643	C/1.4.5.14	Question	Application of grinding effect	2008/2/4	Please, could you provide us technical background of the 17 years required for the application of grinding effect (Appendix C, 1.4.5.14 in CSR Oil Tankers).	We have included a minimum requirement of 17 years that the structural detail and scantlings have to satisfy without resorting to grinding (application of a factor of two). If we did not have a minimum indicated then designers could apply grinding right from the start, which if used, would end up with details with a fatigue life of 12.5 years without resorting to grinding. The original fatigue codes indicate that the grinding (weld improvement) should not be used in design, but instead used to improve the detail later in-service or to apply an added level of safety. In other words the codes realize that weld improvement improves the life, but would rather it not be used in design. Therefore the IACS CSR developers, we, were left with the choice of not allowing the use of grinding at all in accordance with the original codes, or, to fully allowing it. At first we decided to fully allow it, but a few Technical Committee members did not agree and rather than totally not allowing it they commented that grinding could be "partially used" for the last 20 to 25 percent of the required 25 year life. We arrived at 17 years because it is an integer,so we rounded down to 17 years rather than up to 18 years. There is no scientific proof or experimental test data to prove one way or the other regarding the use of 17 years as the minimum to obtain prior to resorting to grinding.We did not relay on any tests that we were obtained from shipyard.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
644	Table 4.1.1	Question	Primary Support Members	2008/2/4	According to Table 4.1.1, definition of "Primary Support Members" is as follows: "Members of the beam, girder or stringer type which ensure the overall structural integrity of the HULL ENVELOPE and TANK BOUNDARIES, e.g. double bottom floors and girders, transverse side structure, deck transverses, bulkhead stringers and vertical webs on longitudinal bulkheads". 1. Based on this definition, understand that deep supporting members (e.g. girders, webs, transverses etc.) fitted on NON-TIGHT BOUNDARIES (e.g. one fitted on wash bulkheads and one fitted on engine room flats etc,) need NOT be treated as "Primary Support Members". Please confirm. 2. If the above understanding is correct, also understand that the minimum thickness requirements (Table 8.2.2, 8.3.1, 8.4.1, 8.5.1) and the proportion (slenderness) requirements (10/2.3) need NOT be applied to the deep supporting members fitted on non-tight boundaries. Please confirm.	1) The deep supporting members fitted on NON-TIGHT BOUNDARIES are also primary support members. 2) The minimum thickness and proportion (slenderness) requirements are applicable.	
645	Table 6.5.1	Question	Weld factors for closing arrangements	2008/3/14	Item (9) in Table 6.5.1 indicates weld factors for closing arrangements (e.g. hatch coamings and hatch covers). Please advise to which location these requirements are to be applied, particularly on the following options: Option (1): Freeboard deck only, Option (2): Option (1) + superstructures and deck houses directly protecting opening leading below freeboard deck, or Option (3): All exposed location including higher tiers of deck houses.	We confirm your option (3) is correct interpretation.	
652	Table 6.5.3	Question	Welding requirements between strength deck plating and sheer strake	2008/3/14	Table 6.5.3 indicates welding requirements between strength deck plating and sheer strake. (1) The wording "stringer" and "sheer strake" used in Table 6.5.3 implies that the requirements in this table are primarily applicable to the location subjected to the hull girder stresses (e.g. amidships 0.8L). If so, we presume that the welding requirements for aft peak and fore peak regions could be somewhat reduced. Your consideration on this and future rule change, if necessary, is invited. (2) In the aft peak and fore peak regions, in many instances thick insert plates are locally used in way of deck fittings (e.g. towing and/or mooring fittings), and sometimes they are extending to the side shell. If such locally increased plate thickness are used, the welding requirement in Table 6.5.3 may become overly excessive. Therefore, we consider that ordinary deck plate thickness at that location could be used instead of locally increased plate thickness to determine weld sizes in accordance with Table 6.5.3. Please confirm.	1) The requirements in table 6.5.3 should be applied over the whole 100% length of the ship. issue at hand is not only related to strength but to watertightness as well and good design detail. 2) We agree that the deck thickness and not the increased thickness due to insert should be used for the estimation of weld leg as prescribed in table 6.5.3.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
667	11/3.1.5.12	RCP	Stress Criteria	2008/2/4	1. In CSR for Tankers Section11/3.1.5.12 two stress criteria was addressed, Direct stress - 1.0 Sigma_yd Shear stress - 0.58 Sigma_yd However, there is no clear definition regarding the term 'direct stress', which would lead to inharmoniousness situation. Some designers use the maximum normal stress, while others use the von mises tress. 2. Recalling Section11/3.1.5.9, where both finite-element analysis and beam theory are applicable for assessing the supporting structure's stress, we therefore would suggest the permissible stress criteria as below: "Beam theory or two-dimensional grillage analysis, Normal stress - 1.0 Sigma_yd Shear stress - 0.58 Sigma_yd Finite-element analysis by shell element, Von Mises stress - 1.0 Sigma_yd".	Your item 1: "direct stress" is equivalent to "Normal stress" in UR A2, where these requirements are taken from, and defined as follows: "Normal stress is the sum of bending stress and axial stress with the corresponding shearing stress acting perpendicular to the normal stress." This definition will be included at the next available opportunity. Your item 2: UR A2 stipulates that the same criteria is applied regardless of the assessment method (simplified or FE). The CSR Rules should be consistent with URs, hence no further change will be adopted.	
677	11/1.2.2.4	Question	Loads defined in 1.2.3	2008/3/14	11/1.2.2.4 states: "All component parts and connections of ventilators are to be capable of withstanding the loads defined in 1.2.3." However, 11/1.2.3 is applicable to the location within the forward 0.25L only. This subsection does not specify applicable location, hence it may imply that the loads defined in 1.2.3 is to be applied to all location. Please confirm.	Loads in 11/1.2.3 are applicable to the location within the forward 0.25L only.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
683 attc	11/3.1.3.7 & 11/3.1.6.9	RCP	Shipboard fittings and supporting hull structures	2008/4/16	Contradiction between "UR A2 and CSR Double hull tanker" - In UR A2, "Shipboard fittings and supporting hull structures associated with towing and mooring on conventional vessels", The net minimum scantlings of the supporting hull structure are to comply with the requirements given in A 2.1.5 and A 2.2.5. However, 3.1.3 Supporting structure for mooring winches in Section 11 General Requirements of the Tanker CSR requires to be assessed using a simplified engineering analysis based on elastic beam theory, two-dimensional grillage or finite-element analysis using gross scantlings. - Therefore, the term of Tanker CSR,"gross scantlings" is to be changed with "net scantlings". - Please refer to the attachment.	Ref. your attachment: 11/3.1.6.9 is corrected in Corrigenda 3. 11/3.1.3.7 will be considered updated at first opportunity.	Y
687	Table 6.5.1	Question	The Weld Factor	2008/3/26	Item (1) in Table 6.5.1 indicates the weld factors for “General application”, and items (2) through (11) indicate weld factors for each specific location or structural members. However, where the welding location or structural member in question is listed in both (1) and (2) through (11), is it necessary to use the greater one? Or, can we just use the factor in (2) through (11), where listed? For example, in case of “Stiffeners to plating for 0.1 span at ends” in fore peak, According to (1), the factor is 0.21 According to (6), the factor is 0.18 In this case, which factor is to be used? Please advise on the above, and add a “Note” in the Table to make it clear.	For instances where an item is repeated in more than one location, the greater of the requirements is to be applied.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
691	B/2.2.1.15	Question	Openings in Webs of primary support members	2008/4/4	The requirements for representing openings in webs of primary support members in the cargo tank FE analysis are given in Appendix B / 2.2.1.15 with reference to Table B.2.2. Among the four different possibilities, two of them require to use an equivalent thickness plate instead of modelling the geometry of the opening. In spite of this requirement, our experience reveals that some coarse mesh CSR 3 holds are still modelled using one element deletion in way of opening in webs of primary members. Is this practice still acceptable or should we necessarily prohibit it ?	Modelling of opening geometry can be done in lieu of reduced thickness. However if openings are modelled by deletion of elements, the geometry of the opening should be correctly represented. As minimum the opening in the model should enclose the ENTIRE area of the opening in the structure. NOTE: The screening criteria given in Table B.3.1 are not applicable where the opening is modelled and fine mesh FE analysis is to be carried out to determine the stress level. Screening criteria given in table B.3.1 are only applicable to opening where the modelled thickness in way of the opening is reduced in accordance with Table B.2.2.	
695	6/2.1.3.1	Question	Aluminium Coating	2008/6/5	Please clarify the conflicting requirement between CSR-T Section 6 2.1.3.1 and UR F2 regarding the use of Aluminium coating. The use of Aluminium coatings is accepted by CSR-T if the coating passes the appropriate tests or is less than 10 percent aluminium by weight even though it is prohibited by UR F2. For your reference, we list the rule text as follows, (Quote) CSR-T Section 6 2.1.3 Paint containing aluminium: 2.1.3.1 Paint containing aluminium is not to be used in positions where cargo vapours may accumulate unless it has been shown by appropriate tests that the paint to be used does not increase the incendiary sparking hazard. Tests need not be performed for coatings with less than 10 percent aluminium by weight. UR F2 : Aluminium Coatings on Board Oil Tankers and Chemical Tankers The use of aluminium coatings is prohibited in cargo tanks, cargo tank deck area, pump rooms, cofferdams or any other area where cargo vapour may accumulate. Aluminised pipes may be permitted in ballast tanks, in inerted cargo tanks and, provided the pipes are protected from accidental impact, in hazardous areas on open deck. (Unquote)	We agree that 6/2.1.3.1 is not consistent with UR F2 and confirm that 6/2.1.3.1 applies for CSR tankers. We will bring this up in IACS Hull Panel to clarify if CSR Tank or UR F2 should be updated to ensure consistency. Update March 2009: Hull Panel have agreed that UR F2 should be amended to align with Tanker CSR.	
698	4/3.4.3.11	Question	Primary Support Members	2008/3/14	4/3.4.3.11 indicates that "For the welding in way of the shear connection the size is not to be less than that required for the primary support member web plate for the location under consideration" - We understand that the required primary support member plate is based on shear stress of shear connection to the primary support member in 4/3.4.3.5. Considering the weld size req't for the connection just between primary support member and long'l stiffener, we think it will be enough to consider the req't in 4/3.4.3.5 only for the required web plate thickness in application for 4/3.4.3.11. Please confirm if the required plate is based on the above as well as all other requirements such as bending & shear req't of primary support member itself.	We confirm the size of weld shall comply with both 4/3.4.3.11 and 4/3.4.3.5.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
704 attc	App.D Table D5.1	Question	Buckling methods in the cases 1.1,2.1-2.3 and 3.1-3.2	2008/8/29	Please clarify application of advanced buckling methods in the cases 1.1, 2.1-2.3 and 3.1-3.2 as shown in attachment.	The reply refers to index used in attachment to the question: 1.1 SP-M1 2.1 SP-M2 with secondary stiffeners perpendicular to regular stiffeners. 2.2 Yes (SP-M2) 2.3 Buckling assessment in way of openings to be carried out according to 10/3.4 3.1 SP-M1.	Y
705	8/6.2.2.5	Question	Transverse sloshing pressure to vertical webs	2008/5/7	Please clarify how to apply transverse sloshing pressure to vertical webs on longBHDs. According to Sec 8 / 6.2.2.5 (c) transverse sloshing pressure shall be applied, but sloshing pressure due to transverse motion will be on both sides of the web so net pressure is 0.	This is a misprint and transverse sloshing pressure need not be applied on a vertical web frame. The vertical web is parallel to the direction of the liquid movement in case of the transverse sloshing and no significant net pressure will occur on the web.	
706	Table 8.6.4	Question	Direct analysis of slamming pressure	2008/4/16	Table 8.6.4 specifies requirements for direct analysis of slamming pressure on double bottom grillage. The transverse extent of model is to be between inner hopper knuckle and centreline. Is this a minimum extent so that more extensive models, e.g. including hopper tank, can be used?	Table 8.6.4 stipulates what is sufficient to derive Qslm. A more extensive model can be considered.	
707	Table B.2.4	Question	Emergency Gale ballast condition	2008/6/24	Table B.2.4 load case B7 describe an emergency/gale ballast condition with ballast filled in cargo tanks. - The figure shows full double bottom and side tanks in way of the full cargo tanks. May operational restrictions be applied so that ballast tanks adjacent to ballasted cargo tanks are empty in emergency/gale ballast condition? - load case B7 require strength to be calculated using 100% of SWBM (sag.) which is considered realistic when filling ballast in cargo tanks across. Gale/emergency ballast may also be arranged by unsymmetrical filling of cargo tanks e.g. ballast in Cargo Tank No.2 port and No.4 starboard. Should strength also be calculated with 100% of SWBM for this condition? Are additional strength evaluation needed for unsymmetrical filling?	If ballast tanks adjacent to ballasted cargo tanks are empty in emergency/gale ballast condition, operational restriction is to be added in the loading manual. If the actual loading pattern from the Loading Manual is different to Load Case B7 then the actual is to be used (see Table B.2.4, Note 7). 100% of the SWBM is to be applied when analyzing heavy weather ballast conditions with ballast in cargo tanks including the case with unsymmetrical filling. Additional strength assessment needed for unsymmetrical filling will be evaluated by the individual class societies.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
710	7/2.1.3.2	CI	Longitudinal bulkhead scantling	2008/4/14	1) What is the CSR rule requirement for longitudinal bulkhead scantling between T.BHD and mid of cargo tank against the assigned SWSF? 2) For determination of scantling at the mentioned area, can you accept the scantling based on the structural capacity as built against the envelop values from the loading manual rather than the scantling determined by interpolation between BHD and mid of cargo tank? In CSR Tanker Rule, the permissible still water shear force is mentioned as follows; 2.1.3.2 The permissible hull girder positive and negative still water shear force limits are to be given at each transverse bulkhead in the cargo area, at the middle of cargo tanks, at the collision bulkhead and at the engine room forward bulkhead. 2.1.3.3 The permissible hull girder positive and negative still water shear force envelope is given by linear interpolation between values at the longitudinal positions given in 2.1.3.2.	1)Scantlings should be sufficient to cover envelope curve of permissible SWSF at the longitudinal position being checked. 2)No, shear force permissible envelop values shall be used.	
712	11/1.1.6	Question	IACS UR S26.6.4 regarding hinge location	2008/4/14	It seems that the following requirements of IACS UR S26.6.4 regarding hinge location has not been incorporated in CSR Tanker. There is no explanation in TB in this connection. Is there any reason for this? IACS UR S26 "6.4 For small hatch covers located on the exposed deck forward of the fore-most cargo hatch, the hinges are to be fitted such that the predominant direction of green sea will cause the cover to close, which means that the hinges are normally to be located on the fore edge."	UR S26 should be fully implemented in CSR Tank and we will include this missing requirement to hinges location at first opportunity.	
714	8/6.3.7.5	CI	bottom floors	2008/11/10	Is the requirement of 8/6.3.7.5 in Rules also applicable to bottom floor located forward of fore peak bulkhead whose frame spacing about 800 mm with solid bottom floor provided at every frame spacing ? Considering the definition of primary supporting member in Table 4.1.1 and similar req't for bow impact region in 8/6.4.5.4 with the spacing req't in 8/3.2.6, it is our understanding that 8/6.3.7.5 is also applicable to the bottom floor for the above mentioned location if it is within the bottom slamming reinforcement zone as shown in Fig. 8.6.4. However, we want clear interpretation from IACS for consistent implementation.	The requirement is also to be applied to bottom floors in the bottom slamming zone.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
715	Table B.3.1	RCP	Screening criteria for opening in PSM	2008/6/19	In the screening criteria for openings in PSM, shear stress is to be adjusted according to Note 2 of App.B/Table B.3.1. In order to get the adjusted shear stress, I think that the shear stress is to be adjusted by "t_actual (in FE model according to Table B.2.2)/Actual net thickness (scantling in the drawing deduct the corrosion)".	Note 3 of Table B.3.1 is intended to clarify the point that the criteria given in the table is only valid if the finite element model is according with the Rules, This includes the reduction of area in way of opening is according to Table B.2.2. In another word, if the modelled thickness of the web in way of the opening is NOT reduced in accordance with Table B.2.2, then the criteria cannot be used. To make this clear, we suggest rewriting Notes 1 and 2 as follows. Note 3 remains unchanged. 1. Screening criteria given in this table are only applicable to opening where the modelled thickness of the web in way of the opening is reduced in accordance with Table B.2.2. The element shear stress is to be adjusted using the formula given in B.2.7.2.4 prior to the evaluation of yield utilisation factor for verification against the screening criteria. 2. Where the geometry of the opening is required to be modelled in accordance with Table B.2.2, fine mesh FE analysis is to be carried out to determine the stress level. The screening criteria given in this table are not applicable.	
731	4/3.4.2.1	Question	Breadth of the Cut-Out	2008/5/7	1. Sec4/ 3.4.2.1 states that "Cut-outs are to have rounded corners and the corner radii are to be as large as practicable, with a minimum of 20 percent of the breadth of the cut-out or 25mm … ". When the breadth of the actual cut-out differs from that of the standard cut-out as shown the attached sketch, how should the breadth of the actual cut-out be defined? (Wa, Wb or (Wa+Wb)/2) 2. Does the requirement for corner radii apply to all of parts "a","b","c" or only to "a" and "c" in the attached sketch?	1. For definition of 'breadth', see attachment. 2. The requirement apply to 'a' and 'c' only.	Y
732	Text 8/2.1.6.1	Question	Minimum thickness of diaphragms in stools	2008/8/29	Minimum thickness of diaphragms in stools: Where upper/lower stools are provided, vertical webs or diaphragms are arrranged in the stool. However, it appears that there is no minimum thickness requirement for diaphragms. Please clarify the requirement for minimum thickness of diaphragms.	The diaphragms are covered by the requirement to DB Floor/Web in double hull(5.0+0.015L2). We will clarify this in the rules.	
733	Text 8/2.6.1.1	Question	Primary Support Members.	2008/8/28	Figure 8.2.4 shows the depiction of applicable extents of Primary Support Members. According to this Figure, Primary Support Members which are adjacent to Transverse Bulkhead are excluded from the target. Our understanding is that Section 8.2.6 does not apply to Primary Support Members adjacent to Transverse Bulkhead. Please confirm.	1st PSM adjacent to the transverse bulkhead in the cargo tank region Requirements to be applied: Section 8/2.6.4.3, 2.6.4.4 and Section 8/7 The other PSMs in the cargo tank region Requirements to be applied: Section 8/2.6.1.2 to 2.6.1.7 Green sea load is to be applied to the entire cargo tank.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
734	8/6.3.3.1	Question	Net plastic section modulus for bottom slamming	2008/4/24	According to Sec8/6.3.3.1, Sec.4/3.2.3 may be applied to end brackets to ensure end fixity of stiffeners in the bottom slamming region. In this case, is Zpl-net (Required net plastic section modulus for bottom slamming) to be applied as Zrl-net (Net rule section modulus)?	No. The requirements in Section 4/3.2.3 is to be based on Zrl-net.	
735	Text 8/6.3.4.1	Question	plate capacity correction coefficient	2008/8/29	Sec.8/6.3.4, with a plate capacity correction coefficient Cd=1.3, is applied to hull envelope plating within the region of bottom slamming. When bilge plating without longitudinal stiffening is located within the region of bottom slamming, which formula is to be applied? Can a similar correction coefficient Cd=1.3 be applied to the formula specified in Sec.8/2.2.3.2 with a bottom slamming pressure Pslm ?	Section 8/6.3.4.1 is not to be applied to the bilge plating in the bottom slamming region. Satisfactory strength of rounded bilge plate is assumed ensured by the requirement in 8/2.2.3.1 saying thickness of bilge plate is not to be less than thickness of adjacent bottom plate. This means that in case thickness of bottom plate is increased due to bottom slamming then the bilge plate need to be increased similarly. Correction coefficient Cd is not applicable in Section 8/2.2.3.2.	
737	Sec 3/ 2.1.3	CI	computer programs for determination of scantlings according to CSR and for FEM analysis.	2008/4/29	CSR for tankers make a reference to recognized computer programs for determination of scantlings according to CSR and for FEM analysis. However, in Section 3, [2.1.3], the term "recognized computer program" is not well defined i.e. there is no clear procedure or criteria to demonstrate that a computer program is (or is not) recognized by classification societies. Can CSR PT2 create a COMMON procedure of recognition of computer programs?	We will consider this task as future development.	
740	11/1.4.10	CI	exposed front bulkhead of Engine Casing	2008/5/13	With regards to the exposed front bulkhead of Engine Casing construction in case that it is seperated from Deck House construction we would like to receive your formal confirmation whether the scantling are to be applied Protect Bulkhead or Unprotect Bulkhead. In our opinion, Protect Bulkhead is sufficient since the front of E/Casing is not directly affected by wave force due to near aft bulkhead of Deck House const. Therefore, we would like to apply Protect Bulkhead.	The front bulkhead of engine casing is to be applied Protected Bulkhead requirements.	
746 attc	Table 11.1.5	Question	Thickness and Bracket Standards	2008/6/24	Table 11.1.5 of Section 11 of CSR OT (Thickness and Bracket Standards for 760mm High Air Pipes) is based on Table 1 (760 mm Air Pipe Thickness and Bracket Standards) of UR S27. However, the last column is different from the one of the UR (see attached file). Is there a misprint in Table 11.1.5?	We agree there CSR Tank Table 11.1.5 should be in line with UR S27 and there are misprints in the last column. We will correct CSR Tank.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
754	Table 4.1.1	Question	“superstructure” and “deck house”	2008/8/29	The following definitions of “superstructure” and “deck house” in Table 4.1.1 of CSR Tanker seem to be incorrect in light of the definitions in 1966 ICLL: Superstructure: A decked structure on the freeboard deck extending for at least 92 percent of the breadth of the ship Deck house: A structure on the freeboard or superstructure deck not extending from side to side of the ship Please revise the definition. For your reference, the following definitions in CSR Bulk Carriers are in line with 1966 ICLL: A superstructure is a decked structure on the free-board deck, extending from side to side of the ship or with the side plating not being inboard of the shell plating more than 0.04B. A deckhouse is a decked structure other than a superstructure, located on the freeboard deck or above.	The definitions of "superstructure" and "deck house" will be updated in accordance with ICLL definitions.	
755	Section 12	Question	Thickness for Deckhouses	2008/4/24	While the requirements to deck houses in Section 11 are in gross scantlings, we presume that renewal thicknesses for deckhouses are to be calculated in accordance with Section 12 in same way as that for the main hull. Please confirm.	We confirm renewal thickness are to be calculated in accordance with Section 12.	
775 attc	Text 11/4.1.1.1	CI	The formula for Equipment Numbers	2008/8/29	The formula for Equipment Numbers of CSR_Bulk Carrier and CSR_Tankers are not different from each other. But meanings of symbol ‘h’ in formula are different from each other.(See attach files) In case of CSR_Bulk Carriers, meaning of ‘h’ is similar to that of IACS UR A1.(Screens or bulwarks 1.5 m or more in height are to be regarded as parts of houses when determining h.) But in case of CSR_Tankers, text related with screens or bulwarks 1.5 m or more in height is not existed. We need common interpretation for continuity of CSR Rules.	CSR Tankers should be in line with UR A1. We will update the rules accordingly.	Y
777	Tanker 12/1.1.3 & Bulker 3/2.3.3	CI	structural drawings	2009/5/19	The plans to be supplied on board the ship are to include the as-built and the renewal thickness. Does this mean all thickness on all drawings shall include as-built and renewal thickness ? Is it sufficient that renewal thickness are shown on main drawings 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.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
778	9/2.2	Question	FE analysis	2008/8/29	When carrying out FE analysis, we think that longitudinal PMAs connected to horizontal girders on transverse bulkheads should be modelled with shell elements taking into account their structural continuity. Please confirm whether such PMAs are to be modelled with shell elements. In addition, please also confirm that if PMAs are modelled with shell elements, whether they are to be verified by advanced buckling as specified in Appendix D	Longitudinal PMAs connected to horizontal girders on transverse bulkheads should be modelled with shell elements. Advanced buckling as specified in Appendix D is not required. See also Corrigenda 1, July 08.	
779 attc	Table 10.2.2	Question	stiffness criteria	2008/8/29	Table 10.2.2 specifies the stiffness criteria for two cases where web stiffeners are provided in parallel and normal to compression stress. Please confirm which criteria is to be applied to those stiffeners marked (a) and (b) in the attached sketch.	For stiffener (a), mode (a) is applicable. Table 10.2.2. is not applicable for stiffener (b).	Y
782	Text 6/4.2.2.1	Question	oil tankers request a minimum inside bending radius for corrugated bulkhead equal to 4.5t	2008/8/29	CSR Rules for oil tankers Section 6, 4.2.2.1 CSR Rules for oil tankers request a minimum inside bending radius for corrugated bulkhead equal to 4.5t (t = gross thickness). It appears to be a very severe criteria compared to CSR Rules for bulk carrier, Ch 3, Sec 6, 10.4.2 and IACS Rec 47 , table 6.3 (3t, t assumed to be gross thickness). Could you give us the explanation of this difference ?	The minimal inside bending radius required in CSR-OT(4.5t gross) is in accordance with DNV Pt.3, Ch1, Sec 3, C1100. Only the criteria specified in DNV Rules for stainless steel is not applicable with CSR-OT and it is left to the individual society. A lesser radius can be accepted on the basis of the requirements in Section 6/4.2.3.	
784	8/2.5.7	CI	finite element analysis	2009/4/8	It is presumed that the requirements for the lower stool top plate and upper stool bottom plate as given in 8/2.5.7.8. (b) and 8/2.5.7.10.(b), respectively, are to be determined based on that required by 8/2.5.6.4, 8/2.5.6.5 and 8/2.5.7 for the attached corrugated bulkhead, i.e. the requirements for the attached corrugation based on the Finite Element Analysis as given in Appendix B need not be used for this purpose (except the case where lower stool is omitted). Please confirm.	The requirements for the attached corrugation based on the Finite Element Analysis as given in Appendix B is to be used when assessing the lower stool top plate and upper stool bottom plate.	
790 attc	Text 6/5.3.4.3	Question	penetration welds	2008/8/29	According to Sec 6/ 5.3.4.3, full penetration welds are to be used for the following connections: (a) Lower ends of vertical corrugated bulkhead connections (b) Lower ends of gusset plates fitted to corrugated bulkheads Based on experience, we considered it to be sufficient that full penetration welds are only used for the corners of the lower parts of corrugations (see sketch (A)) and deep penetration welding may be used for the remaining parts of such corrugations. Are full penetration wlds which are used only for the corners of the lower parts of corrugtions considered to be acceptable?	The Rules require full penetration weld along the entire length of the corrugation. This requirement is in line with UR S18.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
791 attc	Text 4/3.2.6.1	Question	block joint	2009/3/31	(1) With regard to the knuckled block joints, block butt arrangements shown in Fig.(a) are very common. Since builders generally arrange the knuckled block joint at a nearby PSM as much as possible from the view point of strength, we think that the current requirement is impractical. Therefore, we ask that you please remove the wording "block fabrication butts" from 4/3.2.6.1. (2) We consider that block butt, scallop and drain hole arrangements shown in Fig.(b) have no problem because web stiffeners and tripping brackets are different from end brackets. (3) In the double skin constructions, are those block butt, scallop and drain hole arrangements shown in Fig.(c) acceptable? In such cases, web stiffener without bracket is provided and block butt is kept more than 200mm clear of end connection. However this block butt is kept less than 200mm clear of the bending span point. (4) In the double skin constructions, are those block butt, scallop and drain hole arrangements shown in Fig.(d) acceptable? In such cases, web stiffener with soft toe for fatigue design(not for span correction) is provided and block butt is kept more than 200mm clear of the bending span point. However this block butt is kept less than 200mm clear of the soft toe.	Please refer to the answer in KC ID **463.**	Y
792 attc	Text B/3.1.4.2 & Figure B.3.3	Question	fine mesh analysis	2008/8/29	Appendix B/ 3.1.4.2 specifies that fine mesh analysis is required only for adjoining parts where deck or double bottom longitudinals are connected to transverse bulkhead stiffeners. However, Fig, B.3.3 shows that those areas requiring fine mesh analysis include the first floors next to transverse bulkhead as well as their adjoining parts. Please kindly clarify whether or not floors next to such adjoining parts (see sketch(C)) are also required to be evaluated by fine mesh analysis.	The assessment is only required for the end connections iwo transverse bulkhead and floors next to the transverse bulkhead. See also description of modelling in Appendix B, 3.2.4.	Y
806	Text 10/2.2.1.1	Question	proportion requirements	2008/8/29	With regard to the proportion requirements in Sec10/ 2.2.1.1, please confirm if the requirements should apply to both flanges and webs of corrugated bulkheads. According to our studies, there are some cases where the requirements may cause considerable scantling increases in the upper web plates of corrugation. With reference to the answer given in KC242, proportion requirements should be "additional safety measures" for structural members with small amounts of design stress and should not cause such scantling increases with respect to corrugation plates with considerable amounts of stress. So, we consider that these proportion requirements need not be applied to corrugated bulkheads, especially to the web plates of corrugation.	The proportion requirements in Section 10/2.2.1.1 are not applicable to corrugated bulkheads. Prescriptive buckling requirements for corrugated bulkheads are covered in Section 8/2.5.6 and 10/3.5.2.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
807	Text 8/2.5.7.6	Question	prescriptive calculations of corrugated bulkheads.	2008/8/29	Several parameters have been defined in Sec8/ 2.5.7.6 and Table 8.2.3 for prescriptive calculations of corrugated bulkheads. However, some of these parameters are not constant over the breadth of bulkheads and different values may be adopted through different interpretations. Therefore, it is kindly requested to clarify how to determine such parameters. 1. lcg, lo (defined in Sec8/ 2.5.7.6) In cases where no upper stool is fitted, lcg and lo can be changed due to deck cambers. How should these parameters be determined? a. These parameters are to be determined at the same position as design pressures (at btk/2 from LBHD) and are to be applied to all corrugation units of bulkheads. b. These parameters are to be determined at the positions of those corrugation units being considered. c. These parameters are to be determined at the position which gives maximum values (usually at center line). 2. lib, idk (defined in Table 8.2.3) In cases where cargo tanks, located fore and aft of transverse bulkhead, being considered have different tank lengths, how should the parameters lib and ldk be determined? a. The parameters for the longer cargo tank are to be used. b. The parameters for shorter cargo tank are to be used. c. The parameters for cargo tanks where design pressures are being calculated. d. The average of the parameters for fore and aft cargo tanks is to be used, for lib and ldk respectively..	The parameters should be determined as follows: Item 1(a); Item 2(c).	
809	4/3.2.5.1	CI	fatigue stress	2009/8/29	These are comments to the present rules CSR tank. Please forward this to relevant party. 1) Section 4 3.2.5 Sniped ends; The formula 3.2.5.1 seems to be wrong. The correct version I think should be : t = c1*sqrt((l-s/2000)*(s*P*k)/1000) I also have the following comments to this formula that can be forwarded for IACS consideration if you find them interesting. 2) c1 for AC2 should maybe be taken as 1.1, corresponding to yield at a region of 3t. 3) Due to fatigue issues the factor for high strength k can safely be removed from the formula above.	Item 1) & 2) has already been identified and will be corrected. Item 3) This requirement is not fatigue related and as such the material factor should remain.	
810	6/1.2.3.1	CI	Material class III	2008/8/22	Material class lll to be required for rudder and rudder body plates subject ot stress concentrations in way of lower support of semi-spade rudder or at upper part of spade rudder. Should it be required since rudder is not part of scope?	Rudder is not part of the scope of CSR Tanker. We will amend the Rules to remove this requirement.	
811	Table 11.5.1	CI	Strength test	2008/8/22	Strength test is required for double plate rudder in Table 11.5.1 Is it necessary to be kept in this table even though rudder is not part of scope?	Rudder is not part of the scope of CSR Tanker. We will amend the Rules to remove this requirement.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
813	Table B.3.1	Question	shear stress connections	2008/8/29	Reference is made to **KC No.715** regarding shear stress corrections for screening criteria. Although the understanding of the questioner is deemed clear and reasonable, the answer given in the KC had caused us further confusion. Please confirm if the following interpretations on this matter are correct. (1)The screening criteria given in Table B.3.1 are applicable to openings in cases where geometry is not required to be represented in the cargo tank FE model. Such criteria are also applicable to web plates whose thickness is not reduced because their openings are too small to reduce the thickness in accordance with Table B.2.2. (h0/h<0.35 and g0<1.2) (2) In cases where thickness is reduced in accordance with Table B.2.2, element shear stress Tau_XY is to be adjusted by multiplying the ratio = tmod_net50 / tw_net50. tmod_net50: reduced web thickness in accordance with Table B2.2. tw_net50 : actual net thickness of web. (Note) The current Note 2 of Table B.3.1 might bring another adjustment by multiplying the ratio = tw_net50 / tmod_net50, which double counts the effect of shear area reduction due to openings and, therefore, should not be applicable.	(1): Yes. The screening criteria is applicable to small openings (h0/h<0.35 and g0<1.2) in the shaded regions, see Figure B.3.1. Fine mesh analysis or evaluation based on screening criteria given in Appendix B/3.1.6 is not required for openings in un-shaded regions if, h0/h < 0.46 and g0 < 1.2, and each end of the opening forms a semi circle arc (i.e. radius of opening equal to b/2). Item (2): See Appendix B/2.7.2.4. Your note: Current Note 2 is proposed re-written in line with KC ID 715.	
814	C/2.4.2.6	Question	hotspot stres	2008/9/29	Does the Rule calls for extrapolation to the floor position for the determination of hotspot stress iwo hopper knuckle.	We can confirm that the extrapolation is only to be carried out in the transverse direction.	
815	6/5.7.1.2	Question	welding leg length	2008/9/5	In the subject Rules, welding leg length is to be not less than f1 * t p-grs (t p-grs : the gross plate thickness, in mm. is generally to be taken as that of the abutting member (member being attached)). Does this “generally” mean that this is not compulsory? Very often relatively thicker plate is proposed in some designs for the fact plate of PSM. For instance, for built up non-Tee type (L3 type), face plate of PSM is abutting member to the web plate. This causes very thicker welding leg length size. Although 6/5.7.1.5 shows the req'd welding size in case abutting longitudinal stiffener is greater than 15 mm, req'd welding size is not reduced (Our understanding is the original intention for this paragraph is to reduce the req'd welding size). Our understanding is that 6/5.7.1.5 was from LR Rules with slight modification due to the difference between throat thickness & leg length. However in LR Rules, factor can be reduced down to 0.21 if member is not located in tanks although there is no difference in CSR tanker. Is welding size to be as req'd in Rules ? Of if there is any other alternatives, please advise.	The weld size is determined by the scantling of the lesser plating thickness of the member being joined (at the point of joining). Therefore, in the case of an L3 angle, with the face plate being welded to the web of the stiffener, we can base the weld size for the joining of the web to the flange on the thinner of the web and the flange.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
824	Table 10/2.1	Question	plate panel thickness	2008/9/23	In Table 10.2 .1 of Section 10, the coefficient "C" for plate panel net thickness calculation is fixed at 100 for "hull envelope and tank boundaries" and 125 for "other structures". The definition of "tank boundaries" seems to be not enough clear: Does it include all watertight boundaries such as for example watertight girders / floors, or should it include only the boundaries of cargo tanks? Please clarify	The term "tank boundaries" is meant to be taken as all watertight boundaries.	
828	C/1.4.4.6	CI	openings	2008/9/24	With regard to the rule wording "(openings deducted)" in Appendix C/1.4.4.6 and 1.4.4.8, presume that this "opening" is "Large openings and small openings that are not isolated" indicated in 4/2.6.3.4 provided that the conditions for "isolated small openings" in 4/2.6.3.7 are met. As such, isolated small openings need not be deducted for fatigue analysis provided that the conditions in 4/2.6.3.7 are met. Please confirm."	Your interpretation is confirmed; to avoid any confusion "(openings deducted)" will be deleted from C/1.4.4.6 and C/1.4.4.8 at the next Rule change.	
829	8/1.1.2.2	CI	heavy ballast condition	2008/9/26	Regarding to the arrangement of F.P.T. and heavy ballast condition required in CSR section 8.1.1.2.2, We would like ask wheather it is acceptable that upper part of fore peak is used as fore peak tank and the lower part of fore peak space is designated as void space under CSR for double hull tankers. It is common to divide fore peak space into upper and lower compartment and to utilize the lower compartment as water ballast tank so as to prevent partial filling in fore peak tank and reduce the excessive hogging moment when fore peak tank is full under IACS UR S11. But, some ship owners seem to prefer upper fore peak tank to lower peak tank if the fore peak space should be divided into two spaces due to the nature of ship design.	The requirements in Section 8/1.1.2.2(a) is specifically towards fore peak tanks designated as ballast tanks. If upper and lower spaces are ballast tanks, the lower is required to be full. If the design has the lower tank designated as void space and the upper is designated as ballast tank then only the upper tank is required to be full and lower void space is empty and vice versa.	
838	8/1.2.2.5	Question	hull girder section modulus	2008/10/14	According to Sec8/1.2.1.3, the hull girder section modulus requirements in Sec8/1.2.3 should apply along the full length of the hull girder from A.P. to F.P. In order to calculate the section modulus outside 0.4L amidship, should the effective deck height as specified in Sec8/1.2.2.5 be applied? If so then which breadth, B(the moulded breadth at midship) or Blocal (the maximum local breadth at the location being considered), should be applied? Please clarify.	In Section 8/1.2.2.5 the breadth should be taken as the local maximum breadth at deck.	
861	8/1.4.2.6	Question	safety factor for plate pane	2009/1/14	For buckling outside of the cargo block (for example in way of the engine room forward bulkhead where stiffening changes to transversely frame) we have received a question as to whether or not the "n" = 0.9 safety factor for plate panels below 0.5D called out in Section 8. 1.4.2.6 applies. Our approach has been to apply this to all structure subject to hull girder loading as Section 8 1.4.1.2 states that hull girder buckling strength requirements apply along the full length of the ship from the A.P. to the F.P.	These requirements apply to plate panels and longitudinals subject to hull girder bending and shear stresses.	
864	4/2.3.1	Question	corrugated bulkhead	2008/12/11	Regarding the actual section modulus of corrugated bulkhead, it appears there is no rule in CSR-OT, how to calculate the section modulus for strength evaluation. Could you advise us whether full flange width can be used for calculation of corrugation for strength evaluation in CSR-OT?	We can confirm that the full flange width (i.e. one half pitch of corrugation) is to be used for calculation of corrugation for strength evaluation in CSR-OT.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachm ents
865	7/3.5.2.3	Question	dynamic wave pressure	2009/1/14	Intermediate values of the dynamic wave pressure pseudo-amplitude, Pex-amp between the still waterline and z = TLC + hWL (or D) are to be obtained by linear interpolation. When 'TLC+hWL' is greater than 'D', Pex-amp will be zero at 'D' by the paragraph, 'Pex-amp = 0 for z ≥ TLC + hWL or D, whichever is the lesser' and intermediate values will be obtained on the basis of 'Pex-amp is zero at D'. The question is that our application is correct or not. If possible, please explain why the application of dynamic wave pressure is different between the scantling requirements and fatigue strength. For the calculation of the dynamic wave pressure of scantling requirements, there is no limitation of 'D' (Sec.7/3.5.2.2)	The pressure for fatigue is based on a probability level of 10^-4 and the scantling requirements based on a pressure derived from a probability level of 10^-8. This leads to a difference in the pressure. For the scantling evaluation at 10-8 green sea is considered. The wave at 10^-4 probability level is not expected to reach the deck and hence not considered in fatigue considerations. The limitation in "D" is to ensure the pressure is zero at deck level.	
869	11/3.1.4.19 & 11/3.1.4.18	Question	lifting appliances	2009/1/14	Section 11/3.1.4.16 of CSR for Tankers requires that the hull supporting structures for lifting appliances are to be sufficient for the loading cases specified in Section 11/3.1.4.18 and 3.1.4.19 of CSR. Section 11/3.1.4.18 says "..... the following load scenario is to be examined: 130% of the safe Working Load added to the lifting appliances self weight". Regarding the loading location of the "130% of the safe Working Load", there is the following different understanding: 1) "130% of the safe Working Load" is to be loaded at the boom hook position; 2) "130% of the safe Working Load" is to be loaded at the gravity center of the lifting appliance self weight. For Section 11/3.1.4.19, there are similar different understandings for the loading position. Therefore, the loading position in Section 11/3.1.4.18 and 3.1.4.19 is requested to be clarified.	130% SWL is to be applied at the boom hook position. In addition, the lifting appliance self weight is to be applied at the gravity center of the lifting gear.	
882	11/1.4.10.1	Question	unprotected front	2009/1/26	In CSR Tanker Section 11/1.4.10.1, the coefficient "C4" for "unprotected front" is specified only up to 3rd tier, and is not specified for higher tiers than the 3rd tier. In this connection, since this coefficient for side and aft is specified for "all" tiers, it is presumed that the current text "unprotected front, 3rd tier" should read as "unprotected front, 3rd tier and above". Please confirm.	Yes, the rule text will be revised accordingly.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
886 attc	7/3.5.2.3	CI	dynamic wave pressure	2009/6/17	1. Dynamic wave pressure for fatigue strength below waterline is to be obtained by linear interpolation according to Fig.7.3.7. It may be obvious that the pressure at waterline is to be calculated by using y-coordinate equal to Blocal/2. However, it seems that the definition of y-coordinate for another pressure at lower end (at z=0 or z=Tlc - hwl) is not clear. Please confirm if the following understandings are correct. (1) In case of (Tlc - hwl)<=0, the pressure at z=0 is to be used for the interporation. In such a case, the pressure should be calculated by using y-coordinate at flat bottom end or start point of bilge-R. (2) In case where side shell plate is not vertical and y-coordinates of side shell are not constant, y-coordinate of the side shell at z=(Tlc - hwl) should be used. Please refer to the attached sketch. 2. Although Fig.7.3.7 indicates that dynamic wave pressure above waterline is also to be obtained by linear interpolation, the text does not give specific instructions. Please clarify. It is understood that, if (Tlc+hwl)>D, the interpolation should use pressures of Pwl/2 at waterline and 0(zero) at D.	1. (1) P_blocal should be used. (2) Actual co-ordinate should be used. 2. If (Tlc+hwl)>D, the pressure should be obtained by linear interpolation between pressure of Pwl/2 at waterline and 0(zero) at D.	Y
889	Table 11/1.5 & 11/1.3.3.2	Question	pipe thickness	2009/3/25	Sec.11/1.3.3.2 specifies that pipe thickness and bracket heights are to be as specified in Table 11.1.5. According to the Technical Background, this requirement is based on IACS UR S27. However, UR S27 is only applicable to exposed decks within the forward 0.25L. In CSR Tanker, this subsection may imply application to all locations because it does not specify an applicable location. As well as the Q&A in KC677 regarding ventilators, air pipes should be limited to applicable locations. Please confirm that Table 11.1.5 applies to exposed decks within the forward 0.25L.	Requirements in Table 11.1.5 are applicable to air pipes on an exposed deck within the forward 0.25L.	
890 attc	Fig D.5.1	Question	horizontal girder	2009/3/25	In case of the vessels without topside tank, Figure D.5.1 says that assessment method 2 (SP-M2) is to be applied to upper horizontal girder in double side. However, for the vessels having topside tank such as chemical tanker (please see the attached figure), assessment method 2 (SP-M2) is still to be applied to upper horizontal girder connected to slanted top side plate of inner hull? Considering the geometric shape of the upper horizontal girder is similar with lower horizontal girder connected to hopper tank side, I think it is possible to apply assessment method 1 (SP-M1) instead of method 2 (SP-M2) to the upper horizontal girder. Please clarify.	Assessment method 1, SP-M1 is to be used for the upper horizontal girder in this configuration	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
894	11/3.1.3.9	Question	morring winch	2009/4/6	CSR Tanker Sec. 11/3.1.3.9 specifies that the strength requirements for green sea are to be applied to all mooring winches situated within the forward 0.25L. However, according to UR S27, these requirements only apply to those mooring winches which are integral with anchor windlasses situated within the forward 0.25L. Please confirm whether the lack of the wording "integral with the anchor windlass" in CSR Tanker is by design or should Sec.11/3.1.3.9 be amended to bring it in line with UR S27.	The requirements are based on IACS UR S27 but have been extended to all mooring winches situated within the forward 0.25L.	
895	11/4.2.20.2	RCP	windlasses	2009/10/23	Sec.11/4.2.20.2 specifies the trial requirements for the mean hoisting speed of windlasses. According to the Technical Background of the above section, these requirements are based on ABS and LR Rules. Item (a) of the above section corresponds to IACS Rec.10/1.3.3. However, item (b) is not covered under IACS Rec.10 and is much stricter. Please confirm whether item (b) is only to be required as a special requirement for CSR Tanker. In addition, please advise us on the detailed technical background of item (b). We consider a CSR to be "structural rules" that essentially should not be included in the requirements of operation tests. Therefore, we propose that Sec. 11/4.2.20.2 be removed.	Your Rule change proposal is agreed with. We will delete sub-section 4.2.20 from Section 11 on the premise that these are performance requirements and not related in any way to the strength of the anchor windlass.	
897	8/2.6.4.3	Question	primary support members	2009/3/25	According to 6/3.3.4.2, the sectional properties of primary support members should be based on half corrosion addition. Therefore "Idt", "Ist" and "Ivw" in 8/2.6.4.3 should be changed to "Idt-net50", "Ist-net50" and "Ivw-net50", respectively. Please confirm.	Confirmed. The text will be amended at the first oppportunity.	
898 attc	Table B/2.2	Question	opening geometry	2009/4/29	As per KC ID 691, modelling of opening geometry can be done in lieu of reduced thickness. For buckling assessment of the panel close to the opening as shown on attachment, 'modelling of opening geometry' (considered to simulate more exactly) can be applied in line of the buckling assessment of the 'reduced thickness method'?	1) According to Common Interpretation CI-T3, the geometry of an opening can be included in the cargo tank FE model in lieu of the mean thickness described in App. B/Table B.2.2. Therefore, when an opening in the cargo tank FE model is not large (e.g., h0/h<0.5), it is possible to choose one of two different ways for the representation of the opening. The first one is to apply the mean thickness and the other is to include the geometry of the opening. As a result, two kinds of FE models are available. 2) In order to carry out stress and buckling assessment in Figure PR1 of CI-T3, in general only one of such two FE models would be selected and applied. Furthermore, it is also possible to use both of the FE models, for example one could be applied to stress assessment and the other to buckling assessment, with the provision that all the process of structural assessment are in accordance with the Rule and CI-T3.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
899	7/4.2.2.6	Question	sloshing pressure	2009/10/29	For tanks with internal transverse bulkhead stringers and/or web frames, the distribution of sloshing pressure across these members is shown in Figure 7.4.3. Is it understood that the sloshing pressure for the brackets of these members is 20 kPa as described in 7/4.2.4.1?	The actual calculated sloshing pressure is to be applied; 8/6.2.5 to be applied so the greatest one among Pshl-lng, Pshl-t, Pshl-wf and Pshl-min to be applied to the PSM and stiffeners, bracket(tripping) on PSM. Note: The answer in the previous KC ID 83 is superseded by the above answer.	
900	6/5.7.4.1	Question	primary support members	2009/4/7	Welding of end connections of primary support members (i.e. transverse frames and girders) is to be such that the weld area, Aweld, is to be equivalent to the Rule gross cross-sectional area of the member. In terms of weld leg length, lleg, this is to be taken as by formula. What is the definition of Rule gross cross-sectional area, whether prescriptive requirements area (with reduction to 85%) or the t gross thickness all the rule requirements complying FE analysis (including buckling)? And what is the definition of t p-grs?	t p-grs (Rule gross thickness) is to be taken as the Rule required gross thickness considering all requirements in Section 8,9 and 10	
901 attc	Table 6.5.4	Question	weld factor	2009/4/7	In the Table 6.5.4, the weld factor is selected based on position of 'at ends' and 'remainder'. 'At ends' is considered area where high shear area as the interpretation on Note 1 in Table 6.5.4. Is the weld factor for 'at ends' to be applied for the extremely extruded bracket toe as attachment? Or is there any other guidance whether 'at ends' or not?	Reduced length for 'at ends' can be accepted for arrangements where large backing brackets are fitted as indicated in our attachment (the T/BHD to L/BHD connection). Hence the weld factors 'at ends' need not extend beyond the toe of the member for this kind of arrangements.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
905	B/2.7.1.1 & Fig B.2.14	Question	cargo tank FE model	2009/4/6	As per the App. B/2.7.1.1, verification of result against acceptance criteria is to be carried out for structural members within longitudinal extent shown in Figure B.2.14, which includes the middle tanks of the three cargo tanks FE model and the region forward and aft of the middle tanks up to the extent of the transverse bulkhead stringer and buttress structure. For the strength assessment of tanks in the midship cargo region, stress level and buckling capability of longitudinal hull girder structural members, primary supporting structural members and transverse bulkheads are to be verified. The Figure B.2.14 explicitly describes the longitudinal extent of FE calculation verification; however, for the transverse members, the extent of FE calculation verification is not clear. Shall the bottom floor structures, as primary supporting structural members, of 1st floor after TBHD and 1st and 2nd floors forward TBHD, which have very little influence of the transverse bulkhead stringer and buttress structure, be verified as well? In some FE Load Cases of loading pattern A5 with Dynamic load case 5a, the bottom floor structures, of 1st floor after TBHD and 1st and 2nd floors forward TBHD, shows higher stress level than those between two mid TBHDs, which is considered to be not a target of this kind of three cargo tank FE analysis.	All elements in the shaded area in Figure B.2.14 are to be assessed.	
909	8/1.6.3.1	CI	hull girder bending stress	2009/3/27	8/1.6.3 Vertical extent of higher strength steel: We have been checking this requirement even for outside of 0.4L area. However, since permissible hull girder bending stress for outside 0.4L area is not 190/k as shown in Table 8.1.3, we checked vertical extent of higher strength steel zone modifying the formula of 190/k1 in 8/1.6.3.1 with the permissible hull girder bending stress at the check point required in Table 8.1.3. Please clarify and change the rule if it is necessary.	For the application of 8/1.6.3.1, the permissible hull girder bending stress for outside 0.4L amidships is to be in accordance with the Table 8.1.3. We will update the Rules to clarify the application.	
916	10/2.3.3.1 & Table 10.2.1 & 8/2.1.4.8	Question	enlarged stiffeners	2009/4/14	The 8/2.1.4.8 (Corrigenda 1 to July 2008 CSR-T) specifies that enlarged stiffeners for PMA should comply with the buckling/proportion requirements for either Local Support Member or Primary Support Member. Particularly against torsional buckling consideration, there are following requirements: 1. For PSM (with web stiffeners) criteria, "tripping brackets" are required in accordance with 10/2.3.3.1. 2. For LSM (without web stiffeners) criteria, "flange width" requirement (bf=0.25dw) is to be applied in accordance with Note 1 in Table 10.2.1. Now, if tripping brackets are provided but without web stiffeners, can the requirement of "flange width" (bf=0.25dw) from Note 1 Table 10.2.1 be waived? The flange that complies with 10/2.3.1.1 (b) will be fitted and the other criteria for LSM will be complied with. Please confirm.	Your proposal is acceptable.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
917 attc	Text 8/5.2.2.1	CI	APT	2009/5/6	In CSR-OT, Sec 8, 5.2.2, requirements for the floors and girders in the aft peak are given. In 5.2.2.1, the minimal height of stiffeners on floors or girders is requested as a function of stiffener effective span; following 5.2.2.2, depending on the stiffener length, “brackets” are to be fitted at the lower end or both, lower and upper end. From CSR-OT technical background, we understand that the principle of 5.2.2.1 and 5.2.2.2 is to increase the structural natural frequency 15% more than the second harmonic excitation (10.6 – 20 Hz, depending of propeller type). However, in order to avoid the increase of stiffener height, an intermediate carling can be used, decreasing stiffener span (see figure attached). The effect will be the increase of the natural frequency. This type of design is not taken into account by the requirements of 5.2.2.1 and 5.2.2.2. Our interpretation is that the design with intermediate carling and with stiffener height lower than 5.2.2.1 is acceptable. Please confirm?	The height of stiffeners less than 5.2.2.1 cannot be accepted with intermediate carling since it is difficult to increase the natural frequency by intermediate carling.	Y
923	Text 8/2.1.4.8	Question	PMA	2009/6/17	Further to the answer of KC916, we have another question. For enlarged stiffeners for PMA WITHOUT web stiffeners, is it possible to apply the applicable requirements of 8/2.1.4.8 (a), (i.e. except the third bullet item for web stiffeners)? Please confirm.	Enlarged stiffeners for PMA without web stiffeners are to follow the requirements as advised in KC ID 916, i.e. other criteria for LSM are to be complied with.	
924	9/2.3.1.1	CI	over deck longitudinal stiffening	2009/10/23	Regarding over deck longitudinal stiffening. Rule reference Section 9/2.3.1.1(e) requires fine mesh analysis for typical conventional arrangement: "(e)end brackets and attached web stiffeners of typical longitudinal stiffeners of double bottom and deck, and adjoining vertical stiffener of transverse bulkhead.". Does the same requirement apply to over deck longitudinal stiffening?	We can confirm that over deck longitudinals are to be investigated by local fine mesh structural analysis.	
925	Text 7/4.4.2	Question	design ballast draught	2009/6/17	The minimum design ballast draught is considering the normal ballast condition for bow impact, (CSR Tanker Section 7/4.4.2). However, all local scantling is to be applied the minimum design ballast draught for any ballast loading condition, (CSR Tanker Section 4/1.1.5.2). Which ballast condition to be applied for bow impact, the "normal ballast condition" or "any ballast loading condition"?	The ballast draught in 7/4.4.2.1 is to be taken as the minimum design ballast draught as defined in Section 4/1.1.5.2.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
927	Text 11/5.1.4.5	Question	ballast tanks	2009/6/17	(1) 11/5.1.4.5 states "With about half the number of tanks full, the bottom and lower side shell in the empty tanks is to be examined...". Does the "tanks" mean "cargo oil tanks and ballast tanks" or only "ballast tanks"? (2) The latter part of 11/5.1.4.5 states "the reminder of the lower side shell is to be examined when the water has been transferred to the remaining tanks". This implies that the all the bottom and lower side shell shall be examined (i.e. all the tanks shall be structurally tested). Can this test for "reminder" be exempted for the same type tanks? Please refer to "Note 1" in Table 11.5.1, which states "...at least one tank for each type is structurally tested". (3) Presume that this testing is to be carried out afloat, Please confirm. If so, it should be clearly indicated in the rule text.	(1) "tanks" is to be taken as all tanks. (2) Tanks are to be selected as per 11/5.1.4.6. (3) Structural testing may be carried out afloat, see 11/5.1.4.4.	
929	Text 8/2.6.4.3	RCP	deck transverse inertia calcs	2009/7/28	Regarding 8/2.6.4.3 Deck Transverse variables are defined as input values for Inertia values of side transverse and vertical web. Since inertia of actual structure will vary along the span of these members, clarification of the where the inertia and the effective plate is be calculated should be clarified.	The inertia and the effective plate is to be calculated at mid-span.	
934	Text C/1.4.5.12	CI	reference thickness	2009/7/3	In this paragraph there is a reference to a "reference thickness of 22mm". It is not clear whether this is a net or gross thickness.	The "reference thickness of 22mm" is a net thickness.	
935	8/2.6.3.4	CI	side girder shear area	2009/10/23	Double bottom side girder shear area requirement. Is this requirement applicable to the side girder at the hopper tank?	This requirement is not applicable to the side girder under the hopper tank.	
936	Figure 4.2.12, 4/2.4.1, 2.4.2 & 2.4.3	CI	net sectional properties	2009/10/23	In these sub-sections (2.4.1 to 2.4.3) formulas are given for the calculation of net sectional properties. There is additionally a figure (Fig. 4.2.12) showing how stiffeners are "corroded"; this figure explicitly shows that the flange ends are also corroded. The formulas in the Rules however do not reflect this principle. Please clarify?	The net sectional properties are to be calculated by corroding the member all over including the ends of the flange. The Rule text will be amended to clarify this intention.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
939	Text 6/5.3.4.1	CI	welding	2009/9/23	According to the stipulation in Sec 6/5.3.4.1 & 5.8.1.1, increased fillet welds or penetration welds should be applied to the areas where high tensile stresses act through an intermediate plate. The areas have been specifically described in Sec 6/5.3.4.1 (a) ~ (f). Add to this I wonder if the connection between PSM and intersecting stiffeners(LSM) could be included in the specific area mentioned in Sec 6/5.3.4.1. Please clarify.	The requirements in Section 6/5.3.4.1 is for the connection between PSMs and it is not applicable to the connection between PSM and LSM.	
940 attc	Table D.5.1	CI	Consideration of docking brackets for buckling assessment	2010/3/8	Docking brackets are generally attached to double bottom longitudinal girder of large oil tankers, e.g. VLCC. For the advanced buckling assessment of such a double bottom girder (please see the attached sketch); 1) should docking brackets be considered as a secondary stiffener? or a primary supporting member(PSM)? 2) in case primary support member is right, considering Note (3) in Table D.5.1, the regular stiffeners(i.e. longitudinal stiffeners on double bottom girder) should be considered as 'sniped' ? Please clarify.	We would like to clarify as follows: 1) Docking bracket to be considered as a secondary stiffener 2) Regular stiffener to be considered as sniped	Y
941 attc	Table D.5.1	CI	Definition of buckling panel and buckling method for horizontal girder	2010/3/8	When defining buckling panel and buckling method for horizontal girder having special arrangement of stiffeners, such as the attached sketch; 1) is it possible to define a buckling panel like 'A1'? 2) is it possible to define a buckling panel like 'A2' instead of 'A1'? 3) which buckling method may be applied to the panels in the sketch? Please refer to the attachment and clarify.	1) panel A1 is possible 2) panel A2 is not possible 3) 'UP-M2' for both panel A1 and B	Y
942	Table 6.1.3	RCP	deck strakes material class	2009/10/23	RCP regarding the material class specified in Table 6.1.3 of CSR Tanker. In table 6.1.3 of CSR Tanker, deck strakes at longitudinal bulkheads are defined as "SPECIAL". On the other hand, according to IACS UR S6 Rev. 5, deck strakes at longitudinal bulkheads, excluding deck plating in way of the inner skin bulkheads of double hull ships are defined as "SPECIAL". Hence, the material class is required to be Class III for deck strakes at longitudinal bulkheads including inner skin bulkhead within 0.4L amidships by CSR Tanker, while it is required to be Class II for deck strakes in way of the inner skin bulkheads of double hull ships within 0.4L amidships by IACS UR S6 Rev.5 because such members are defined as "PRIMARY". We believe it is reasonable that deck strakes in way of the inner skin bulkheads of double hull ships is defined as "PRIMARY" not "SPECIAL" because such members are located very close to stringer plates and sheer strakes compared to deck plates at other longitudinal bulkheads. Therefore, we would like to propose that table 6.1.3 be amended so that it is in line with Table 1 of IACS UR S6 Rev.5.	Your proposal is agreed with and will be considered at the next Rule Change Proposal.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
946	4/3.2.5.1	Question	sloshing pressure	2009/10/23	Q1. Is Section 4/3.2.5.1 applicable to sloshing pressure in accordance with Section 8/6.2.4.1 and 8/6.2.5.3? In this connection, please note that our major concern is web stiffeners on the primary support members since there are many such stiffeners with sniped ends. Please also note that the definition of "P" in Section 4/3.2.5.1 refer to Table 8.2.5, Section 8/3.9.2.2 and 8/4.8.1.2 but neither 8/6.2.4.1 nor 8/6.2.5.3. Please clarify. If affirmative, the rule text needs to be updated. Q2. If the above answer is affirmative, please also clarify which "C1" factor is to be used for sloshing pressure (e.g. 1.2 for AC1 or 1.0 for AC2)?	A1: The requirements are applicable to sloshing pressure. The Rules will be amended to clarify this. A2: On the basis of the principle in Section 2/5.4.1.8 a C1 factor of C1=1.2 should be utilised.	
947	8/1.1.2.1	RCP	loading conditions	2009/10/23	With regard to the loading conditions, including both departure and arrival, to be included in the Loading Manual, CSR Tanker Sec.8/1.1.2.2(a) specifies that homogeneous loading conditions at the scantling draft shall not include the filling of dry and clean ballast tanks. However, paragraph 1.1.2.c of the Technical Background for Section 8/1 of CSR Tanker is as follows: "The requirement of not having any dry or clean ballast for the seagoing homogeneous loading condition at scantling draft only applies to the departure condition. Ballast may be used in mid-voyage and arrival conditions to correct the trim due to reduction of fuel oil". Therefore, the application of the requirement is not clear because of the discrepancy between the current requirement and the Technical Background. Our understanding is that it is appropriate to apply the requirement only to the departure condition according to the Technical Background. Please confirm. If necessary, please amend the rule's text to clarify this.	Your proposal has been agreed with. The Rules will be amended at the next opportunity.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
953 attc	B/2.5.1.2, B/2.5.3.2	CI	vertical shear force	2009/10/23	Appendix B, 2.5, 2.5.1.2 and 2.5.3.2. In calculating the vertical shear force distribution from the local loads applied to the FE model, it is noted that there is a step in the vertical shear force at a transverse bulkhead position due to the weight of the transverse bulkhead structure. It is not clear which shear force value (i.e. maximum or minimum) should be used as a basis to determine the adjustment required to meet the target value.	The vertical distribution loads are to be applied to produce the required shear force (Qtarg) at both the forward and aft bulkheads of the middle tank of the FE model. It is to be noted that the required adjustment shear forces (ΔQfwd and ΔQaft) are the same at the forward and aft bulkheads if the FE model is symmetrical about mid-position of the middle tank, i.e. fore and aft tanks of the FE model is the same length and arrangement. The adjustment shear forces (ΔQfwd and ΔQaft) should be based on the maximum (absolute) shear force due to local loads at the bulkhead location. The reasons for this choice are as follows: (1)The shear force after adjustment will not exceed the required value. If the minimum (absolute) shear force due to local loads is used as a basis for deriving the adjustment shear force then the final shear force will exceed the required value at certain locations. (2)The areas with high shear stress are the elements located forward and aft of the transverse bulkheads. Among these areas, the area forward of the transverse bulkhead in way of the transverse bulkhead stringers has highest shear stress. (3)The intention is that (a) sagging case (+ve shear force at forward bulkhead) covers the forward region of the forward bulkhead and aft region of the aft bulkhead and (b) hogging case (-ve shear force at forward bulkhead) covers the forward region of the aft bulkhead and aft region of the forward bulkhead. The scantlings in way of the bulkheads are to be based on the maximum from both bulkhead positions. See attached Figures.	Y
956	Text 6/5.7.1.2 & KC ID #815	RCP	fillet weld size	2009/9/23	KC815 gave a clarification on fillet weld size of L3 type built-up construction. In general, the face plate thickness of L3 type is determined to make the stress not to exceed allowable stress. Accordingly, the load supporting face plate through fillet weld is proportional to the face plate thickness, in general. From the above viewpoint, the fillet weld size of L3 type should be determined based on the face plate thickness. This idea of determination of fillet weld size corresponds to 6/5.7.1.2 of CSR-OT, however, conflicts to the answer of KC815. Please cancel the answer of KC815.	The size of fillet weld is generally that of the thickness of the thinner of the two items being joined. Large fillet welds may cause unacceptable distortion and/or high residual stresses. KC ID 815 is for the welding of face plate to the web of stiffeners. The welding of web of stiffener to the deck plate should be based on 5.7.1.5. With reference to Table 6.5.4 (connection of PSM) please also bear in mind that the requirements "to face plate" is less than "to plating". The reply in KC ID 815 will be retained.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
957	11/5.1.5.1	RCP	testing butt weld erection joints	2009/10/23	The requirement for testing of butt weld erection joints which are made by automatic and FCAW semi-automatic welding are a little misleading. The matter of tank testing is covered by IACS Unified Requirement S14 which all societies are supposed to follow and the wording in this UR for leak testing states that leak testing is to be carried out on all fillet weld connections …… excepting welds made by automatic processes. This wording is similar to the wording of CSR Bulk Carriers Chapter 11, Section 3, 2.2.6. We propose that the text is amended to follow the IACS UR S14 and harmonised with CSR BC.	Your proposal is agreed with.	
959	Text 6/2.1.2.6	Question	anodes	2009/9/23	CSR Tanker Section 6/2.1.2.6 states "Anodes are to be attached to stiffeners or aligned in way of stiffeners on plane bulkhead plating, but they are not to be attached to the shell". In this connection, please advise if "plane bulkhead plating" is intended to be tight bulkhead (e.g. tank boundaries) only or including non-tight members (e.g. non-tight floors, girders, transverses etc.).	The Rules allow two options: - Anodes are to be attached to stiffeners; OR - Anodes aligned in way of stiffeners on plane bulkhead plating (tight or non-tight).	
960	B/2.7.1.1 & Fig B.2.14	Question	strength assessment of middle tanks	2009/10/23	With reference to KC ID 905: As per answer of KC905, all elements in the shaded area in Figure B.2.14 are to be assessed. With regard to this answer, we understand that it is appropriate to assess the structural members of middle tanks including the region forward and aft of such middle tanks up to the extent of the transverse stringers and buttress structures. However, in cases where the strength assessment of tanks, including bottom floor structures in the shaded area, is carried out according to this answer, the transverse members (i.e. 1st floor after TBHD and 1st and 2nd floor forward TBHD) located outside either side of the middle tank of three FE model cargo tanks shows higher stress levels than the transverse members of the middle tank that is located between the two TBHDs in Loading pattern A5_5a, as the original questioner pointed out. Please confirm whether the above result is correct in reference to the calculation result obtained during CSR development.	The draught for loading pattern A5/5a is based on investigation of loading manuals of actual ships. The Rules/Table B.2.3 Note 7 allows the user to use a different draught if it is available from the actual loading manual.	
965	Text 8/2.6.4.3	CI	section modulus of deck transverses	2009/9/23	CSR Tanker Section 8/2.6.4.3 states that the net section modulus of the deck transverses in wing cargo tanks is also not to be less than required for the deck transverses in centre tanks. Understand that Sec 8/2.6.4.3 applies to foremost and aftermost tanks region even though span of deck transverse in wing tank become smaller than that of Midship. In this instance, can it be possible to take the actual pressure especially for green sea pressure (P_ex_dt) at each PSM location for the deck structure in foremost tank which gives more accurate results?	The requirements have been developed based on experience gained so far and adjusted based on the calibration with the sample ships. Currently we do not see any compelling need to apply this interpretation. We will however review this request more carefully to understand the full consequence.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
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.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
981 attc	Table C.1.7	Question	fatigue assessment	2009/10/23	Note 6 in Table C.1.7 says "Equivalence to Figure C.1.11 is to be demonstrated through a satisfactory fatigue assessment by using comparative FEM based hot spot stress of the cut-out in the primary support member and the collar". Our understanding is that different slot configurations may be accepted if the hot spot stress of the actual structure which leads to fatigue strength is verified as equivalent with that of rule required scantling and slot configuration. For example, Due to the shape of higher stress concentrations, we understand that straight touched web/collar plates normally can't be accepted as alternatives to soft toe types. However, as shown in the attachment, if the web/collar plate thickness is additionally increased to compensate for any stress concentrations, the hot spot stress of Type B designs can be reduced to the equivalent level of Type A even if the straight touch is applied. Considering the above, we understand that such kind of alternative (Type B) can be accepted subject to: (1) Shear stress of connections under the requirements of CSR Section 4.3.4 having enough of a safety margin to compensate for any stress concentrations by different slot shapes. (2) The stress concentration factor is well verified by FEM assessment with hot spot stress approach. Please confirm that our above understanding is correct.	Equivalence to Figure C.1.11 is to be demonstrated through a satisfactory fatigue assessment by using comparative FEM based hot spot stress of the cutout in the primary support member and the collar. Your item 1): It is not sufficient to investigate only the local shear stress of the connection. A connection can have sufficient shear capacity but high stress concentration can still be present at the opening corner to the LSM. Your item 2): Local shear, PSM shear and bending stress components has to be taken into account. We intend to make a common interpretation to have a common procedure describing how to carry out the comparative FEM study.	Y
984	6/5.4.1.2	CI	Lapped joints	2010/1/19	Is the requirement of Section 6/5.4.1 (i.e. overlap width to be 3 to 4 times thinner gross plate thickness) applicable to outfitting items of not subject to high tensile or compressive loading, e.g. collar plate in way of pipe penetration?	The requirement is also to be applied to outfitting items.	
985	4/3.4.1.4	RCP	soft heel requirements	2009/10/23	Section 4/3.4.1.4 indicates "a soft heel is not required at the intersection with watertight bulkheads, where a back bracket is fitted or where the primary support member web is welded to the stiffener face plate". In this connection, while the above sentence specifies permissible omission of soft heel at intersection with "watertight bulkheads", we presume that the same provision can be also applied for the intersection with ordinary primary support members, where a back bracket is fitted or where the primary support member web is welded to the stiffener face plate, Please note that the last part of the above sentence also indicates "primary support member web is welded to the stiffener face plate", which may not be at "watertight bulkheads". Please confirm, and update the Rule text, as appropriate. If it should be limited to watertight bulkhead intersection only, please advise the reason.	We agree with your interpretation. The Rules will be amended at the next opportunity.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
986	4/3.2.3.3	CI	net bracket thickness	2009/10/23	CSR-T Sec.4/3.2.3.3 specifies that minimum net bracket thickness is not to be less than 6mm and need not be greater than 13.5mm. According to the CSR Technical Background, this requirement is based on DNV Rules Pt.3 Ch.1 Sec.3 C200. However, there is the following discrepancy between the CSR-T and the DNV Rules. DNV Rules: gross thickness. CSR-T: net thickness. Therefore, please confirm that the net bracket thickness requirement given in CSR-T Sec.4/3.2.3.3 is the correct interpretation of the CSR-T. If this requirement is intended to be the gross bracket thickness as in the DNV Rules, please change the CSR-T.	The formula is taken from the Rules of DNV and has been modified as described in the background document. The minimum and maximum thicknesses are kept to maintain general robustness and reasonable thicknesses.	
989 attc	App C 1.5, Table C.1.7 Note 1	CI	Attachment length	2010/8/12	Where the attachment length is less than or equal to 150mm, the S-N curve may be upgraded one class from those specified in the table. For example, if the class shown in the table is F2, upgrade to F. Attachment length is defined as the length of the weld attachment on the longitudinal stiffener face plate without deduction of scallop. But this will cause unexpected results (See attachment) which are difficult to explain why soft toe bracket has less fatigue life than flat bar. In this regard “Attached length” should be replaced with “The depth of stiffener”. (See attachment)	The harmonisation project is currently ongoing and is considering the fatigue requirements of the two CSR Rules. You proposal will be retained and included in the project.	Y
990	6/5.7.4.1	CI	Welding of end connections of primary support members	2010/3/8	Welding of end connections of primary support members (i.e. transverse frames and girders) is to be such that the weld area, Aweld, is to be equivalent to the Rule gross cross-sectional area of the member. 1)Please clarify whether the Rule gross cross-sectional area is the required one or offered one. 2)If this is the required cross sectional area, the thickness increase due to buckling should not be included. Please clarify.	1) The Rule gross cross-sectional area is the required area. 2) Buckling is to be included.	
991 attc	8/2.6.4.1	CI	Web depth of deck transverses	2010/3/8	The web depth of deck transverse is to be checked by 8/2.6.4.1 together with CIP-T5 for 3/5.3.3.4. In case the web depth is varying along the span due to interruption by manifold (See attached), mean inertia of moment along the span is to be used considering maximum deflection at mid span provided that the reduced web dept is not more than 50% of whole span. Based on FE analyses this approach found quite reasonable. Please clarify whether the mean inertia of moment (I1+I2 / 2) can be used for calculation of the required equivalent inertia of moment.	The procedure offered in CI-5 item 3 is considered sufficient for this purpose and the mean moment of inertia cannot be used to satisfy the Rule requirement.	Y
992	8/2.6.4.4	CI	net shear area	2009/12/11	In this paragraph the net shear area to be calculated based on both cargo pressure and green sea pressure. For green sea pressure, the requirement should be applicable only for 20% from the end of the whole span since there is no shear force from the side transverse or vertical web frame on the longitudinal bulkheads. There is no shear at the mid span of deck transverse. Please clarify whether shear requirement with green sea pressure should be applied to whole span of deck transverse.	The shear requirement with green sea pressure is to be applied to the whole span of deck transverse. Please also see the Technical Background document on the IACS website.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
993	8/2.6.9.2	CI	section modulus of PSM	2009/12/11	In this paragraph the net section modulus of PSM located outside 0.4L of amidships is to be scaled based on Zmid_net50 (the net section modulus of PSM at amidship). Zmid_net50 should be based on the required section modulus to avoid any confusion with respect to margin with prescriptive and FE. Please clarify whether Zmid_net50 is the required section modulus or offered section modulus.	The requirement in 2.6.9.2 is "scaling" the required section modulus in the midship region to that in the region beyond 0.4L. Hence Zmid_net50 is the required section modulus.	
994	8/6.3.7 & Fig 8.6.5	Interpretation	Bottom slamming for PSM	2010/8/12	Bottom Slamming for PSM: Load Patch which is longer than the half of the bending span, the patch load modification factor distribution (Figure 8.6.5) is not correct. It is proposed that the half length of the bending span is taken for patch load span. Extent of Slamming Patch load bigger than 0.5 l_bdg then l_SLM to be equal to 0.5lbdg.	The harmonisation project is currently ongoing and is considering these requirements. You proposal will be retained and included in the project.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
996 attc	Table C.1.7 & Fig 4.1.4	CI	Cut-outs in lower stool	2010/3/8	We understand that normal cut-out type for the cloud mark area in the attachment is not acceptable if web stiffener is omitted as described in note 6 of Table C.1.7. However, KC 139 is not clear defining inner longitudinal bulkheads as quoted below; Quote "Note 6 in Table C.1.7 does not apply to inner longitudinal bulkheads" Unquote Our understanding is that inner longitudinal bulkhead in the above means the longitudinal bulkhead as shown in Fig. 4.1.4 and considering the inner hull definition in Table 4.1.1 & MARPOL req't, Note 6 in Table C.1.7 is also applicable to the cloud mark area since the concerned area is boundary between cargo and ballast tank. Please confirm.	In Note 6 of Fig.C.1.7, optimized slots are required in way of flat-barless connections for the inner bottom and hopper, but not the centerline bulkhead. It could be argued that the stool is categorized as part of the longitudinal bulkhead. But considering that the stool is open to the double bottom ballast tank we would categorise it as being part of the inner bottom. The lateral pressure in way of the stool is expected to be close to that on the hopper or inner bottom. Ordinary slots may be permitted if satisfactory fatigue life is demonstrated.	Y
1008	8/1.3.2.2	CI	Calculation of hull girder shear strength	2010/5/27	In the assessment of hull girder shear strength in section 8/1.3.2.2, the equivalent net thickness should be used when calculating all plate elements' shear capacity. Plate ij is explained in table 8.1.4 as for each plate j, index i denotes the structure member, such as the side shell, the inner hull and the longitudinal bulkhead, of which the plate forms a component. Additional, zp, the calculating position for shear force correction, is taken from the lower edge of plate ij. As stated above, when calculating hull girder shear strength, the elements should be taken as the plate strakes. Furthermore, it is prescribed in section 3/5.1.1.1 that scantlings of plate strakes are to be derived based on element plate panel (EPP). But hull girder shear strength assessment is not in the range of scantlings of plate strakes, and it is not clear if section 3/5.1.1.1 should be applied. Please clarify that hull girder shear strength in section 8/1.3.2.2 should be calculated based on plate strake or EPP. If EPP is chosen, plate ij should be explained as EPP and zp as the lower edge of the considered EPP. And the related rule text should be modified as follows: 8/1.3.2.2 Qv-net50: net hull girder vertical shear strength to be taken as the minimum for all EPP that contribute to the hull girder shear capacity 8/1.3.3.2 zp: the vertical distance from the lower edge of the considered EPP of plate ij to the base line, in m. Not to be taken as less than hdb	The Rules, section 3/5.1.1.1, specifies that plate strakes are to be idealised as EPPs and scantlings derived on the basis of EPPs. Subsequently in the Rules the text always refers to "plating" rather than "EPP" as it us understood, with reference to Section 3, that the calculations are based on EPP.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
1010	Table 10.3.1 & 10/3.2.1	Question	Correction factors for panel buckling calculations	2010/1/19	Is it possible to apply for the correction factors C1 = 1.3 etc. similar to IACS UR S11 or CSR Bulk Carriers Rules for transverse panel supported by floor in double bottom of engine room for buckling calculations under CSR Tanker Rules? Please note that c of IACS UR S11 buckling is as follows: F1 factors of CSR Bulk Carriers in Chapter6 Sec3/Table3 show similar factors. c = 1.3 when plating stiffened by floors or deep girders c = 1.21 when stiffeners are angles or T sections. c = 1.10 when stiffeners are bulb flats c = 1.05 when stiffeners are flat bars Your prompt reply on this matter would be highly appreciated.	The correction factor for CSR Tanker had been deliberately set to 1.0 only. Please refer to Sec10/3.2.1.b of the TB for CSR Tanker..	
1011	Table 7.6.5	CI	Accelaration factors	2010/1/19	In Table 7.6.5, there are two acceleration factors for longitudinal acceleration for Load cases 4a and 4b, i.e. "a_lng-mid" and "a_lng-ctr", and it is not clear which of these is to be used for U-shape ballast tank. Please confirm.	"a_lng-ctr" is to be used since it represents the factor for a center of the geometry of U-shape ballast tank.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
1013	Table B.3.3	RCP	Yield utilisation factor for heels of transverse bulkhead horizontal stringers	2010/2/12	CSR-T App.B Table B.3.3 specifies the fine mesh analysis screening criteria for heels of transverse bulkhead horizontal stringers. According to the formulae in this table, the λy for heels at longitudinal bulkhead horizontal stringer is obtained by multiplying the axial stress σx in element x direction by a stress concentration factor and the λy for heels at side horizontal girder and transverse bulkhead horizontal stringer is obtained by multiplying the Von Mises stress σvm by a stress concentration factor. However, since σx and σvm determined by FEA represent sums of local stress and hull girder stress, the screening results for the fine mesh elements, which are far from neutral axis and hull girder stress is high, are likely to be severe. For example, even though the local stress of the horizontal girder in way of neutral axis is higher than that in way of upper deck, the screening result for horizontal girder in way of upper deck is more severe than that in way of neutral axis due to the hull girder stress included in σx and σvm. We consider that the stress concentration factor is to be applied taking into account the local stress only. Please confirm above interpretation and reconsider the formulae of λy.	The screening criteria were developed based on correlation studies of the stresses obtained from the coarse mesh cargo tank FE analysis and the fine mesh FE analysis. It is to be noted that the screening formulae given are intended to provide a conservative estimation of the localised stress in way of the structural details, based on the stresses obtained from the cargo tank FE analysis, for the purpose of identifying the necessity for carrying out a further fine mesh analysis. These formulae will not necessarily give accurate prediction of the stress level. Localised stress at the heel of side horizontal girder and transverse bulkhead horizontal stringer was found to be proportional to the Von Mises stress of the element in way of the heel in the cargo tank FE model (see screening formula given in Appendix B/Table B.3.3 of the Rules). A stress concentration factor of 3.0 was derived from correlation between stress result from cargo tank and fine mesh analysis. Localised stress at the heel of longitudinal bulkhead horizontal stringer and transverse bulkhead horizontal stringer was found to be proportional to the longitudinal axial stress of the element in way of the heel in the cargo tank FE model (see screening formula given in Appendix B/Table B.3.3 of the Rules). A stress concentration factor of 5.2 was derived from correlation between result from cargo tank and fine mesh analysis. We will therefore keep the Rules as they are currently, but we will retain your comment for future consideration.	
1014	Table 9.2.1 & KC ID 539	Question	Yield utilisation factor for non-tight structural members	2010/2/12	With reference to KC ID 539: Please reconsider the answer of KC ID 539 for the following reason. According to the Rule Clarification of Corrigenda 1, the yield utilisation factor for longitudinal bulkheads between cargo tanks may be taken as for non-tight structural members for FE load cases where either both sides of the bulkhead are empty or both sides are loaded. However, in KC ID 539, this interpretation is not applicable to watertight bottom girders under centreline bulkheads because the size of the tanks may allow for a combination of high hull girder shear force and lateral pressure on such centreline girders. We consider that it is possible to be taken as a utilization factor for non-tight structural members because the lateral pressure acting on watertight bottom girders is low in cases where both sides of the watertight bottom girder are empty or both sides are loaded.	There are no load cases in the CSR with single sided pressure for tight girders between ballast tanks and hence increasing the allowable yield utilisation factor to 1.0 for such structural members can only be done if additional load cases with single sided pressure are added. We will therefore keep the Rules as they are currently.	
1015	4/2.1.1.8	Question	Effective bending span of flat bar stiffeners	2010/2/12	Rule Ref. : CSR for Tankers/Sec.4/2.1.1.8 Please advise whether Sec.4/2.1.1.8 and Figure 4.2.3 could be applicable to flat bar stiffeners of the same configuration with Figure 4.2.3. They mention 'face plate', so the application to flat bar stiffeners seems to be unclear.	This paragraph is only applicable to stiffeners with a face plate.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
1016	4/2.3.4.3	Question	Effective width of primary supporting members with curved face plates	2010/3/8	The effective width of primary supporting members with curved face plates can be taken in Rules Sec 4/2.3.4.3 provided radial brackets are fitted on the flange side or attached plating are supported by cylindrical stiffeners. The effective width of the curved face plates is much bigger than the effective width of the flat surface plates based on Sec 4/2.3.2. Effective width of primary supporting members from Sec 4/2.3.2 is too small in comparison to the pre-CSR (33% of unsupported span). Is it possible that the longitudinal stiffeners on the side shell plate are considered as cylindrical stiffeners in this case? Your prompt reply on this matter would be highly appreciated	Use of the effective area concept for a curved plate should strictly limited to those as defined in the rules 4/2.3.4. As explained in the technical background, the efficiency of the curved plate in terms of bending moment has been considered in the formulation. Therefore longitudinal stiffeners on the flat side shell are not considered as effective as cylindrical stiffeners for a curved plate. It was intended to take a conservative estimate for effective breadth for flat plate.	
1021 attc	Table C1.3, C1.4, C1.5	Question	Value of stress range combination factor f2 corresponding to stress range due to Horizontal BM	2010/5/27	Regarding the stress combination factors (f1, f2, f3 and f4) specified in Table C.1.3 to C.1.5, we consider that the f2 values, the stress range combination factor corresponding to stress range due to horizontal bending moment, under normal ballast conditions are unreasonable for the following reasons: (See attached) 1.The “f2” value of the upper part of the inner hull is about twice as much as that of the upper deck. 2.The “f2”value of the upper part of the inner hull is greater than twice that of the upper part of the side shell. From our studies, we have found that the fatigue assessment of an uppermost longitudinal stiffener fitted on an inner hull (IL1) is more severe than that of an uppermost one fitted on a side shell (SL1) due to f2 value differences under normal ballast conditions. We think that the f2 values for these longitudinals should be almost the same under normal ballast conditions. The CSR technical background regarding the stress combination factors is as follows: (a)Stress range combination factors are derived based on the theory of a stationary ergodic narrow-banded Gaussian process. (b)The total combined stress in short-term sea states is expressed by linear summation of the component stresses with the corresponding combination factors. This expression is proven to be mathematically exact when applied to a single random sea. (c)The long-term total stress is similarly expressed by linear summation of component stresses with appropriate combination factors. Could you kindly give us the detailed technical background on the determination of the stress combination factors? Your prompt reply would be greatly appreciated.	As the contributing stress range components Sv, Sh, Se and Si and total stress range for the inner hull and the side shell are not expected to be identical, the combination factor for stress due to horizontal bending moment, f2, for the inner hull and the side shell is also expected to be different. For theoretical background of the stress combination approach, please see attached paper. We have not so far encountered similar feedback from designers applying the rules; however your feedback is appreciated. We would be able to make further investigations if design information for the ship concerned with calculation inputs and results are provided.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
1035 attc	B/2.5.3.2,3 ,4	Question	Vertical hull girder shear force distribution for frames not arranged in same plane	2010/3/22	Appendix B.2.5.3 of CSR OT specifies the procedure to adjust vertical hull girder shear force distribution. However, it might be only applicable to ships with all structural members of each frame arranged in the same vertical plane. For those ships with structural members of a frame not arranged in the same plane (such as the case shown in the attached figure), i.e. the frame structural members in side, hopper tank and those in double bottom are not in the same plane, how to adjust the hull girder shear force?	For the situation described in the attachment it is acceptable to ignore the special frame and reach the target shear force at the frame before the special frame.	Y
1036	Table 12.1.2	Question	Wastage allowance for fuel and lube oil tank and fresh water tank	2010/10/1	In Table 12.1.2 of CSR for Tanker, our understanding is that 1.0mm wastage allowance for fuel and lube oil tank and fresh water tank only applies to tank tops located in exposed area. Please confirm. If not, please explain the technical background for the requirement that the wastage allowance for tops of tanks and attached internal stiffeners of such tanks is to be 1.0mm.	Your understanding is correct: the 1.0mm wastage allowance for fuel and lube oil tank and fresh water tank only applies to tank tops located in exposed area.	
1037	10/3.2.1	RCP	Correction factors for panel buckling calculations	2010/4/28	Reference is made to KC ID 1010 regarding correction factor for panel buckling calculations. The answer given for KC ID 1010 is as follows: “The correction factor for CSR Tanker had been deliberately set to 1.0 only. Please refer to Sec 10/3.2.1.b of TB for CSR Tanker.” We are not satisfied with this answer because Sec10/3.2.1.b of the technical background for CSR Tanker does not provide detailed results of comparison studies made using the advanced buckling method. Could you give us the detailed technical background of this requirement such as detailed results of comparison studies and the reasons why the correction factor has been set to only 1.0? In addition, where VLCC is designed in accordance with CSR Tanker, the thickness for the shell platings of double bottoms in engine rooms adopting a transverse system required is more conservative than the thickness required by existing designs using one of the correction factors specified in UR S11. Moreover, existing ships which are designed using aforementioned correction factors have reported less damage due to buckling of plate. We consider that the rule should take into account realistic scantlings and the sufficient experience based on existing designs without damage. Therefore, please change the rule to apply the correction factors given in UR S11.	The harmonisation project is currently ongoing and is considering the buckling requirements of the two CSR Rules. You proposal will be retained and included in the project.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
1038 attc	C/2.2.1.1	CI	Calculation of average net thickness and material for FE yield & buckling evaluation	2010/6/25	For FE when the different thickness and material is used within one panel between stiffeners, the average net thickness (See detail in the attached figure 1) and the lowest material to be used for yield and buckling evaluation. Please confirm.	For FE when the different thickness and material is used within one panel between stiffeners, the average net thickness and the lowest material to be used for yield and buckling evaluation as proposed.	Y
1044	8/2.5.7	Question	FEA of lower stool top plate and upper stool lower plate	2010/5/25	Reference is made to KC ID 784. According to the answer, the requirements for the attached corrugation based on the Finite Element Analysis as given in Appendix B is to be used when assessing the lower stool top plate and upper stool bottom plate. However, this interpretation is not clear regarding whether the FEA is only coarse mesh analysis or includes fine mesh analysis. The required thickness for corrugated bulkhead by fine mesh analysis in CSR-T may increase more than that of pre-CSR ship by 10mm or above. We consider that a fatigue strength assessment is need for corrugated bulkheads because most of damages of corrugated bulkheads are caused by fatigue due to stress concentration of the corners of the corrugation according to our experience. Please confirm whether evaluation results can be accepted to determine scantlings of corrugated bulkheads if a fatigue strength assessment is carried out for corrugated bulkhead in accordance with theory of App.C in CSR-T. Please also advise the reason why the corrugated parts are not required to assess the fatigue strength by the Rule. In addition, with regard to the thickness of the stool top plate, our understanding is that it is reasonable to require stool side plate thickness in consideration of the structural continuity with corrugated bulkheads. However, we consider that the thickness of the stool top plate, which does not need to consider structural continuity unlike the case of stool side plates, does not need to have the same thickness as corrugated bulkhead by fine mesh analysis and it is sufficient to be more than the required thickness for corrugated bulkhead by coarse mesh analysis. Please confirm the above.	The Rules stipulate in Section 9/2.3.1.1(d), Fig. 9.2.1 and App.B/3.1.5 that FE fine mesh stress assessment is to be carried out. The fatigue procedure in the CSR Tankers have not been developed and calibrated for the corrugated bulkhead connection to the supporting structure. Consequently the procedure in Appendix C cannot be used to evaluate the fatigue strength of this connection. A detailed design improvement is recommended in the Rules to improve fatigue performance, please see Figure C.2.6. This is considered in addition to the fine mesh stress assessment. The present requirements of 8/2.5.7.10(b) are based on existing text in ABS Rules and are similar to requirements in the Common Structural Rules for Bulk Carriers. Please note that the thickness requirement is primarily experienced based and the stool bottom plate extension requirement is related to having sufficient structure to enable welding of the corrugation to the stool and to provide appropriate load transmission between the corrugation flange/web and the stool. A local fine mesh FE analysis will not address all these issues.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
1053 attc	7/3.5.2.3	Question	Dynamic wave pressure, clarification of answer to KC ID 886	2010/8/12	According to the answer to KC886, the pressure at z=0 is to be calculated by using a y-coordinate equal to Blocal/2 in the case of (Tlc-hwl) <=0. We wish to confirm the following two points: 1) In case of Tlc-hwl<=0: We understand that the pressures for stiffeners located i.w.o bilge R section are to be obtained through linear interpolation by using y=Blocal/2. (See attachment (1)) Please confirm. 2) In case the side shell is not vertical: Although actual coordinate values are used for calculation point when Tlc-hwl>0, are y=Blocal/2 and z=0 used when Tlc-hwl<=0? If so, the pressure should be much different depending on the sign of “Tlc-hwl”. (See attachment (2)) Please confirm.	Item 1) Your understanding is not correct. The pressure at P_blg is obtained by interpolating between P_blocal and the pressure at Blocal/4 (Note the pressure at P_blocal is a reference point). The same principle is applied to the side shell. The pressure P1 is obtained by interpolating between P_blg and the pressure at the upper turn of the bilge. Item 2) When Tlc-hwl<0 the pressure Pex-dyn should be used with actual y co-ordinate. Note: Your attachment uses the term P_blg different from the Rules Pbilge (see Figure 7.6.1, 7.6.2).	Y
1058	3/2.2.3	Question	Indication of corrosion additions in the plans placed onboard ship	2010/8/12	According to Sec.3/2.2.3 CSR DHOT, the plans indicating both the as-built and renewal thicknesses are to be placed onboard the ship. In this connection, please advise acceptability of indicating the wastage margin (corrosion addition), instead of directly indicating the renewal thicknesses as follows: Option 1: Indicate renewal thickness formula and corrosion addition indicated beside the as-built thickness, tas-built of each member. Option 2: Indicate renewal thickness formula and corrosion addition DIAGRAMS/SKETCHES similar to CSR DHOT Figure 6.3.1 but also showing typical transverse sections, profiles or plans with boundaries of tanks and watertight compartments. In both options, the following are to be indicated. (a) The description and formula to obtain renewal thickness (tren = tas-built - tcorr - town) (b) The owner/builder specified additional wastage allowance, town, if applicable, (c) Description to apply higher corrosion addition to entire strake (based on KC420) Your prompt reply on this matter would be highly appreciated.	Your proposed option 1 is acceptable as long as the information in a, b and c is provided for all structural members. A common interpretation will be issued shortly to provide further guidance.	
1060	A/2.3.7.1	Question	Web local buckling of flat bar	2010/8/12	There seems to be an error in Equation 2.3.7.1 of Appendix A, CSR for Tankers. We feel the expressions "A s-net50sigmaC4" and "A s-net50" are being incorrectly multipied by "10^-2". We propose the following modification: The correct form of the equation should multiply "10^-2 " by "st net50sigmaCP" and "st net50" instead of by "A s-net50sigmaC4" and "A s-net50". Please clarify.	We can confirm that there is an editorial typo. Your proposed modification is agreed with, and the Rules will be amended at the first opportunity.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
1061	6/5.7.4.1	Question	Gross thickness used in the calculation of web length length	2010/8/12	"tp_grs" used for the formula of weld leg length in Sec.6/5.7.4.1 is defined as "rule gross thickness of primary support member". On the other hand, "tp_grs" in Sec6/5.7.1 and 5.8.1 is defined as "the gross thickness". Is the reason for the difference of these definitions to allow "rule gross thickness" to mean rule required gross thickness and "the gross thickness" to mean as-built thickness? Or, since Sec.6/5.1.1.1 specifies "In general, weld sizes are based on the Rule gross thickness values" and it is answered in KC ID 117 that "It is confirmed that the weld sizes in the IACS CSR for Tankers are based on the gross required thicknesses of the items being joined", may weld leg length be calculated based on rule required gross thickness? (i.e. even where as-built thickness is greater than rule required gross thickness, may weld leg length be determined based on rule required gross thickness?) Please clarify.	Where the Rules specifically state "Rule gross..." then the Rule required gross thickness should be used otherwise the as-built value should be used.	
1066	6/2.1.2.6	Interpretation	Anodes welded on floor or tight plane bulkhead	2010/8/12	Please advise that anode supports welded smoothly on floor or tight plane bulkhead plating are acceptable as an alternative of Section 6/2.1.2.6.	Your proposal is acceptable.	
1069	Text 6/5.1.1.1, Text 6/5.7.1.2, 5.7.4.1, 5.8.1.1	Question	Application of "gross thickness" values in formulae	2010/11/4	With regard to KC ID 1061, we note the answer well with thanks but would like to confirm the following: CSR-T Sec 6 / 5.1.1.1, which is a general provision, says "In general, weld size are based on the Rule gross thickness values." In addition, tp-grs is defined as either "gross thickness" or "rule gross thickness" in each rule formula. Considering the KC's answer, if tp-grs is defined as "gross thickness" in the rule formula, the rule formula is to be calculated by as-built gross thickness regardless of 5.1.1.1. 5.7.1.2 : tp-grs=gross thickness 5.7.4.1 : tp-grs=rule gross thickness 5.8.1.1 : tp-grs=gross thickness Please confirm whether the above understanding is correct or not.	Your understanding is correct.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
1070	Text 7/4.2.2.1, Tanker 7/4.2.3, 4.2.4, 8/6.2	RCP	Sloshing pressure in tanks due to longitudinal or transverse liquid motion	2010/11/4	The sloshing pressure in tanks due to longitudinal or transverse liquid motion is defined in rules Sec. 7/4.2.2 through 4.2.4. In Sec.8/6.2, the scantling requirements for boundary and internal structure of the tanks subject to sloshing loads are specified which the scantling formulas have the same form of table 8.2.4, but the pressure is well-defined as the max value of sloshing pressure Pslh-lng,Pslh-t, Pslh-min. It's to be noted that other static and dynamic loads are not considered. According to CSR OT TB, rules for assessment of sloshing pressure and scantling requirement are based on DNV Rule Pt.3 Ch.1 Sec.4 C306, which indicate the sloshing pressure is considered together with other load (P1~P9) as defined in table1 in Pt.3 Ch.1 Sec7, Sec8 and Sec9. Therefore the pressure P for scantling assessment should be P=Pslh+max(P1~P9). Please clarify the difference between current CSR OT rules and DNV rules.	The application of sloshing pressure in DNV rule is same as CSR. Your interpretation (P=Pslh+max(P1~P9)is not correct since the greater of "minimum sloshing pressures given in Table in Pt.3 Ch.1 Sec7 to Sec9 and the calculated sloshing pressure according to Pt.3 Ch.1 Sec.4 C306 to C310" shall be applied. Basically the sloshing pressure can not be added to the normal pressure for scantlings.	
1072	5/3.1.1.1	Question	calculating the scantling of the plate strake A	2010/9/20	In calculating the scantling of the plate strake A shown in Fig.1 (see attachment), do we need to apply 1.7+1.0>>3.0+0.5=3.5 mm to the strake A in whole or only to the EPP A? Please clarify.	a) The effect of heating from sun is assumed to extend 3.0m from weather deck. This distance 3.0m is the same on both sides of the inner side using the height in the lowest tank as reference and not as shown in the figure where different reference points are used to measure the 3m in ballast and in the cargo tank. The corrosion addition for inner side within 3.0m from weather deck will then be 1.7+1.7+0.5= 4.0 and 1.0+1.2+0.5= 3.0mm below. There are no intermediate zones. b) If corrosion margin in EPP A is 4.0mm then scantling requirement for the entire Strake A is determined on the basis of 4.0mm Figure 6.3.1 will be modified accordingly at the next Rule change proposal. The above answer is applicable for the original version of key drawings for approval with submission date 1 July 2010 or later. (Note: The answer in the previous KC ID 420 is superseded by KC ID 1072.)	Y
1073	Text 8/4.3.4.4	RCP	Minimum requirement of web depth	2010/11/4	SECTION 8.4/PAGE 5 4.3.4.4 The web depth is to be not less than 2.5 times the web depth of the adjacent frames if the slots are not closed. Should this clause be The web depth is to be not less than 2.5 times the depth of the slots if the slots are not closed.	Your proposal is agreed with. The Rules will be amended accordingly.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
1076	Text 4/3.3.2.2, 4/3.3.3.4	Question	Free edges length of the brackets at the end of PSM	2010/11/4	Could this conclusion be made that when free edge length is greater than 1.5m, free edge should be stiffened according to CSR-DHOT SECTION 4.3/PAGE 6 3.3.2.2 The ends of brackets are generally to be soft-toed. The free edges of the brackets are to be stiffened. Scantlings and details are given in 3.3.3. and 3.3.3.4 Face plates of brackets (typical brackets similar to those indicated in Figure 4.2.7b) are to have a net cross-sectional area, Af-net, which is not to be less than: Where: lbkt-edge length of free edge of bracket, in m. For brackets that are curved the length of the free edge may be taken as the length of the tangent at the midpoint of the free edge. If lbkt-edge is greater than 1.5m, 40 percent of the face plate area is to be in a stiffener fitted parallel to the free edge and a maximum 0.15m from the edge tbkt-net minimum net bracket thickness, in mm, as defined in 3.2.3.3	Your understanding is not correct. The Rules state that the free edges of the bracket are to be stiffened. In addition, if the length of the free edge of the bracket is greater than 1.5m, then 40 percent of the face plate area is to be in a stiffener fitted parallel to the free edge and a maximum 0.15m from the edge. If the free edge of the bracket, l_bkt-edge, is greater than 1.5m, then "40 % of the face plate" is to be calculated by 0.4 x PSM's face plate area.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
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
1078 attc	Tanker Figure 4.2.16	Question	Definition of distance between opening edge and slot for CSR Tanker	2010/11/4	Definition of distance between opening edge and slot for CSR Tanker? (Original request: Please refer to attachment)	The requirements concerning small openings such as lightening holes are provided in the Rules Section 4/3.5.1 to 3.5.4. We will however retain your comment for consideration during the harmonisation of the two CSR Rules.	Y
1079 attc	Tanker 8/2.6.6&7	Interpretation	Alternative primary supporting member arrangement for VLCC whose arrangement is not covered by current CSR.	2010/11/22	Reference is made to alternative primary supporting member arrangement for VLCC whose arrangement is not covered by current CSR. We are considering deep horizontal longitudinal stringer on longitudinal bulkheads in lieu of cross tie which support vertical webs as shown in Fig.1. However, current CSR does not take into account the effect of stringer for the scantling of vertical web and does not offer applicable prescriptive rule for the stringer. In this regard, we would like to propose following procedure for the scantling of such alternative design: 1.Vertical web The scantling will be determined according to current prescriptive rule without cross tie in center tank. However, in this case, the load to stringer obtained by Beam Theory will be applied to stringer as its design load at vertical web positions. And then, the design bending moment and shear force will be reduced considering the effect of stringer. 2.Deep longitudinal stringer The scantling will be determined according to the requirement in 8/2.6.7 of the rule with M(bending moment) and Q(shear force) obtained by Beam Theory for design load as mentioned in 1.	Your proposed approach for scantling assessment is in general agreed with. Section 8/7 for general purpose strength requirements as indicated in 8/7.1.1.1 should be applied to the extent possible. Further we advise that the application of minimum thickness and slenderness ratio requirements in Section 8/2 to PSM should be made. Subsequent FE assessment should also be carried out, and critical locations should be evaluated in fine mesh FEA.	Y
1081 attc	Tanker Table B.3.1	Question	Comment on the CI-T3	2010/11/22	With regard to CI-T3, we would like to make comment as attached. Please consider.	The current procedure in CI –T3 is correct since the reduction factor of opening shall be applied both for capacity of panel and also for working shear stress. It means that in Sec 10.3.4.1.1 C_shear (reduction factor in case 6) to be calculated with corrected buckling factor, K=K x r due to opening and average shear stress in the panel should also be corrected due to opening.	Y

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
1083	6/4.1.2.3	Question	Text removed from the Rules or permit alternative procedures for confirming such alignment.	2010/11/15	Section 6/4.1.2.3(h) requires "The final boring out of the propeller boss and stern frame, skeg or solepeice fit-up and alignment of the rudder, pintles and axles, are to be carried out after completing the major part of the welding of the aft part of the ship. The contact between the conical surfaces of the pintles, rudder stock and rudder axles are to be checked before the final mounting." We note that the first sentence of this comes from the LR Rules Pt. 3, Ch. 1, Sec.8.2.3 (July 2001 Edition). Regarding the first sentence, "The final boring out of the propeller boss and stern frame, skeg or solepeice fit-up and alignment of the rudder, pintles and axles, are to be carried out after completing the major part of the welding of the aft part of the ship." We note that one major shipbuilder carries out shaft alignment work in block stage and has done this successfully for many years. We contend the above be open to alternative procedures. Further such items as indicated in the requirements "The final boring out of the propeller boss and stern frame, skeg or solepeice fit-up and alignment of the rudder, pintles and axles, are to be carried out after completing the major part of the welding of the aft part of the ship. The contact between the conical surfaces of the pintles, rudder stock and rudder axles are to be checked before the final mounting.", are fabrication issues that need not be specifically addressed in the Common Structural Rules. It is believed that this text should be removed from the Rules or that the Rules clearly permit alternative procedures for confirming such alignment. Your prompt reply on this matter would be highly appreciated.	The Rules state that alignment should be carried out after completing the major part of the welding of the aft part of the ship. An alternative procedure to the shaft alignment may be accepted and should be reviewed by the Classification Society. As for the pintle this is a local system which would be relatively unaffected by block assembly and floating out provided all the work in the block has been completed.	
1087	11/2.2.6.3	Question	Fillet weld size requirement when the angle between the plates is not 90 degrees	2011/9/21	In CSR-BC there is a requirement for fillet weld size when the angle between an abutting plate and the connected plate is not 90 degrees in Chapter 11, Section 2/2.6.3. But there is no similar requirement in CSR-DHOT. Please clarify.	Please be advised that this difference in the welding requirements is being considered during the harmonisation project of the two CSR Rules.	
1092	7/6.1.1.1	RCP	Sloshing pressure to include also the still water pressure	2011/2/7	Please refer to KC 1070. We understand that the dynamic loads part (level1 and level2) in sloshing is considered by CSR, but impulsive loads are not, which is refered to individual Classification Society rules. According to the rules of CSR OT Ch7 Sec6 design load combination, S, S+D and A are to be use for scantling calculation. However sloshing pressure applied in scantling calculation is treated as dynamic load, D. So it is conflicting to the definition of load combination. We think sloshing pressure in CSR should include still pressure part, and is to be in compliance with "S+D" of load combination .	1) In Table 2.5.1, it is found that sloshing is one of the load combination types to itself. 2) In Section 2/5.4.1.8, it is clearly explained that AC1 is applicable to sloshing case. 3) For the scantling against sloshing pressure, Table 8.6.1 and Table 8.6.2 should be considered.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
1093	Table 6.1.3	Question	Requirement of material class witnin 0.4L amidships	2011/4/11	Quoted: Table 6-1-3 Note 2 : Single strakes required to be of material class III or E/EH are, within 0.4L amidships, to have breadths not less than 800 + 5L mm, but need not be greater than 1800mm. Table 6.1.3, Note 6 : (For Bilge strake only) To be not lower than D/DH within 0.6L amidships of vessels with length, L, exceeding 250m. Unquoted: Question: This width requirement is explicitly applicable to "within 0.4L amidships" in Note 2 and then, it is understood that there is no such width requirement in Note 6. Please confirm.	The width requirement is generally applicable within 0.4L.	
1095 attc	8/6.2.5.3	Interpretation	Definition of effective bending span l_bdg	2011/2/7	The definition of effective bending span l_bdg of Sec8/6.2.5.3 refers to Sec4/2.1 of the rules. In case of the web stiffener is sniped at the end, please confirm which length is to be used among (a), (b) and (c) from attached details.	The full length between supports i.e., (c) should be taken. See also Section 4/2.1.1.3.	Y
1097	Text 9/2.3.1, App.B/3.1, Sec.9/3.3, App.C/2	Question	Fine mesh analysis on hopper knuckle connection	2011/10/5	Upper hopper knuckle connections are required to be evaluated by fine mesh analysis according to Section 9/2.3.1 and Appendix B/3.1. While lower hopper knuckle connections are required to be by very fine mesh fatigue analysis according to Section9/3.3 and Appendix C/2. We consider that structural assessment of upper hopper knuckle connections similar to lower hopper knuckle connections is possible to be carried out by very fine mesh fatigue analysis that is more advanced calculation than fine mesh analysis. Is it acceptable that very fine mesh fatigue analysis for structural assessment of upper hopper knuckle is carried out?	There is currently no procedure (in CSR OT) to carry out a fatigue assessment of the upper hopper knuckle and individual class requirements should be followed.	
1098	4.3/3.2.3	Question	Definition of length for bracketed connection	2011/10/5	The CSR-DHOT required the end bracket arm length in SECTION 4.3/3.2.3 Bracketed connections. This arm length includes the height of the attached stiffener and the height of the bracket. (lbkt=hstf+the height of the bracket) But according to SECTION 4.3/3.3.3 Brackets, the arm lengths of brackets mentioned above is obviously equal to the height of the bracket. (lbkt=the height of the bracket) So I suggested clear clauses to be issued.	Paragraph 4.3/3.2.3 is concerning Local Support Members. Height of the stiffener is included in lbkt only when the bracket and stiffener is on the same side. Paragraph 4.3/3.3.3 is concerning Primary Support Members. In 4.3/3.2.3, The term "lbkt" is, in general, defined including the height of the stiffener (lbkt=hstf+actual height of bracket) In 4.3/3.3.3, the actual bracket height is required to be not less than web depth of PSM member. For LSMs Rules require in 3.2.3.4 that "lbkt" is not less than 2 times the depth of stiffener web. For PSMs Rules require in 3.3.3.1 that actual bracket height are not less than web depth of PSM member. Your question will be retained and passed to harmonisation project for further consideration and clarification.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
1099 attc	8/4.1.1.1	Interpretation	Application of the Common Interpretation CI-T8	2011/4/11	With regards to the application of the Common Interpretation CI-T8, we have an interpretation request which is shown in attachment. Question: 1. Regarding to this tapering requirement, should we use the required t_end at the E.P.P of the panel i.w.o. Machinery Space (Applicable Rule Sec. 8/4 "MACHINERY SPACE")? 2.Or, should we use the required t_end at the E.P.P of the panel i.w.o. Aft End (Applicable Rule Sec. 8/5 "AFT END")?	No.2 since intention of tapering is to have reasonable plate thickness transition from midship to aft peak bulkheads at aft end side (Not engine room side).	Y
1102 attc	6/5.3.4.3	Interpretation	Clarification for the types of welding on collar plates	2011/7/8	Full penetration welding 6/5.3.4.3: e) edge reinforcements within 0.6L amidships to the strength deck, sheer strake, bottom and bilge plating, when the transverse dimensions of the opening exceeds 300mm, see Figure 6.5.5. Where collar plates are fitted in way of pipe penetrations, the collar plate is to be welded by a continuous fillet weld. Please clarify what type of welding (full or fillet) should be applied for 4 cases (See attachment).	1a) Case 1 (opening is equal or greater than 300mm): A(full penetration welding) -> sleeve can be regarded as an edge reinforcement. (similar situation to the example in Figure 6.5.5) 1b) Case 1 (opening is less than 300mm): A(continuous fillet welding) 2) Case 2 : A(continuous fillet welding), B(continuous fillet welding) 3) Case 3 : A(continuous fillet welding) -> pipe is not an edge reinforcement. 4) Case 4 : A(continuous fillet welding)	Y
1103	Fig 6.5.5	Question	Clarification for the types of welding on edge reinforcements	2011/7/8	Do the welds, between sleeves (p/v stand pipe penetration) and strength deck within 0.6L, when transverse dimension of the opening exceeds 300 mm, have to be performed as full penetration welds?	1) Please refer to the answer to KC 1102.	
1104	4/3.6.1.2	Interpretation	Interpretation for the knuckle reinforcement	2011/5/16	Knuckle reinforcement 4/3.6.1.2: Please clarify 1) "In general" means mandatory requirement ? 2) "shallow knuckle" is there any reference angle ?	Item 1) In general means that it is a general text included to clarify that some knuckles are, in general, exempted from the requirements of knuckle reinforcement because of their configuration and the manner in which they are loaded. However, it does refer to the experience of shipbuilding standard that has been proven to be a good practice. Item 2) There is no reference angle. Each case should be considered on the basis of configuration and loading.	

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1106	4/3.3.4.1	Interpretation	To confirm if the bracket toe greater than thickness of the bracket can be acceptable if fine mesh analyses is carried out and results found within the critieria.	2011/9/21	Bracket toes 4/3.3.4.1: The toes of brackets are not to land on unstiffened plating. Notch effects at the toes of brackets may be reduced by making the toe concave or otherwise tapering it off. In general, the toe height is not to be greater than the thickness of the bracket toe, but need not be less than 15mm. The end brackets of large primary support members are to be soft-toed. Where any end bracket has a face plate, it is to be sniped and tapered at an angle not greater than 30. Question : There is no alternative solution for general design guidance for bracket toe so alternativly the bracket toe greater than thickness of the bracket can be acceptable if fine mesh analyses is carried out and found results within the critieria. Please confirm.	The bracket toe height greater than thickness of the bracket toe can be acceptable if fine mesh analyses is carried out in accordance with Appendix B and found results within the critieria.	
1114	8/5.2.2	Interpretation	Requirement for void space in aft peak area	2012/8/27	Aft peak floors and girders 8/5.2.2. Is this also applicable for void space ?	The requirement is not applicable to void space.	
1124	2/5.4.1.2	RCP	Cross reference and editorial correction	2012/8/27	In Rules of CSR for Tanker, we found the requirements in which cross references are not correct. Please confirm the following and modify them appropriately. [Sec.2/5.4.1.2] Cross reference for the load scenarios should be "Table 2.5.1" instead of "Table 2.5.3". [Sec.3/5.2.6.2] Cross reference for the load point should be "5.2.2" instead of "5.2.1" [Sec.5/4.2.1.1] "5.3" is not exist. It should be "5.1". [Sec.8/4.4.3.5 and Sec.8/4.4.3.6] Cross reference for the scantlings of pillars should be "3.9.5" instead of "4.8.4". Sentences should be the same as "Sec.8/5.4.4.4" and "Sec.8/5.4.4.5". [App.B/1.2.1.1] "Sec.2/6.3.4" is not exist. It should be "Sec.2/4.3.4". [Table B.2.5] Cross reference for block coefficient should be "Sec.4/1.1.9.1" instead of "Sec.4/1.1.1.1". [Fig. B.3.2] "Table B.2.22" is not exist. It should be "Table B.2.2". [App.B/4.2.2.2] "Sec.9/3.3.3" is not exist. It should be "Sec.9/3.3.2".	We can confirm your proposal. The cross references will be modified at the earliest opportunity.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachments
1128	2/3.1.8.4	Question	Cargo loaded below zero	2013/5/3	If cargo can be loaded below zero as we understand that this is not uncommon. Also ask if IACS should include a comment in the Loading Manual 'Guidance to Master', indicating the boundaries/constraints for cargo carriage temperature if not already done. Some cold cargo below zero temperature case can be loaded is more seriouse concidered cargo hold structures because this cargo hold temperature will be continuesly below zero. If this ship's trading route will be north atlantic or Russia in winter season case then CSR rule is not covered and necessary some Guidance for Master in LM for safety operation or crew. In this case, we are not sure unaware of any problem as follows;- -Cargo is continus below zero -North Atlantic or Russia trading in winter season -Exposed air condition is also low temperature during ice voyage -Water in ballast tank will be freezen	CSR-OT 2/3.1.8.4 clearly mentions that CSR is applicable for vessels with cargo/ballast water temp above 0 C degrees. Furthermore cargo holds are equipped with heating coil systems that can warm up the cargo if necessary in order to maintain the viscosity for carrying and unloading. Vessels carrying cargo with temperatures less than zero degrees C are to be considered on a case by case basis by the individual Class Society. IACS is aware of this topic and will futher consider a unified proposal for the carriage of low temperature cargoes in the future.	
1129	6/5.4.1.1	Question	Clarification for lapped joint	2013/3/27	According KC984, this requirement shall be also applied to "overlap type" pipe penetration. However it is still not clear how to apply it to the actual ship so please consider following questions and also draft proposal: 1. What level of stress can be taken as "high stress"? Certain level of stress i.e 50% of yield or specific locations can be proposed instead of "high stress". 2. What size of opening shall meet this requirement? Specific size of opening can be proposed i.e "This requqirement is applicable only for opeing size b>300mm.	Application of 6/5.4 for pipe penetration is subject to the approval of individual society.	
1130	11/3.1.3.9	Question	Mooring winch / windlass	2013/5/3	The rules here says ref. 3.1.3.9 and 3.1.3.10. IACS rules for sea forces also are applied for mooring winches forward 0,25L. Does this also include mooring winch on combined windlass/mooring winch?	It is confirmed that CSR-OT 3/1.3.9 and 3/1.3.10 also apply to the mooring winch on a combined windlass/mooring winch.	

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1131	8/2.5.7.2	Question	Corrugated bulkhead	2013/7/9	We found an editorial error for corrugated bulkhead in CSR-OT rules. CSR-H draft rules is same as this. 1) The Rules are as below at present: CSR-OT Sec8/2.5.7.2 2.5.7 Vertically corrugated bulkheads 2.5.7.2 The net plate thicknesses as required by 2.5.7.5 and 2.5.7.6 are to be maintained for two thirds of the corrugation length, lcg, from the lower end, where lcg is as defined in 2.5.7.3. Above that, the net plate thickness may be reduced by 20%. CSR-H Pt2, Ch2, Sec3 2.2.1 Net plate thickness over the height The net plate thicknesses as required by [2.2.3] and [2.2.4] are to be maintained for two thirds of the corrugation length, lcg from the lower end. Above that, the net plate thickness may be reduced by 20%. 2) Our proposal: CSR-OT Sec8/2.5.7.2 2.5.7 Vertically corrugated bulkheads 2.5.7.2 The net plate thicknesses as required by 2.5.7.5 and 2.5.7.6 are to be maintained for two thirds of the corrugation length, lcg, from the lower end, where lcg is as defined in 2.5.7.3. Above that, the net plate thickness may be reduced by 20% from the net thickness required by 2.5.7.3 for the lower part and 2.5.7.5 for the mid part of the corrugation. CSR-H Pt2, Ch2, Sec3 2.2.1 Net plate thickness over the height The net plate thicknesses as required by [2.2.3] and [2.2.4] are to be maintained for two thirds of the corrugation length, lcg from the lower end. Above that, the net plate thickness may be reduced by 20% from the net thickness required by [2.2.2] for the lower part and [2.2.3] for the mid part of the corrugation. (Continues to the next page)	This question is related to KC ID 128, which confirms that the upper part of the corrugation, with the thickness reduced by 20%, is also required to comply with Sec.8/2.5.7.6. At this time, the CSR-OT rules will not be modified. However, to provide clarity in the rule text, your proposal is being considered by the CSR Harmonization development teams.	

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1131	8/2.5.7.2	Question	Corrugated bulkhead	2013/7/9	(Continues from the former page) 3) Reason 3.1) The rules can be read as that the required net plate thickness in the upper part of the corrugation is to be calculated by 20% reduction from the maximum requirement of net thickness at the mid and lower parts of 2.5.7.5 (this is for the flange plate requirement for mid and lower parts) and 2.5.7.6 (this is for the section modulus requirement of upper, mid and lower parts). 3.2) It is strange that the minimum net thickness is required based on the requirement of section modulus for the mid part. This will give too much extra thickness for the upper part. If they need to give rational and theoretical requirement for robust scantlings at the upper part of the corrugation, the aim can be achieved by 2.5.7.6 for the upper part, which is calculated based on different effective flange area and bending moment coefficient considered for each part appropriately. 3.3) It is understood that the rules is based on ABS rules Pt5 Ch1 Sec4/17.3 as attached. ABS rules say the requirement of upper part is to be calculated by reduction of 20% from the requirement of plate thickness of the flange and web for mid-length and lower end of the corrugation only. This does not refer to the section modulus requirement. 3.4) At that time of draft version of the CSR-OT rules, this requirement did not refer to the section modulus requirement, as below. "2.5.7.2 The net plate thicknesses as required by 2.5.7.5 are to be maintained for two thirds of the corrugation length, lcg, from the lower end, where lcg is as defined in 2.5.7.3. Above that, the net plate thickness may be reduced by 20%." However, when the CSR-OT issued in 2006, editorial modification as adding '2.5.7.6' was made for the purpose of ensuring of the scantling within 2/3 of the corrugation from lower end. However, the following sentence did not considered together with this editorial modification. 3.5) In the technical background for this part of the CSR-OT rules, they refer also IACS UR S18.4.1. It is understood that S18.4.1 says the section modulus of upper part of the corrugated bulkhead is not be less than 75% of that required for middle part. But, this IACS UR S18 requirement should be included in it, because there is no requirement of the section modulus for the upper part in S18. On the other hand, in the CSR-OT rules, a requirement of section modulus for the upper part considering bending coefficient etc at the upper part has been included. 4) Therefore, from the above reasons, we would propose the editorial modification shown in paragraph 2) above, in order to correct application of the rules.	(See the former page)	

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1133	8/5.2.2.1	Interpretation	Stiffeners arrangement in aft peak ballast	2013/5/21	Application area of CSR OT Sec 8/5.2.2.1 & 5.2.2.2 is unclear even with KC 597. Please confirm if CSR-H application can be used for CSR OT? CSR-H, Ch10, Sec3, 2.2.2: Stiffeners on the floors and girders in aft peak ballast or fresh water tanks above propeller shall be arranged with brackets. This apply for stiffeners located in an area extending longitudinally between the forward edge of the rudder and the after end of the propeller boss and transversely within the diameter of the propeller.	It is acknowledged that the application area of the Rule requirements is defined more clearly in CSR-H. We can confirm that the proposed application area should be used.	