6.3 Risk mitigation

Q91

Q91 Section 6.3.4.1 Is the principle of allowing for the effect of risk mitigation techniques in the ICS capital requirement only on the basis of assets and liabilities existing at the reference date of the ICS calculation appropriate? Please explain.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
China Insurance Regulatory Commission	China	IAIS Member	No	Yes	The requirement is consistent with the current ICS valuation principle that, only existing information that is effective at the valuation date should be considered.
EIOPA	EIOPA	IAIS Member	No	Yes	The above principle seems appropriate. The recognition of risk mitigation arrangements that are not yet in force at the calculation date would actually give rise to significant uncertainty (with regard to the possibility of entering a risk mitigation contract, and the price of the coverage), that would be rather complex to capture in a standardised approach.
BaFin	Germany	IAIS Member	No	Yes	

Financial Supervisory Service	Korea	IAIS Member	No	Yes	
KNF - Polish Financial Supervision Authority	Poland	IAIS Member	No	Yes	
National Association of Insurance Commissioners	USA	IAIS Member	No	No	This is a qualified ´no´. For most ICS risks, the current approach is okay. However, we are answering "no" as certain market risks associated with life insurance liabilities can be effectively mitigated through a hedging program. It is not entirely appropriate to assess the risk mitigation provided by this program by only focusing on existing assets and liabilities. The balance sheet should reflect not just the appropriate costs and benefits of derivative instruments that are currently held by the company in support of the policies subject to these requirements, but also the appropriate costs and benefits of anticipated future derivative instrument transactions associated with the execution of a clearly defined hedging strategy. We recommend criteria in our response to Q95.1.
Ageas	Belgium	Other	No	No	
Canadian Institute of Actuaries	Canada	Other	No	No	Some risk mitigation techniques involve dynamic or active management, adjusting the portfolio to changes in market conditions on a weekly, daily, or even intra-daily basis. Dynamic hedging programs used to mitigate financial market risk exposures associated with variable annuities are a common example of such techniques. The ICS uses instantaneous time-zero shocks to markets to quantify exposures to market risk. These shocks are calibrated to represent a tail event over a one-year horizon. In other words, the instantaneous shocks used in ICS are but a practical simplification of “shocks” that would occur over several days, weeks, or months, sometime over the next year. Unless the shock truly does occur instantaneously, a dynamic hedging

					program would rebalance the portfolio of hedge instruments frequently during the market correction/shock, which would aid to further mitigate losses. A typical dynamic hedging program includes a requirement to invest in, or divest from, assets or derivatives in order to comply with established risk limits. In practice, if markets are extremely volatile, that rebalancing can take place daily or multiple times per day. It does not seem appropriate that companies are required to not reflect the impact of their established and ongoing risk mitigation activities. In short, not recognizing the dynamic nature of certain risk mitigation techniques can significantly underestimate the benefits of a company's risk mitigation practices and by extension overstate the capital requirement.
CLHIA	Canada	Other	No	No	The ICS should reflect dynamic hedges purchased/sold beyond the valuation date. We believe the ICS' construct of instantaneous shocks with the corresponding assumption of total ineffectiveness of dynamic hedging risk mitigation programs is too conservative and does not reflect economic reality. Shocks do not occur instantaneously, instead they occur over periods as long as months. Past history has demonstrated that insurers have been successful in significantly mitigating risk through rebalancing hedges even during extreme periods of market disruption. Finally, we respectfully submit that the IAIS should encourage risk management by reflecting the benefits of robust dynamic hedging.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	We recognize this as a reasonable principle which is consistent with the current entire valuation regime based on all the information as at the valuation date.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International	Europe	Other	No	Yes	This principle is consistent with the approach taken in the going concern assumption being existing business.

Cooperative and Mutual Insurance Federation.					
Insurance Europe	Europe	Other	No	No	Future Risk Mitigation Techniques (RMT) should be allowed, in particular to avoid cut-off effects and to take into account future management actions. For example, if the IAIG has a recurrent annual financial hedging program or a renewal option in the contract or a longstanding relationship, the rollover of the hedging should be recognised. The criteria for the RMT eligibility should be detailed. The presence of risk-mitigation techniques should be recognised on the basis of the same time horizon, ie 1 year, and should not be limited to only exposures as at ICS calculation date.
Actuarial Association of Europe	European Union	Other	No	Yes	If an allowance was made for assets and liabilities at a different date, this would require assumptions to be made about the future availability of appropriate risk mitigating assets.
Institut des Actuaires	France	Other	No	No	Future Risk Mitigation Techniques (RMT) should be allowed in particular to avoid cut-off effects and take into account future management actions. For example, if the IAIG has a recurrent annual financial hedging program, the roll the hedging should be allowed.
Allianz	Germany	Other	No	No	Where dynamic hedging strategies play a major role in risk management of a company, just taking the reference date positions into account does not appropriately reflect reality. Dynamic hedge strategies can mitigate market exposure to market movements by allowing for the rebalancing of hedges. For example, if a company is delta hedging its exposure to equity markets, assuming that it is fully exposed to a 1 year change in

					equity levels overstates the riskiness of the management strategy. This is because historically annual movements in the markets have been significantly larger than daily movements. The effect of the difference in magnitude between these movements can be partially mitigated by the rebalancing of hedges. Not reflecting dynamic hedging creates capital buffers which are larger than those required to meet the targeted capital level. Therefore it is appropriate to allow commonly accepted risk mitigation practices such as delta hedging with appropriate limitations as discussed in 6.3.4.1 in the ICS capital requirement.
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	Yes	
German Association of Actuaries (DAV)	Germany	Other	No	No	Hedging programmes play an important role in risk mitigation. A complete – principle based - disregard of such programmes may set wrong risk management incentives. We recommend to the IAIS to explore the risks and benefits of a prudential decision to acknowledge or reject hedging programmes further.
Munich Re	Germany	Other	No	Yes	It does not reflect the economic view and might be overly prudent in certain markets.
AIA Group	Hong Kong	Other	No	Yes	Future availability and costs of renewals are too uncertain for the risk mitigation techniques to be allowed for in the derivation capital requirement.
International Actuarial Association	International	Other	No	No	This needs to be considered in the context of how the liability, MOCE & capital charges are being determined and the time horizon for which they are wanted to be relevant. Decisions made there will impact the

					appropriateness of the stated principle. 1. For example, if a market value balance sheet is being used with capital determined by some stated shock amount then the principle will give an accurate picture of the level of loss given a change in the current market, but it will not be able to assess how future capital levels will be impacted by changes beyond the current state. This is sometimes referred to as the issue of pro-cyclicality for market value based capital charges. The capital assessed in periods of low risk will not capture the need to raise/fund additional capital based on the charges for capital that would occur for stresses assessed against a future state. Nor does capital assessed in periods of high risk reflect that capital held for long time horizons will be quickly released when market risks decline. While this is fully appropriate for assessing liquidity, it will not assess the risk of sustainability of market value requirements for longer time horizons. 2. On the other hand, if capital is assessed based on scenario projections consistent with the time horizon of the risks then not allowing the effect of future hedges to be included will yield inaccurate results. This then puts the focus on the nature of the hedges and whether they are exotic or exist within deep and liquid markets. For example, this is also true for traditional ALM strategies focused on the purchase (type and purchase) of future bonds though here the trading horizon often extends over many years as opposed to a daily trading horizon
Dai-ichi Life Holdings, Inc.	Japan	Other	No	Yes	・The effect of risk mitigation techniques is to be reflected based on whether or not there are assets or liabilities if instantaneous shocks are assumed to happen just after the base date. In this case, probability of renewal should not be taken into account, but just possession of risk mitigation should be taken into account. ・Nevertheless, considering probability of renewal of risk mitigation techniques means abandoning the assumption of "instantaneous shock". In this case, dynamic hedging arrangements and management actions,

					which is the plan for risk reduction gradually executed based on deterioration of markets, should be taken into consideration.
General Insurance Association of Japan	Japan	Other	No	No	Recognition of risk mitigation should not only take into account assets/liabilities existing on the valuation date, but also be in line with risks recognised within ICS capital requirement. Specifically, with regard to premium risk exposures whose component is future net earned premiums, it is implicitly assumed that ceded reinsurance of future new business will be reflected, and principles for the recognition of Risk Mitigation should clearly state this point.
The Life Insurance Association of Japan	Japan	Other	No	Yes	・When the occurrence of instantaneous shocks is assumed to be applied for market risks immediately after the date of measuring risks, it would lead to the allowance for the effect of risk-mitigation techniques only on the basis of assets and liabilities existing at the reference date of the ICS calculation. In this case, we believe it is adequate for the IAIGs to take into account the risk-mitigation techniques in force at the reference date, and it is not necessary to consider the probability of renewal of risk mitigation arrangements. ・On the other hand, when the IAIGs consider the probability of renewal of risk mitigation arrangements, the IAIGs would decide not to apply instantaneous shocks in calculating the ICS. We believe dynamic hedging arrangements should be included in the scope of recognised risk-mitigation techniques.
Great Eastern Holdings Ltd	Singapore	Other	No	Yes	It is a fair and equitable basis to determine whether risk mitigation techniques should be included.
Swiss Re	Switzerland	Other	No	Yes	Only assets/liabilities existing at the reference date are for sure available for risk mitigation. Those not existing at the reference date may or may not be available and should therefore not be used.

					However, accounting for the renewal of risk mitigating measures should be allowed where there is a renewal option in the contract, or where there is a longstanding relationship, e.g. with a reinsurer.
Aegon NV	The Netherlands	Other	No	No	Consistent with our view that the ICS should avoid severe distortions, Aegon does not believe this principle is appropriate. This principle is not aligned with actual risk management practices and creates artificiality within the ICS framework. It effectively penalizes certain hedging strategies, regardless of effectiveness, creating cliff effects. By excluding dynamic hedging, it is also inconsistent with the inclusion of volatility risk.
Institute and Faculty of Actuaries	UK	Other	No	Yes	To do otherwise would, for example, require subjective assumptions on the additional risk mitigating assets purchased and at what price. Selecting appropriate assumptions would be further complicated by the trades taking place in a market in the 99.5th percentile stressed scenario. It will however be necessary to permit IAIGs to make allowance for the future purchase of reinsurance to cover future liabilities.
American Council of Life Insurers	United States	Other	No	No	ACLI urges the IAIS to subject financial risk mitigation techniques to the same general principles and requirements as other non-financial risk mitigation techniques. We understand that an estimate of the underlying, pre-hedged, economic risk is a meaningful data point for the IAIS to have. However, as currently proposed, the data the IAIS would be gathering will be neither comparable nor meaningful, given that (for example) companies with long term hedging programs, rolling hedge programs with one year hedges, and three month hedges will be providing very different results. Furthermore, the assumption that these deeply liquid plain vanilla

					instruments would be wholly unavailable is unreasonable and excessive. We strongly suggest, therefore, that for this particular aspect of modeling the IAIS permit volunteers to incorporate their dynamic hedge programs, relying on precedent under existing rules (see ACLI response to Q92), and introduce a sensitivity test with no hedging (whether rolling or long term) to indicate the amount of liability risk sitting on the balance sheet. Companies could then indicate the results on the basis of assuming no renewals for instruments under 12 months as a supplement (either supplemental worksheet or in the questionnaire). Allowing reflection of risk mitigation in the data submission—while providing results without renewal of risk mitigation separately—will preserve the meaningfulness of the data submissions and resulting ICS calculations.
RAA	United States and many other jurisdicitons	Other	No	Yes	The principles in paragraph 303 of the Consultation appear reasonable and complete.
American Academy of Actuaries	United States of America	Other	No	No	Risk mitigation techniques considered in the ICS calculation at the valuation date should take into account the projected renewal of existing reinsurance contracts and other similar risk mitigation techniques that require active management, provided. however, that there is a track record of doing so. Examples of risk mitigation techniques include reinsurance for P&C contracts (e.g., catastrophe reinsurance) that are projected to be renewed and continued over the life of the reinsured contract and mitigation techniques put in place in advance to be continued over the life of the program (e.g., dynamic hedging of variable annuity contracts with minimum guarantees).

Prudential Financial, Inc.	United States of America	Other	No	No	To the extent than an IAIG has a clearly defined risk mitigating strategy in place, can provide support that it intends to follow that strategy within specific guidelines approved by management, and can reasonably estimate future costs/benefits for that strategy an IAIG should be able to reflect changes to the assets/liabilities supporting that risk mitigation strategy existing at the reference date. Any modifications would need to be within the guidelines of the clearly defined risk mitigation strategy. Ensuring future transactions reflect an appropriate cost/benefit should be part of the regulatory review process. Complete exclusion of such actions could result in an under or overstatement of required capital.
MassMutual Financial Group	USA	Other	No	No	Hedging programs at most insurers are dynamic – this means the hedging instruments change as market conditions change. If market conditions at 12/31/15 were different than they actually were, the derivatives held by most firms would likely be different as well. Therefore, in order to accurately reflect the impact of risk mitigation in stress scenarios, there must be a means to capture how the firm would modify its hedging given such scenario.

Q92

Q92 Section 6.3.4.1 Should dynamic hedging arrangements be included in the scope of recognised risk mitigation techniques for ICS Version 2.0? Please explain.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
Office of the Superintendent of Financial Institutions (OSFI)	Canada - OSFI	IAIS Member	No	No	It is not prudent to recognize dynamic hedging in a standardized approach, because assessing an insurer's ability and intent to renew existing hedges will entail large additional supervisory responsibilities that are more closely associated with a model approval regime. If ICS Version 2.0 retains the use of instantaneous shocks for market risk, most of the benefits of a dynamic hedging program can be recognized by giving credit for hedges on the books on the reference date.
EIOPA	EIOPA	IAIS Member	No	No	Following our response to Q91, we do not think that dynamic hedging arrangements should be included in the scope of risk mitigation techniques. Allowing for the recognition of such arrangements would require: - Setting up a strict list of criteria in order to ensure that: o the dynamic hedging policy in place capture all material risks and sensitivities (and not only the risk of limited variations in market prices) o there is no risk of disruption in the application of the dynamic hedging policy (due to either internal operational / decision-making issues or more critically external factors such as market illiquidity, default of a counterparty, sudden changes in implied volatilities, etc.) - Specifying the full specification of scenario paths (as the dynamic hedging program is in nature path dependent) In our view, going down this way would excessively increase the complexity of the formula, and at the same time would potentially lead to an underestimation of the actual risks faced by IAIGs.

BaFin	Germany	IAIS Member	No	No	
Financial Supervisory Service	Korea	IAIS Member	No	Yes	1) There are products like ISP savings or variable annuities with guarantee options like MGIR or GMXB in light of policyholder protection. 2) As part of risk mitigation methodology in Korea, dynamic hedging is used to reduce the market volatility (interest rate, equity) risk and hence protecting the policyholder guarantee options. 3) Minimum guarantee options embedded within insurance products behave similar to options in short position and hence the sensitivity changes non-linearly against the market changes. Purchasing option is therefore the most effective way of reducing the risk but it comes with very high cost as the counterparty (ie. Insurance liability) is very long term in most cases. Therefore, allowing hedging at each time period (i.e dynamic hedging) is suggested. 4) Therefore, if allowing risk mitigation based on asset and liabilities existing at the reference date only, hedging would be ineffective depending on the level of risk sensitivity.
KNF - Polish Financial Supervision Authority	Poland	IAIS Member	No	No	
National Association of Insurance Commissioners	USA	IAIS Member	No	Yes	This is a qualified ´yes´. As with other responses here, we are focusing on risk mitigation for certain market risks associated with life insurance risks. Provided appropriate criteria are met, it would be appropriate to recognize hedging programs that are dynamic, static or a combination thereof.

Ageas	Belgium	Other	No	Yes	Dynamic hedging arrangement should be considered but only if they are applied with certainty avoiding cherry-picking (governance/principles).
Canadian Institute of Actuaries	Canada	Other	No	Yes	Not recognizing the dynamic nature of certain risk mitigation techniques can significantly underestimate the benefits of a company's risk mitigation practices and by extension overstate the capital requirement.
CLHIA	Canada	Other	No	Yes	
Insurance Bureau of Canada	Canada	Other	No	Yes	In the interests of promoting good risk management, dynamic hedging should be included in the scope of recognized risk mitigation techniques under ICS version 2.0 to the extent that the IAIG can demonstrate that the technique is an integrated part of an IAIG's business practices supported by robust policies and procedures.
Insurance Europe	Europe	Other	No	Yes	Yes, dynamic hedging should be allowed for, if volatility risk is included in the framework as well. See also comment to Q91.
Actuarial Association of Europe	European Union	Other	No	Yes	
Institut des Actuaires	France	Other	No	Yes	See answer Q91
Allianz	Germany	Other	No	Yes	See response to Q91
German Association of Actuaries (DAV)	Germany	Other	No	Yes	See answer to Q91.

Munich Re	Germany	Other	No	Yes	In many cases dynamic hedging arrangements are very efficient risk mitigation techniques that cannot be easily replaced by other risk mitigation instruments.
AIA Group	Hong Kong	Other	No	No	Future availability and costs of renewals are too uncertain for the risk mitigation techniques to be allowed for in the derivation capital requirement.
International Actuarial Association	International	Other	No	Yes	
Dai-ichi Life Holdings, Inc.	Japan	Other	No	Yes	・Current ICS treatment does not give full credit for companies that have an established dynamic hedging program in place, since credit is given only for current hedges in place and not future rollovers. ・Credit could be given for a company's future dynamic hedging practices in line with their demonstrated level of hedge effectiveness over a defined historical period. With additional consideration for any anticipated changes to the company's dynamic hedging program
General Insurance Association of Japan	Japan	Other	No	Yes	
Great Eastern Holdings Ltd	Singapore	Other	No	No	It does not seem relevant given that market risk stresses are applied instantaneously.
Swiss Re	Switzerland	Other	No	No	Dynamic hedging almost always depends on the use of assets/liabilities not held by the insurer at the reference date. See our response to question 91 above.

Aegon NV	The Netherlands	Other	No	Yes	Consistent with our view that the ICS should avoid severe distortions, Aegon urges that dynamic hedging arrangements should be recognized as an effective risk mitigation approach in general, and especially if a more sophisticated approach to the ICS is pursued. In such a context, it is conceptually inconsistent to apply volatility risk shocks on non-linear exposures, but not to allow for the risk mitigation approaches used to manage those same exposures. It would lead to an asymmetrical treatment of risk.
Institute and Faculty of Actuaries	UK	Other	No	Yes	Dynamic hedging is a fundamental part of some business models and should be reflected in the capital calculation, albeit with capital being held for the risks associated with the hedging itself. In practice this is more easily calculated when using an internal model.
American Council of Life Insurers	United States	Other	No	Yes	ACLI urges that dynamic hedging arrangements be recognized in ICS Version 1.0. Where the risk mitigation techniques are in force for a period shorter than 12 months and the IAIG intends to renew and replace at the time of expiry with a similar arrangement, the risk mitigation technique should be fully taken into account in the calculation of the ICS capital requirement. This should also apply to dynamic hedging approaches, as the ICS already provides for volatility risk to be accounted for. To ensure proper reflection of risks, these allowances are subject to certain requirements being met, including: • The risk mitigation arrangement (e.g., hedging strategy) is clearly defined and documented; • Such arrangements provide an effective transfer of risk to a third party; • There are no material basis or operational risks compared to the risk mitigation effect; • There is sufficient degree of liquidity in the market for such instruments under different market conditions. • Where applicable, credit risk and other risks and costs arising from the use of such techniques should be reflected in the ICS capital requirement.

					Examples of financial derivatives used for purposes of financial risk mitigation (i.e., hedging) that should be fully allowed for in the calculation of the ICS capital requirement in Version 1.0 include: • Equity futures, forwards and options; • Bond futures and bond options; • Swaps and swaptions; • Currency futures, forwards, options and swaps; • Variance swaps; and • Credit default swaps. Additionally, in order for dynamic hedging to properly be reflected in the ICS, the stressed should be applied over the year horizon, rather than as instantaneous shocks. For example, the current interest rate stress requires an immediate reevaluation of assets and liabilities using a stressed yield curve. We would suggest that there should be a transition to the new yield curve over the year (e.g., quarterly yield curves) so that the insurer's hedging program can be rebalanced and reflected in the results.
MetLife	United States	Other	No	Yes	The dynamic hedges on the balance sheet at the valuation date should be fully taken into account (as they increase in value under the shocks). However, the future rebalancing of dynamic hedges (and any management actions to purchase different hedges under different market environments) should be excluded in the calculation of the capital charges. Dynamic hedging strategies and future management actions should be distinguished from rolling hedge arrangements, where a risk-mitigation technique is currently in force and will

					be replaced at the time of its expiry with a similar arrangement regardless of the solvency position of the undertaking. Rolling hedge arrangements should be recognized in the calculation of capital charges. Please also see our response to Q. 93 below.
RAA	United States and many other jurisdicitons	Other	No	No	
American Academy of Actuaries	United States of America	Other	No	Yes	Dynamic hedging arrangements are crucial in managing the risks of certain blocks of business with guarantees. Only those that are proved to be effective should be considered.
Prudential Financial, Inc.	United States of America	Other	No	Yes	Dynamic hedging arrangements should be included in ICS Version 1.0 – we do not believe it is necessary or appropriate to wait until ICS Version 2.0. As discussed in our response to question 91, dynamic hedging would fall into the category of clearly defined risk mitigation strategies which should be allowed. Exclusion of dynamic hedging could result in under or overstatement of required capital.
MassMutual Financial Group	USA	Other	No	Yes	To the extent the insurer has a policy and proven practice of dynamically hedging, we believe it should be recognized within the ICS. That said, it is unclear how credit for these programs will result from the current instantaneous shocks. To appropriately reflect this, we suggest that the interest rate shock be modified to be applied over a year horizon rather than an instant change in the yield curve.

Q92.1

Q92.1 Section 6.3.4.1	If "yes" to Q92, please comment on dynamic hedging programs that should be recognised in the ICS.

Organisation	**Jurisdiction**	**Role**	**Confidential**	**Answer**
Financial Supervisory Service	Korea	IAIS Member	No	Refer to 1), 2) and 3) in Q92.
Ageas	Belgium	Other	No	Please refer to our answer to question 92.
Canadian Institute of Actuaries	Canada	Other	No	We recognize that all dynamic hedging programs may not be created equal. For a dynamic hedging program to be recognized, it would be appropriate to require that a firm demonstrate that a proper governance structure is in place to ensure the proper ongoing operation of the hedge program. This could include, but may not be limited to, well-defined and documented practices, controls, roles and responsibilities, risk limits, and corrective actions. Many established variable annuity dynamic hedge programs could satisfy such a requirement.
CLHIA	Canada	Other	No	As dynamic hedging programs vary among IAIG's, we recommend that one prerequisite for recognizing these programs is demonstration of robust governance within the IAIG.
Actuarial Association of Europe	European Union	Other	No	There needs to be a clear methodology and evidence of the hedging being used successfully in practice.

Institut des Actuaires	France	Other	No	Solvency II delegated acts define a precise list of criteria for the future management actions in particular: - Management actions should be determined in an objective manner; - Consistency with current practice and strategy; - Not contrary to any obligations towards policy holders or legal requirements; - Realistic.
Allianz	Germany	Other	No	The instruments being used to implement the hedge should be traded in liquid and deep markets to ensure the ability to trade in a stressed market environment. Examples of programs which should be recognized are delta, rho, delta/rho, gamma, vega, credit spread, etc.. hedges with liquid instruments in the US or Western Europe. The hedges should be matched to a particular asset or liability on the Insurer's balance sheet and the benefits from the hedge should be reflected even if only a partial economic hedge is targeted.
International Actuarial Association	International	Other	No	ALM bond reinvestment strategies as already recogninzed in traditional ALM cash flow testing as well as equity hedges using deep and liquid instruments.
Dai-ichi Life Holdings, Inc.	Japan	Other	No	·Any fully documented hedge program, that may or may not be a part of a company's Derivatives Use Plan, with objectively verifiable historical hedge effectiveness. ·To the extent the entity is committed to a particular well- documented hedge program going forward, and can demonstrate past adherence to this or similar programs, the company should be allowed credit for future dynamic hedges. One way to model such action would be to use historical hedge effectiveness as a guide in setting the level of hedge effectiveness to allow for in the future. ·The effective hedge should be recognized. The determination requirement of an effectiveness is written in Question 92.3 below.

Great Eastern Holdings Ltd	Singapore	Other	No	NA
Aegon NV	The Netherlands	Other	No	Aegon supports applying certain criteria to ensure that only valid dynamic hedging programs are recognised in the ICS. We would support the following criteria: (a) the risk mitigation arrangement (e.g., hedging strategy) is clearly defined and documented; (b) such arrangements provide an effective transfer of risk to a third party; (c) there are no material basis or operational risks compared to the risk mitigation effect; (d) there is sufficient degree of liquidity in the market for such instruments under different market conditions; and (e) where applicable, credit risk and other risks and costs arising from the use of such techniques should be reflected in the ICS capital requirement. Examples of financial derivatives used for purposes of financial risk mitigation (i.e., hedging) that should be fully allowed for in the calculation of the ICS capital requirement, include: (a) equity futures, forwards and options; (b) bond futures and bond options; (c) swaps and swaptions; (c) currency futures, forwards, options and swaps; (d) variance swaps; and (e) credit default swaps.
Institute and Faculty of Actuaries	UK	Other	No	In principle any dynamic hedging programme currently or recently in used could be recognised. Any such programme should reflect the costs of operating it in a stressed market).
MetLife	United States	Other	No	Please see response to Q. 93 below.
American Academy of Actuaries	United States of America	Other	No	There are many examples of dynamic hedging programs that should be recognized in the ICS, and the most observable are dynamic hedging programs for variable annuity with minimum guarantees.
Prudential Financial, Inc.	United States of America	Other	No	The primary dynamic hedging program Prudential is interested in recognizing as a risk mitigation technique is our variable annuity dynamic hedging program. We utilize a dynamic hedge that is updated daily to protect from losses arising from the changes in the value of

				options and guarantees embedded in our variable annuity products. In addition, FX forward contracts and currency swaps used to hedge investments in foreign subsidiaries should be fully recognized even if they mature within the next 12 months. Given the deep liquidity of currency markets (e.g., daily trading volume of $5 trillion), execution risk at the time of roll is minimal.
MassMutual Financial Group	USA	Other	No	We would advocate programs related to any type of market risk be included if applicable.

Q92.2

Q92.2 Section 6.3.4.1 If "yes" to Q92, please comment on how the principle of allowing for the effect of risk mitigation techniques in the ICS capital requirement only on the basis of assets and liabilities existing at the reference date of the ICS calculation could be amended in a manner appropriate to the ICS and the way it is currently constructed (ie the use of instantaneous shocks for market risk).

Organisation	**Jurisdiction**	**Role**	**Confidential**	**Answer**
Financial Supervisory Service	Korea	IAIS Member	No	1) Dynamic hedging may be ineffective in case of insufficient hedging portfolio adjustment under the stressed scenario in the calculation of required capital. 2) In order for 1) to be effective, "expected portfolio" under the hedging strategy (taking consideration of market changes) should be allowed. The risk mitigation impact could be implemented proportionally using the historical hedging effect. 3) But, recognizing expected portfolio violates the principle of risk mitigation effect which should be using asset and liability existing as of reference date. Therefore it is suggested to allow dynamic hedging based on asset and liability existing as of reference date only and satisfying some particular conditions (e.g. 1) past 1 year hedge effectiveness ratio of 80~125%, 2) documentation of hedging strategy, 3) hedging strategy reviewed by appointed actuary and etc.).
Ageas	Belgium	Other	No	Please refer to our answer to question 92.
Canadian Institute of Actuaries	Canada	Other	No	We acknowledge that risk mitigation techniques that rely on future dynamic rebalancing do not completely eliminate the targeted risks. A firm could demonstrate by means of off-cycle testing the relative reduction in losses achieved from ongoing dynamic rebalancing of the hedge versus maintaining the assets and liabilities existing at the reference date. This demonstration could be

				used to adjust the calculated requirement determined as currently contemplated by the ICS solely on the basis of assets and liabilities existing at the reference date.
CLHIA	Canada	Other	No	One potential approach is to have a limited number of buckets of recognition of dynamic hedging programs. For example a typical delta-rho program would get one level of ICS capital credit. IAIG's would work with their respective group-wide supervisor to demonstrate their track records of success with their programs to ensure ongoing effectiveness to warrant continued credit.
Allianz	Germany	Other	No	There are two potential approaches which might be reflected: 1) Ensure that the cost of the option is held on the balance sheet. A perfect hedge can then be assumed with appropriate additional capital requirements to reflect basis risk, gap risk, and hedge inefficiency. The distribution of these add-ons could be calibrated from historical time-series. As there is correlation between gap risk and hedge inefficiency, an idea to consider is to floor the hedge inefficiency capital at the largest hedge gap allowed over a 99.5% single day shock on the underlying indices. 2) A second option would be to modify the instantaneous shocks to yearly scenarios using a stochastic bridge. A stochastic-on-stochastic model can then be run to simulate the effect of the hedge strategy over time. This approach inherently reflects gap risk and hedge inefficiency in the stochastic runs so capital add-ons for these would not be needed. However this approach would still require either a capital add-on for basis risk or it would need to be incorporated into the stochastic run. An approach similar to this has been approved by the Central Bank of Ireland for Internal Model companies. This approach may only be suitable for first order hedges due to the increasing model complexity required to reflect more complex hedges.
International Actuarial Association	International	Other	No	As stated above, adding to the principal that the use/recognition of hedges beyond those currently held is needed for a framework not based on market values.

Dai-ichi Life Holdings, Inc.	Japan	Other	No	·As the way of appropriate amendment, we think steps below are options for example. step1:Evaluate risks without implementing a hedging instrument(the amount of risk before risk mitigation by hedge). step2:Calculate the reduced rate of the risk by using the result of evaluating effectiveness which is authorized by management(eg 70% effective). step3:The risk amount which take into account the hedge effect is calculated by subtracting the risk amount which is multiply the result of step1 above by the result of step2 above from the risk amount which is evaluated in step1 above.
Great Eastern Holdings Ltd	Singapore	Other	No	NA
Institute and Faculty of Actuaries	UK	Other	No	Ideally an internal model will be used in such cases where there is dynamic hedging; in which case the instantaneous shock assumption is no longer needed. An alternative is to replace the instantaneous shock with a shock (or combination of shocks) at the most onerous point(s) of the one-year horizon over which capital is calculated. For example, a shock just before the hedging must be rebalanced, followed by a further shock.
Prudential Financial, Inc.	United States of America	Other	No	The issue needs to be addressed both in regards to stress design and recognition of risk mitigation techniques. + The instantaneous shock prescribed for the equity stress is not plausible in certain jurisdictions because of regulatory circuit breakers which limit the equity price impact which can occur in a single day. For instance, U.S. circuit breakers prevent shocks more severe than 20% in a single day. If the equity price shock must be instantaneous, it should be calibrated to a level that is plausible for each jurisdiction. If the equity price shock does not need to be instantaneous, then the current calibration should be spread across an appropriate number of days so the desired price shock can be achieved.

				+ If shocks are not instantaneous, it is essential that risk mitigation techniques are properly reflected. In the case of a dynamic hedge which is re-balanced throughout the day, this requires that the costs and gains from re-balancing that hedge are allowed to be recognized. Hedge re-balancing implies that existing positions will be modified. In the case of the equity price shock, not reflecting this change in the assets can result in an over- or under-hedged position that does not reflect the true economic risk charge. Similarly, liabilities should be able to reflect the impact of future embedded risk mitigation technique such as fund re-balancing. Not reflecting this risk mitigation technique would result in improper measurement of risk exposures and creates perverse incentives to manage to non-economic volatility at the expense of other risks. + To ensure that the appropriate economic risk charge is identified, only clearly defined risk mitigation strategies as discussed in our response to question 91 should be allowed to reflect the future actions discussed above.
MassMutual Financial Group	USA	Other	No	Dynamic hedging would be more meaningful if the shocks were spread over a finite time period, such as a year, as opposed to being instantaneous. Under such a trajectory, the hedge position could be adjusted as the conditions changed. Given that the stresses are calibrated to a one year horizon, it is appropriate to have them implemented over that same time period.

Q92.3

Q92.3 Section 6.3.4.1 If "yes" to Q92, please comment on what criteria should be met to allow the effect of dynamic hedging arrangements to be recognised in the ICS capital requirement.

Organisation	**Jurisdiction**	**Role**	**Confidential**	**Answer**
Financial Supervisory Service	Korea	IAIS Member	No	Refer to 2) in Q92.2.
Ageas	Belgium	Other	No	Please refer to our answer to question 92.
Canadian Institute of Actuaries	Canada	Other	No	A firm could demonstrate by means of off-cycle testing the relative reduction in losses achieved from ongoing dynamic rebalancing of the hedge versus maintaining the assets and liabilities existing at the reference date. This demonstration could be used to adjust the calculated requirement determined as currently contemplated by the ICS solely on the basis of assets and liabilities existing at the reference date.
Insurance Europe	Europe	Other	No	See comment to Q91.
Allianz	Germany	Other	No	Criteria that might be met can be found in the US Actuarial Guideline 43 definition of a "Clearly Defined Hedging Strategy". The definition is a follows: "The Clearly Defined Hedging Strategy applies to strategies undertaken by a company to manage risks through the future purchase or sale of hedging instruments and the opening and closing of hedging positions. In order to qualify as a Clearly Defined Hedging Strategy, the strategy must provide risk mitigation and shall, at a minimum, identify: a) The specific risks being hedged (e.g., delta, rho, vega, etc.),

				b) The hedge objectives, c) The risks not being hedged (e.g., variation from expected mortality, withdrawal, and other utilization or decrement rates assumed in the hedging strategy, etc.), d) The financial instruments that will be used to hedge the risks, e) The hedge trading rules including the permitted tolerances from hedging objectives, f) The metric(s) for measuring hedging effectiveness, g) The criteria that will be used to measure effectiveness, h) The frequency of measuring hedging effectiveness, i) The conditions under which hedging will not take place, and j) The person or persons responsible for implementing the hedging strategy. In addition the company should be able to demonstrate their ability to maintain their hedge positions in market stress scenarios. For example companies should have programs in place to ensure sufficient liquidity and control counter party exposure in a stress market environment.
International Actuarial Association	International	Other	No	1. One could require a documented Clearly Defined Hedging Strategy that is included in the audit procedures as is required in the United States. 2. The need to have deep and liquid market for the future hedge positions 3. Could also stress test the impact if market is closed or not available for x days/weeks
Dai-ichi Life Holdings, Inc.	Japan	Other	No	·Any well-documented hedge program with clearly defined - goals and objectives, - allowable universe of instruments that may be used, - circumstances under which they would be used, - methodology for measuring hedge-effectiveness, and - operational and risk governance procedures

				·A hedging instrument is defined(eg in writing) in advance and is excluded arbitrariness ·To be able to explain objectively based on the fact which have a correlation between hedged assets and hedging instrument ·The way of evaluating effectiveness and its results are authorized by management
Great Eastern Holdings Ltd	Singapore	Other	No	NA
Aegon NV	The Netherlands	Other	No	Aegon would support the following criteria: (a) the risk mitigation arrangement (e.g., hedging strategy) is clearly defined and documented; (b) such arrangements provide an effective transfer of risk to a third party; (c) there are no material basis or operational risks compared to the risk mitigation effect; (d) there is sufficient degree of liquidity in the market for such instruments under different market conditions; and (e) where applicable, credit risk and other risks and costs arising from the use of such techniques should be reflected in the ICS capital requirement.
Institute and Faculty of Actuaries	UK	Other	No	See answer to Q92.1.
MetLife	United States	Other	No	Please see response to Q. 93 below.
Prudential Financial, Inc.	United States of America	Other	No	The primary criteria which should be met are as follows. + Approved risk mitigation strategies must be managed in accordance with an explicit policy/guideline + Risk mitigation strategies must be approved by the Board of Directors or a subcommittee of

				Board members + Demonstrations must be made that the strategy is held within the Board or subcommittee's approved guidelines, is effective at mitigating risk, and that sufficient assumptions/models are used to determine the impact on risk charges.
MassMutual Financial Group	USA	Other	No	To the extent the insurer has a specific policy with limits and proven practice of dynamically hedging consistent with the policy requirements, we believe it should be recognized within the ICS.

Q93

Q93 Section 6.3.4.2 Is the general treatment given for risk-mitigation techniques that are in force for less than the next 12 months appropriate for the ICS standard method? Please explain. If “no”, please provide details of a practical alternative that would be appropriate for the ICS standard method.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	Yes	
China Insurance Regulatory Commission	China	IAIS Member	No	Yes	
EIOPA	EIOPA	IAIS Member	No	Yes	We think that the proposed approach (to recognize risk mitigation techniques in proportion to the time for which they are in force) is an acceptable proxy in the context of capital requirements calculation.
BaFin	Germany	IAIS Member	No	Yes	If certain specific criteria concerning liquidity, hedging costs etc. are met rolling hedge programmes with instruments in for for less than 12 months could receive full recognition.
Financial Supervisory Service	Korea	IAIS Member	No	No	It is necessary to allow for risk mitigation effect that are in force for less than the next 12 months only if the hedging strategy is officially documented and can expect high efficiency from it. (e.g. maintaining hedge effectiveness ratio of 80~125% from fair value of hedged asset and hedging instruments).

KNF - Polish Financial Supervision Authority	Poland	IAIS Member	No	Yes	
National Association of Insurance Commissioners	USA	IAIS Member	No	No	The underlying issue is that 12 months is an arbitrary choice for a time horizon over which to measure risk. For the market risks that a hedging program would apply to, a much shorter time horizon may be appropriate. For insurance risks, a much longer time horizon makes more sense. The most practical alternative here would be to use a shorter time horizon for measuring market risk than for measuring insurance risk.
Ageas	Belgium	Other	No	Yes	It is our understanding that the following will be applied: Renewal of risk mitigation arrangements with respect to non-life insurance risks may be taken into account if the IAIG expects to renew, and the costs of renewal within the time horizon are taken into account. The renewal of the arrangements should be taken into account only if: i) The renewal is consistent with previous business practice and documented strategy; ii) The renewal is realistic with regards to availability of the arrangement and its cost (that will be reflected on the financial statements); and iii) Any additional risk stemming from the risk mitigation arrangement (e.g. Credit risk) is taken into account in the ICS capital requirement.
ABIR Association of Bermuda Insurers & Reinsurers	BERMUDA	Other	No	No	We disagree with this approach as it relates to the use of reinsurance as a risk mitigating instrument for risks over the coming year. We strongly believe that the renewal of risk mitigating reinsurance on a prospective basis should be recognised, subject to certain defined criteria (see answer to Q94), to cover the full amount of business covered in the premium risk and catastrophe risk modules.

Canadian Institute of Actuaries	Canada	Other	No	No	The principle, as drafted, allows for the effectiveness of the short-term risk mitigation tool to be measured on a pro-rata basis. The recognition of this tool should be more granular, recognizing the impact of the tool for the portion of the exposure period. For example, catastrophe coverage for the first eight months of the exposure period exposes the insurer to catastrophic event for the remaining four months of the period. The treatment of this risk under the ICS Standard Method may serve to misrepresent the effectiveness of the risk mitigation program; in this case, it would be appropriate to disclose the change in coverage during the exposure period.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	We agree that the risk-mitigation techniques should be recognized based on their in force period. The risk-mitigation techniques in China are mainly reinsurance and the in force period of the reinsurance contract is generally consistent with the definition of reinsurance contract boundaries.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	Yes	
Insurance Europe	Europe	Other	No	No	It is not appropriate to consider only a partial credit for derivatives that expire in less than one year. As the shock is defined as being instantaneous, the full benefit of the hedge held by the IAIG should be recognised, independent of when the hedge reaches maturity.
Actuarial Association of Europe	European Union	Other	No	Yes	For renewal of risk-mitigation techniques that are in force for less than 12 months see below.

Institut des Actuaires	France	Other	No	No	Answer to this question should be aligned with the answer the question Q92 and criteria for non-life recognition of RMT
Allianz	Germany	Other	No	Yes	The recognition proportionate to time is for most risk mitigation techniques a reasonable assumption. For dynamic hedging see questions 91-92. For renewals of hedge programs see response to Q95).
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	No	A limitation of existing risk-mitigation techniques that are in force less than the next 12 months is not appropriate. We believe that renewals should not only be considered for non-life, but for other lines of business as well (see anser to Q 95). As a possible simplification, we suggest to allow for the full consideration of the current risk mitigation arrangements. This assumes that the portfolio characteristics including risk-mitigation arrangements do not change in the course of time.
German Association of Actuaries (DAV)	Germany	Other	No	Yes	For renewal of risk-mitigation techniques that are in force for less than 12 months see below.
Munich Re	Germany	Other	No	No	We suggest to make use of the portfolio, i.e. the assets and the liabilities, at the specified reference date. Instead of considering the renewal of risk mitigation arrangements (which heavily depend on assumptions on future behaviour) we suggest to allow for the full consideration of the current risk mitigation arrangements. This assumes that the portfolio characteristics do not change in the course of time.
Global Federation of Insurance Associations	Global	Other	No	No	The ICS is based on the assumptions that an IAIG will carry out only existing business within the one year time horizon, that risk events occur at the date immediately following the measurement date, and that life insurers activities' such as new business or sales of assets are not considered for the 12 months after the date of measuring risk. This

IAIS

					treatment has already been adopted in some local capital regimes, for example in the EU Solvency II Directive. In the above case, regarding risk mitigation, the IAIG will need to take into account only the risk mitigation techniques that are in force at the date of measurement, without considering the situation for the next 12 months after the date of measuring risk. Thus, we think determining whether renewal of risk mitigation arrangements is realistic or not will conflict with the general treatment. Where the IAIG takes into account risk mitigation techniques over the 12 months following the date of measurement, we think it is reasonable for the IAIG to take into account the probability of renewal of risk mitigation arrangements, in the light of the ICS principle of "substance over form". The IAIG would be able to easily estimate the probability by referring to historical data on the renewal of risk mitigation arrangements.
AIA Group	Hong Kong	Other	No	Yes	The technical specification states where risk mitigation techniques will be in force for shorter than 12 months, the risk mitigation effect is to be taken into account in proportion to the shorter time. As long as the phrase “in proportion to the shorter time” will not be subject to interpretation and that the calculation treatment reflects reality, then we think this is reasonable.
International Actuarial Association	International	Other	No	No	We recommend to add to the end of Paragraph 311 “… relative to the term of the obligation”.
Dai-ichi Life Holdings, Inc.	Japan	Other	No	No	・In the consultation document, the treatment is as follows; the time horizon is one year, but a risk event is supposed to occur immediately after the base date and activities of life insurance companies such as underwriting new contracts and selling assets are not taken into account until one year after the base date. This treatment is also adopted in EU Solvency II.

					・In this case, risk mitigation techniques only at the base date should be taken into account. So it is inconsistent that probability of renewal be taken into account. ・From the viewpoint of "substance over form", which is one of the core principles of ICS, taking into account the probability of renewal of risk mitigation arrangements is reasonable as well as renewal of non-life risk mitigation even if the situation of risk mitigation techniques until one year after the base date would be taken into account. The probability of renewal is easily estimable using the historical records of renewal.
General Insurance Association of Japan	Japan	Other	No	No	In order to appropriately reflect the economic reality on the reference date, risk-mitigation techniques that are in force for less than the next 12-months should NOT be adjusted in proportion to the length for which the risk-mitigation technique is in force. In particular, it should be assumed that all derivatives traded for asset management purposes, e.g. futures and options with regard to interest rate, equity, and currency risks, will be renewed. For example, risk-hedging using futures and forwards contracts (e.g. hedging of currency risks using the exchange forwards contract function) becomes an effective hedging technique when renewing contracts whose terms are usually shorter than 12-months. It is not appropriate for adjustments to be made on such contracts, depending on the length for which such contracts are in force, as such adjustments could distort economic reality. Risk mitigation should be recognised not only for the remaining period in force, but also for the next 12-months including the period after renewal.
The Life Insurance Association of Japan	Japan	Other	No	No	・As stated in this consultation document, the IAIS will proceed with the assumption that an IAIG will carry on only existing business for the one year time horizon, the occurrence time of risk event at the date

					immediately after the measurement date, and without considering life insurers activities (such as new business to be written and sales of assets) for next 12 months after the date of measuring risk. This treatment is already adopted, for example in the EU Solvency II Directive. ・In the above case, regarding risk mitigation, the IAIG will need to take into account only the risk-mitigation techniques that are in force at the date of measurement without considering the situation for the next 12 months after the date of measuring risk. Thus, we think determining whether renewal of risk mitigation arrangements is realistic or not will conflict with the general treatment. ・Even if the case where the IAIG takes into account the risk-mitigation techniques for next 12 months after the date of measurement, we think it is reasonable for the IAIG to take into account the probability of renewal of risk mitigation arrangements without restricting only for those relating to renewal of Non-life, in the light of the ICS principle of "substance over form". The IAIG will be able to estimate easily the probability by referring to historical data on the renewal of risk mitigation arrangements.
Great Eastern Holdings Ltd	Singapore	Other	No	Yes	NA
Swiss Re	Switzerland	Other	No	Yes	
Bupa	UK	Other	No	No	Full credit should be given for currency hedging arrangements that are in force for less than the next 12 months. Having a three month criterion (as Under Solvency II) is a simpler and more practical approach than seeking to give credit for the renewal of such arrangements (as raised in question 95 below.)
Institute and Faculty of Actuaries	UK	Other	No	Yes	This is a reasonable approximation.

MetLife	United States	Other	No	No	On July 11 2016 a broad group of field test volunteer companies, including MetLife, proposed that financial risk mitigation techniques should be subject to the same general principles and requirements as other non-financial risk mitigation techniques. In particular, where the risk mitigation techniques are in force for a period shorter than 12 months and the IAIG intends to renew and replace at the time of expiry with a similar arrangement, the risk mitigation technique should be fully taken into account in the calculation of the ICS capital requirement. This should also apply to currently held positions in dynamic hedging programs as the ICS already provides for volatility risk to be accounted for. To ensure proper reflection of risks, these allowances are subject to certain requirements being met, including: a) The risk mitigation arrangement (e.g., hedging strategy) is clearly defined and documented; b) Such arrangements provide an effective transfer of risk to a third party; c) There are no material basis or operational risks compared to the risk mitigation effect; d) There is sufficient degree of liquidity in the market for such instruments under different market conditions. e) Where applicable, credit risk and other risks and costs arising from the use of such techniques should be reflected in the ICS capital requirement. Examples of financial derivatives used for purposes of financial risk mitigation (i.e., hedging) that should be fully allowed for in the calculation of the ICS capital requirement include: --Equity futures, forwards and options --Bond futures and bond options --Swaps and swaptions --Currency futures, forwards, options and swaps

					Variance swaps --Credit default swaps We understand that an estimate of the underlying, pre-hedged, economic risk is a meaningful data point for the IAIS to have. However, as currently proposed, the data the IAIS would be gathering will be neither comparable nor meaningful, given that (for example) companies with long term hedging programs, rolling hedge programs with one year hedges and three month hedges will be providing very different results. Furthermore, the assumption that these deeply liquid plain vanilla instruments would be wholly unavailable is unreasonable, excessive and not supported by evidence in prior crisis periods. We strongly suggest, therefore, that for this particular aspect of modeling the IAIS permit volunteers to incorporate their dynamic hedge programs, relying on precedent under existing rules (see below), and introduce a sensitivity test with no hedging (whether rolling or long term) to indicate the amount of liability risk sitting on the balance sheet. Companies could then indicate the results on the basis of assuming no renewals for instruments under 12 months as a supplement (either supplemental worksheet or in the questionnaire). Allowing reflection of risk mitigation in the data submission - while providing results without renewal of risk mitigation separately - will preserve the meaningfulness of the data submissions and resulting ICS calculations. This proposal should apply to ICS 1.0 and should not be postponed for inclusion in Version 2.0. There is legal precedent for our position under Solvency II Delegated Acts Article 209, although the rules are more strict due to the lack of volatility risk in the standard formula and the option to use a (partial) internal model.

RAA	United States and many other jurisdicitons	Other	No	Yes	In general, we agree that an insurance group should be limited to recognizing risk mitigation techniques, including reinsurance of insurance risk, to the period those contracts or agreements are in force. A proportional approach based on the time remaining under the contract appears to be a practical and reasonable method. However, as described more fully in our answer to Q94, non-life reinsurance renewals (and similar risk mitigation techniques that are regularly renewed) that fall outside the valuation anniversary should be considered in the valuation of assets and liabilities.
American Academy of Actuaries	United States of America	Other	No	No	Risk mitigation techniques considered in the ICS calculation at the valuation date should take into account the projected renewal of existing reinsurance contracts and other similar risk mitigation techniques that require active management, provided. however, that there is a track record of doing so. Examples of risk mitigation techniques include reinsurance for P&C contracts (e.g., catastrophe reinsurance) that are projected to be renewed and continued over the life of the reinsured contract and mitigation techniques put in place in advance to be continued over the life of the program (e.g., dynamic hedging of variable annuity contracts with minimum guarantees).
Prudential Financial, Inc.	United States of America	Other	No	No	Looking through the consultation to the Field Test specifications, the current criteria are deficient in two respects. + The specifications require pro-rating the benefit of any risk mitigation technique that matures in less than 12 months, which directly contradicts instructions to include assets and liabilities as of the valuation date. The entire benefit of existing techniques should be reflected as they may be hedging a risk that is less than 12 months, have a renewal prices which is guaranteed or can be accurately predicted, or various other reasons which pro-rating would result in non-economic risk charges.

					+ It is not clear if a risk mitigation technique is the strategy itself or the individual investments that compose the strategy – clarification is needed. We believe the definition should be the strategy itself, which eliminates the issue of having to modify the full benefit of existing investments/techniques because they have a maturity of less than 12 months. More broadly speaking, we believe this approach contradicts ICS Principle 6 which calls for the ICS to promote sound risk management by IAIGs and G-SIIs, including an explicit recognition of appropriate and effective risk mitigation techniques.
CNA	USA	Other	No	No	No. Simplistically, if a company has a catastrophe reinsurance treaty that expires on March 31 with an available limit of $1 billion, proration for ¼ of a year would imply that the insurer only gets credit for $250 million in available limit. This approach is not appropriate nor is it consistent with how insurers manage their risk or purchase reinsurance.
MassMutual Financial Group	USA	Other	No	No	We don't agree with the general premise. It implies that when a risk mitigating instrument matures, it will not be replaced, and the firm will take on the respective risk exposure previously mitigated by the instrument. As a generalization, this does not align to reality. It is common for the durations of risk mitigation instruments, and the respective risk, to be different. The hedge position is managed to account for this. Although one could argue that the new instrument purchased at maturity may not be identical to the one maturing, any shortcoming with this approach still likely yields an outcome more representative of reality than assuming no hedge protection whatsoever.

IAIS

Q94

Q94 Section 6.3.4.3 Are the criteria for recognising the renewal of Non-life risk mitigation arrangements appropriate for the ICS standard method? Please explain. If “no”, please detail which criteria should be amended, including rationale and suggested amended wording.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	Yes	
China Insurance Regulatory Commission	China	IAIS Member	No	Yes	
EIOPA	EIOPA	IAIS Member	No	Yes	All the criteria proposed are in our view necessary. However, in addition to those criteria, we think it should be explicitly stipulated that: - the risk of deviation of the costs of renewal should be captured in the ICS capital charge - the renewal should not happen more than every x months
BaFin	Germany	IAIS Member	No	Yes	
Financial Supervisory Service	Korea	IAIS Member	No	Yes	

KNF - Polish Financial Supervision Authority	Poland	IAIS Member	No	Yes	
Ageas	Belgium	Other	No	Yes	
ABIR Association of Bermuda Insurers & Reinsurers	BERMUDA	Other	No	Yes	The criteria given appear reasonable.
Canadian Institute of Actuaries	Canada	Other	No	Yes	
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	Considering the policy term of non-life insurance is generally one year or less than a year, we agree with the criteria provided in CD.
AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	Yes	The criteria mentioned: "i) the renewal is consistent with previous business practice and documented strategy; ii) the renewal is realistic with regards to availability of the arrangement and its cost (that will be reflected in the financial statements); and iii) any additional risk stemming from the risk mitigation arrangement (eg credit risk) is taken into account in the ICS capital requirement." are sufficient to ensure the continuation of the risk mitigation technique. The IAIS could consider adding the requirement that any deviation from the policy is to be communicated to the supervisor.
Actuarial Association of Europe	European Union	Other	No	Yes	For renewal of risk-mitigation techniques that are in force for less than 12 months see below.
Allianz	Germany	Other	No	Yes	

GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	Yes	
German Association of Actuaries (DAV)	Germany	Other	No	Yes	
Munich Re	Germany	Other	No	Yes	
International Actuarial Association	International	Other	No	Yes	
Dai-ichi Life Holdings, Inc.	Japan	Other	No	Yes	・And this treatment should not be limited to renewal of Non-life risk.
General Insurance Association of Japan	Japan	Other	No	Yes	It is appropriate to recognise renewal of reinsurance contracts that are in force for less than the next 12-months. This is in line with the measurement of risks, which assumes new and renewed business over the next one-year period (one-year time horizon).
The Life Insurance Association of Japan	Japan	Other	No	Yes	・We believe that the application of these criteria should not be restricted only for the renewal of Non-life risk mitigation arrangements.
Great Eastern Holdings Ltd	Singapore	Other	No	Yes	NA
Swiss Re	Switzerland	Other	No	Yes	
RAA	United States and many	Other	No	Yes	The criteria in paragraph 304 b) appears reasonable and practical. It is critically important that cedents and retrocessionaires are allowed to recognize the renewal of reinsurance contracts, which

	other jurisdicitons				often occur mid-year, by referring to historical data and experience on the recurring renewal of these arrangements. There is typically sufficient market information available to reasonably estimate the cost of these renewals.
American Academy of Actuaries	United States of America	Other	No	Yes	We agree with the criteria for non-life, specifically for that criteria relative to reinsurance programs. It makes sense to assume continuation of the existing reinsurance program into the coming year as discussed in our response to Question 91. Response to Question 91: Risk mitigation techniques considered in the ICS calculation at the valuation date should take into account the projected renewal of existing reinsurance contracts and other similar risk mitigation techniques that require active management, provided. however, that there is a track record of doing so. Examples of risk mitigation techniques include reinsurance for P&C contracts (e.g., catastrophe reinsurance) that are projected to be renewed and continued over the life of the reinsured contract and mitigation techniques put in place in advance to be continued over the life of the program (e.g., dynamic hedging of variable annuity contracts with minimum guarantees).

Q95

Q95 Section 6.3.4.4 With regard to risks arising from the balance sheet as at the reference date, should renewal of risk mitigation arrangements other than those relating to non-life insurance risks also be recognised? Please explain.

Organisation	**Jurisdiction**	**Role**	**Confidential**	**Answer**	**Answer Comments**
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	Yes	Yes, it is common industry practice for market (namely for currency and interest rate) and credit (namely for spread) risks arising from the balance sheet as at the reference date to be hedged using short term (e.g. monthly) derivative instruments (such as forwards, futures and swap) that are periodically renewed in line with written policies and procedures that monitored by insurers. This is good risk management practice that enables close monitoring and management of basis risk and possibly more economically efficient than buying yearly protection which in many cases may not even be available. Not allowing for renewal of these instruments will create artificial mismatches and provide a distorted and uneconomic view of the solvency position of insurers. The BMA supports that ad minimum for market and credit risks arising from the balance sheet as at the reference date renewal of risk mitigation arrangements to be recognized. Similar allowance for other risks (other than non-life, market and credit risks) should also be studied.
China Insurance Regulatory Commission	China	IAIS Member	No	No	

EIOPA	EIOPA	IAIS Member	No	Yes	We support a principles-based approach in this area, which does not discriminate between different types of risks, provided that the required criteria are met.
Financial Supervisory Service	Korea	IAIS Member	No	Yes	As the renewability of the FX contract can be guaranteed considering its characteristics and actual practices, it should be used as part of FX risk mitigation method.
National Association of Insurance Commissioners	USA	IAIS Member	No	Yes	Provided appropriate criteria are met and the cost is reflected on the balance sheet, then it is appropriate to recognize the renewal of financial instruments used to hedge certain market risks associated with life insurance liabilities.
Ageas	Belgium	Other	No	Yes	Such renewals should be considered but potential costs associated to renewing during the 1 year horizon should be taken into account.
Canadian Institute of Actuaries	Canada	Other	No	Yes	There exist risk mitigation arrangements covering life insurance and/or market risks whose effectiveness could be materially diminished if arrangements or instruments in place at the reference date are not assumed to renew if renewal is expected within the next 12 months. It would seem to enhance consistency and comparability across firms if life insurance and market risks receive the same treatment as non-life insurance, in regards to the treatment of the renewal of risk mitigation arrangements.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Yes	Please refer to Q93. We think renewal of risk mitigation arrangement should be recognised regardless of its inforce period, if conditions and the scope of risk transfer have been clearly specified in the contract terms and the costs will not change significantly.

AMICE, Association of Mutuals and CooperativesinEurope/ICMIF,International Cooperative and Mutual Insurance Federation.	Europe	Other	No	Yes	Any risk mitigation techniques should be considered, not only limited to FX, but also any of the other identified risks. By limiting the possibilities, the IAIS would also limit the possibility for the emergence of new risk mitigation techniques. Principally the same criteria could be used. Furthermore special reference should be made to the effects of using Central Clearing Agencies in reducing the default risk. Costs associated with these risks which are related to the insurance obligations are included in the current estimate. No additional requirement is warranted.
Insurance Europe	Europe	Other	No	Yes	See comment to Q91.
Actuarial Association of Europe	European Union	Other	No	Yes	They should be recognised under the same criteria that are set for non-life risk-mitigation techniques.
Institut des Actuaires	France	Other	No	Yes	See answer Q91, exemple of financial hedging.
Allianz	Germany	Other	No	Yes	Provided that the company is renewing the risk mitigation this should be reflected as well and there should be no differentiation between risks as the underlying principle is always the same. In case a life company for example is applying reinsurance for its life book or a company has a certain risk appetite for market risk and is hedging the excess risk by a rolling hedge program there is no reason why this should not be taken into account. Therefore specifications given in 6.3.3 Art 304 for renewal of risk mitigation should not only be applicable for non-life insurance risks but for all risks. Of course the stated requirements, like a documented strategy etc. must be fulfilled. For dynamic hedging see Questions 91-92.

GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	Yes	
German Association of Actuaries (DAV)	Germany	Other	No	Yes	They should be recognised under the same criteria that are set for non-life risk-mitigation techniques.
Munich Re	Germany	Other	No	Yes	See Q93.
AIA Group	Hong Kong	Other	No	No	
International Actuarial Association	International	Other	No	Yes	
Dai-ichi Life Holdings, Inc.	Japan	Other	No	Yes	Please refer to the answer for Q93.
General Insurance Association of Japan	Japan	Other	No	Yes	
The Life Insurance Association of Japan	Japan	Other	No	Yes	・They should be recognized. Please refer to the comment(s) on Question 93 above.
Great Eastern Holdings Ltd	Singapore	Other	No	No	Renewal of risk mitigation arrangements is not a definite thing to occur in the future. Since there is uncertainty on whether renewal will occur, it should not be recognised.
Swiss Re	Switzerland	Other	No	Yes	Accounting for the renewal of risk mitigating measures should be allowed where there is a renewal option in the contract, or where there is a longstanding relationship, e.g. with a reinsurer.

MetLife	United States	Other	No	Yes	Please see response to Q. 93 above.
American Academy of Actuaries	United States of America	Other	No	Yes	Renewal of risk mitigation arrangements should be recognized, especially if it is part of the company's ongoing strategy to manage balance sheet risk.
Prudential Financial, Inc.	United States of America	Other	No	Yes	If an IAIG can accurately project the costs and benefits of risk mitigation renewal or can demonstrate sufficient conservatism in their modelling of risk mitigation renewal, renewal of the technique should be allowed regardless of whether it pertains to life or non-life risks.
MassMutual Financial Group	USA	Other	No	Yes	Risk mitigation is more commonly thought of as a perpetual approach to management, opposed to an approach for a finite period of time. Therefore, we believe it is more responsible to assume risk mitigating techniques are renewed.

Q95.1

Q95.1 Section 6.3.4.4 If "yes" to Q95, please provide specific suggestions for criteria that can be applied to the recognition of such renewals.

Organisation	**Jurisdiction**	**Role**	**Confidential**	**Answer**
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	"Renewal of risk mitigation arrangements with respect to risks other than non-life insurance risks may be taken into account if the IAIG expects to renew, and the costs of renewal within the time horizon are taken into account. The renewal of the arrangements should be taken into account only if: (1) The renewal is consistent with previous business practice and documented strategy. (2) The renewal is realistic with regards to availability of the arrangement and its cost (that will be reflected on the financial statements). (3) Any additional risk stemming from the risk mitigation arrangement (e.g. Credit risk) is taken into account in the ICS capital requirement. (4) The risk that the risk-mitigation technique cannot be replaced due to an absence of liquidity in the market is not material."
EIOPA	EIOPA	IAIS Member	No	The following principles should be applied in order to allow the recognition of such renewals: (a) the insurer or reinsurer has a written policy on the replacement of that risk-mitigation technique; (b) the replacement of the risk-mitigation technique shall not take place more often than every three months; (c) the replacement of the risk-mitigation technique is not conditional on any future event, which is outside of the control of the insurer or reinsurer. Where the replacement of the risk-mitigation technique is conditional on any future event, that is within the control of the insurer or reinsurer, then the conditions should be clearly documented in the written policy referred to in point (a); (d) the replacement of the risk-mitigation technique shall be realistic based on replacements undertaken previously by the insurer or reinsurer and consistent with its current business practice and business strategy; (e) the risk

				that the risk-mitigation technique cannot be replaced due to an absence of liquidity in the market is not material; (f) the risk that the cost of replacing the risk-mitigation technique increases during the following 12 months is reflected in the ICS Capital Requirement; (g) the replacement of the risk-mitigation technique would not be contrary to requirements that apply to future management actions.
Financial Supervisory Service	Korea	IAIS Member	No	FX forward or CRS as part of FX risk mitigation plan can be applied to the recognition.
National Association of Insurance Commissioners	USA	IAIS Member	No	As part of the criteria, we would recommend disclosures similar to those for a Clearly Defined Hedging Strategy (CDHS) under U.S. Principles Based Reserving. For a CDHS, a company must be able to identify: i. The specific risks being hedged (e.g., delta, rho, vega, etc.). ii. The hedge objectives. iii. The risks not being hedged (e.g., variation from expected mortality, withdrawal, and other utilization or decrement rates assumed in the hedging strategy, etc.). iv. The financial instruments that will be used to hedge the risks. v. The hedge trading rules including the permitted tolerances from hedging objectives. vi. The metric(s) for measuring hedging effectiveness. vii. The criteria that will be used to measure effectiveness. viii. The frequency of measuring hedging effectiveness. ix. The conditions under which hedging will not take place. x. The person or persons responsible for implementing the hedging strategy.
Ageas	Belgium	Other	No	Please refer to our answer to question 95.
Canadian Institute of Actuaries	Canada	Other	No	The market providing hedge instruments should be liquid and actively traded and should cover the risks for the time horizon considered by these standards.

				A company could be expected to demonstrate the effectiveness of its hedging program in order to receive full recognition of its risk mitigation benefits.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Please refer to the above reply.
Actuarial Association of Europe	European Union	Other	No	Comprehensive criteria are given under Solvency II (Solvency II regulation par. 209 (3)) which could be adopted for the ICS, since they address this issue.
Institut des Actuaires	France	Other	No	See answer Q92, same criteria should apply.
Allianz	Germany	Other	No	Comprehensive criteria are given in SII delegated acts Art. 209 (3) as follows: (a) the insurance or reinsurance undertaking has a written policy on the replacement of that risk-mitigation technique; (b) the replacement of the risk-mitigation technique shall not take place more often than every three months; (c) the replacement of the risk-mitigation technique is not conditional on any future event, which is outside of the control of the insurance or reinsurance undertaking. Where the replacement of the risk-mitigation technique is conditional on any future event, that is within the control of the insurance or reinsurance undertaking, then the conditions should be clearly documented in the written policy referred to in point (a); (d) the replacement of the risk-mitigation technique shall be realistic based on replacements undertaken previously by the insurance or reinsurance undertaking and consistent with its current business practice and business strategy; (e) the risk that the risk-mitigation technique cannot be replaced due to an absence of liquidity in the market is not material; (f) the risk that the cost of replacing the risk-mitigation technique increases during the following 12 months is reflected in the Solvency Capital Requirement; (g) the replacement of the risk-mitigation technique would not be contrary to

				requirements that apply to future management actions set out in Article 23(5). For dynamic hedging see questions 91-92.
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	The criteria could be the same as for the renewals for non-life risks.
German Association of Actuaries (DAV)	Germany	Other	No	Comprehensive criteria are given under Solvency II (Solvency II regulation par. 209 (3)) which could be adopted for the ICS, since they address this issue.
International Actuarial Association	International	Other	No	Similar to those already stated for Clearly Defined Hedging Strategies
Dai-ichi Life Holdings, Inc.	Japan	Other	No	·As we point out in question 93, risk mitigation techniques only at the base date should be taken into account. The probability of renewal of risk mitigation arrangements should be taken into account even if the situation of risk mitigation techniques until one year after the base date would be taken into account. The probability of renewal is easily estimable using the historical records of renewal.
General Insurance Association of Japan	Japan	Other	No	The same criteria applied to non-life insurance risks should also be applied to other risks. In particular, it should be considered that all derivatives traded for asset management purposes, e.g. futures and options with regard to interest rate, equity, and currency risks, will be renewed.
The Life Insurance Association of Japan	Japan	Other	No	·As stated in the comment(s) on Question 93, we think it is appropriate for the IAIG to take into account only the risk-mitigation techniques that are in force at the date of measurement. Even in the case where the IAIG takes into account the risk mitigation situation for the next 12 months after the date of measuring risk, our suggestion would be adding a sentence "However, the risk mitigating effect assumed to continue after the renewals shall be taken into account in the ICS

				capital requirement provided the renewal of risk mitigation arrangements is highly likely to realise." to paragraph 438 of the 2016 Field Testing Technical Specifications. This is in the light of the ICS principle of "substance over form".
Great Eastern Holdings Ltd	Singapore	Other	No	NA
Swiss Re	Switzerland	Other	No	See response to 95 above.
Bupa	UK	Other	No	In the case of currency hedging we believe that reducing the qualifying period for which the hedging is in place from 12 months to 3 months is a better approach than specifying conditions relating to the renewal of the hedging. See our response to question 93 above.
MetLife	United States	Other	No	As stated in response to Q, 93 above, to ensure proper reflection of risks, these allowances are subject to certain requirements being met, including: a) The risk mitigation arrangement (e.g., hedging strategy) is clearly defined and documented; b) Such arrangements provide an effective transfer of risk to a third party; c) There are no material basis or operational risks compared to the risk mitigation effect; d) There is sufficient degree of liquidity in the market for such instruments under different market conditions. e) Where applicable, credit risk and other risks and costs arising from the use of such techniques should be reflected in the ICS capital requirement.
Prudential Financial, Inc.	United States of America	Other	No	The primary criteria are consistent with our response to question 92.3. + Approved risk mitigation strategies must be managed in accordance with an explicit policy/guideline

				+ Risk mitigation strategies must be approved by the Board of Directors or a subcommittee of Board members + Demonstrations must be made that the strategy is held within the Board or subcommittee's approved guidelines, is effective at mitigating risk, and that sufficient assumptions/models are used to determine the impact on risk charges. An additional consideration is the ability to accurately project expected future costs and benefits of risk mitigation techniques. If an IAIG can accurately project these costs and benefits or can demonstrate sufficient conversation in their modelling of the risk mitigation technique, renewal of the technique should be allowed.
MassMutual Financial Group	USA	Other	No	For ease of transparency and understanding, the best approach may be to assume all risk mitigation techniques are capable of being renewed.

Q95.2

Q95.2 Section 6.3.4.4 If "yes" to Q95, please provide specific examples of risk mitigation arrangements that would qualify as such, including details of the risks addressed and the materiality of these arrangements.

Organisation	Jurisdiction	Role	Confidential	Answer
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	Market (namely currency and interest rate) and credit (namely spread) risks arising from the balance sheet as at the reference date being hedged using short term (e.g. monthly) derivative instruments (such as forwards, futures and swaps) that are periodically renewed in line with written policies and procedures that monitored by insurers.
Financial Supervisory Service	Korea	IAIS Member	No	Example of FX risk mitigation * Contract date as of June 2015 - Foreign mutual fund with 5 years maturity (expecting 5% return) $100 million + short contract of $105 million in 1 year F/X forward : F/X risk on $5 million(5% expected return) at the time of investment * Valuation date as of Dec. 2015 (6 months elapsed) - Foreign mutual fund with 4.5 years maturity (expecting 5% return) $100 million + short contract of $105 million in 0.5 year F/X forward : F/X risk on $52.5 million after 6 months ($47.5 million increased)
National Association of Insurance Commissioners	USA	IAIS Member	No	Derivative instruments in a hedging program would have price, performance, value or cash flow based primarily upon the actual or expected price, level, performance, value or cash flow of one or more underlying interests. This could include option, warrant, cap, floor, collar, swap, forward or future, or any other agreement or instrument substantially similar thereto or any series or combination thereof. Our comments here concern the mitigation of certain market

				risks associated with life insurance liabilities. We would not include reinsurance as a qualifying risk mitigation arrangement for these specific risks.
Ageas	Belgium	Other	No	Please refer to our answer to question 95.
Canadian Institute of Actuaries	Canada	Other	No	Examples of arrangements affecting life insurance or market risks could include short-term catastrophe or stop-loss coverages for mortality risk and hedging programs of market risks (e.g., as discussed above for variable annuities, or covering currency translation risk).
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Please refer to the above reply.
Actuarial Association of Europe	European Union	Other	No	Life reinsurance, longevity swaps, currency hedges, put strategies, etc. There should not be a limitation to a predefined list.
Allianz	Germany	Other	No	Specific examples would be quota shares on life books, longevity swaps, Currency hedges, put strategies to limit losses to a certain amount, etc. However this should not be limited to certain pre-defined examples, since it depends on the company specific risk profile and risk appetite what kinds of risk mitigation measures are applied. In addition the materiality of such programs might also change over time, for example due to a changed risk appetite.
German Association of Actuaries (DAV)	Germany	Other	No	Life reinsurance, longevity swaps, currency hedges, put strategies, etc. There should not be a limitation to a predefined list.
Dai-ichi Life Holdings, Inc.	Japan	Other	No	·For example, it is thought that the currency risk of the foreign bond is hedged by exchange contracts and the hedge effect is continued by the renewal of exchange contracts.

General Insurance Association of Japan	Japan	Other	No	As mentioned in our answer to (1), all derivatives traded for asset management purposes, e.g. futures and options with regard to interest rate, equity, and currency risks, qualify as examples of such risk mitigation arrangements.
The Life Insurance Association of Japan	Japan	Other	No	·One example may be the hedging of foreign exchange risk for foreign bonds using foreign exchange forwards, and continuing the hedge effects by the renewal of foreign exchange forwards.
Great Eastern Holdings Ltd	Singapore	Other	No	NA
Swiss Re	Switzerland	Other	No	See response to 95 above.
MetLife	United States	Other	No	As stated in response to Q. 93 above Examples of financial derivatives used for purposes of financial risk mitigation (i.e., hedging) that should be fully allowed for in the calculation of the ICS capital requirement include: --Equity futures, forwards and options --Bond futures and bond options --Swaps and swaptions --Currency futures, forwards, options and swaps --Variance swaps --Credit default swaps
Prudential Financial, Inc.	United States of America	Other	No	FX forward contracts and currency swaps used to hedge investments in foreign subsidiaries should be fully recognized even if they mature within the next 12 months. Currency derivatives used to hedge would be fully effective in mitigating the impact of currency stresses regardless of their maturities. Given the deep liquidity of currency markets (e.g., daily trading volume of $5 trillion), execution risk at the time of roll is minimal. The remaining time to maturity would matter only if a severe stress is followed by another

				severe stress. In this case, the first stress would disrupt the market so that maturing derivatives cannot be renewed. Then, the second stress would lead to losses for the insurer. However, this event (one stress followed by another) would represent higher severity than the IAIS' targeted calibration for the ICS.
MassMutual Financial Group	USA	Other	No	We believe the instruments should include but not be limited to futures, forwards, and options related to market risks such as interest rates, credit. equity, and currency.

Q95.3

Q95.3 Section 6.3.4.4 If “yes” to Q95, please provide suggestions on how the issues such as future availability, future cost and uncertainty of the decision should be addressed.

Organisation	Jurisdiction	Role	Confidential	Answer
EIOPA	EIOPA	IAIS Member	No	The fulfilment of the qualitative criteria included in our response to Q95.1 should address these issues.
Financial Supervisory Service	Korea	IAIS Member	No	Based on sufficient historical market transactions of FX forward and CRS, it suggests the market is deep and the price is relatively transparent for FX transaction. However, in the times like 2008 financial crisis, it could be very difficult to find sufficient contracts and higher cost is anticipated. The contract renewability should be documented (eg. reviewed by Risk management committee) and the execution of renewal should be guaranteed.
Ageas	Belgium	Other	No	Please refer to our answer to question 95.
Canadian Institute of Actuaries	Canada	Other	No	The "future" in question is presumably the 12-month period following the reference date. We recognize that most statements about the future involve uncertainty, and this is also true of availability, cost, and decisions concerning risk mitigation arrangements. However, if the sources of the arrangements have a track record of being liquid markets, this should alleviate some concerns. Remaining concerns could be addressed by applying some form of "haircut" to the risk mitigation impact of the arrangement, where such haircut could be based on historical performance or stress-testing.

Ping An Insurance (Group) Company of China Ltd.	China	Other	No	Please refer to the above reply.
Actuarial Association of Europe	European Union	Other	No	This issue should be addressed by setting requirements that need to be fulfilled for recognition (see Question 95.1, with a suggestion for criteria).
Allianz	Germany	Other	No	In principle the respective entity must gather information to justify the requirements are met. Possible ways for addressing this are - Reference to existing regulation. In case the entity has a similar requirement under its regulatory regime (e.g. Solvency that also allows renewal of risk mitigation if certain requirements are met see Q95.1) a reference to that justification can be made. - Possible specific examples for justification: o Company history of renewals of such contracts o Analysis of market depth/trading volume for traded risk mitigation contracts to ensure sufficient availability o Commitment of counterparty e.g. reinsurer to renew contract o Policy that defines the renewal of the risk mitigating measure in question
German Association of Actuaries (DAV)	Germany	Other	No	This issue should be addressed by setting requirements that need to be fulfilled for recognition (see Question 95.1, with a suggestion for criteria).
International Actuarial Association	International	Other	No	Addressed via requirements for a clearly defined hedging strategy
Dai-ichi Life Holdings, Inc.	Japan	Other	No	·The issues such as future availability, future cost and uncertainty of the decision can be estimated by using the past track record.

General Insurance Association of Japan	Japan	Other	No	Risks are measured based on assets/liabilities held on the reference date and do not take into account whether they will continue to be held or not. Therefore, in terms of consistency, the risk mitigation effect of the hedging held on the reference date should be recognised without any particular conditions.
The Life Insurance Association of Japan	Japan	Other	No	·We think the IAIGs will be able to estimate future availability and future cost based on the historical data on renewal of risk mitigation arrangements.
Great Eastern Holdings Ltd	Singapore	Other	No	NA
Swiss Re	Switzerland	Other	No	See response to 95 above. The criteria for recognising the renewal of Non-life risk mitigation arrangements should also apply.
MetLife	United States	Other	No	Future Availability: The key concern is what credit should be given for the renewal of hedges during times of stress given that the market of certain types of derivatives may dry up or may be prohibitively expensive during a crisis. However, during the 2008 crisis we saw that centrally cleared derivatives (e.g. futures) remained very liquid. The majority of the derivatives in the dynamic hedge program tend to be centrally cleared derivatives such as equity futures, interest rate swaps and currency futures. The amount of hedge offset afforded to firms should take into consideration the following: a) The targeted level of hedge effectiveness of the hedge programme. This should be clearly defined for each type of risk and hedge instrument. b) The achieved hedge effectiveness based on the historical performance of the hedge programme especially in stressed markets. c) The types of hedges in the rolling and dynamic hedge programme (e.g. centrally cleared are more liquid) d) Any future changes to the hedging strategy.

				Future costs associated with the renewal of risk mitigation arrangements should be reflected in the value of the liabilities. Overhead costs such as management and infrastructure-related costs of running a hedge program do not generally increase in stress events. However, costs associated with purchasing hedges (option premiums, cost of initial margin etc.) can increase during stress events. These increased costs should be reflected in the capital requirement (via an increase in the liability value under the shock scenarios).
Prudential Financial, Inc.	United States of America	Other	No	Historical studies of market liquidity and observable market price volatility in stress periods should provide sufficient data for the prudential conservatism that should be embedded in future availability/cost/uncertainty when determining the effectiveness of risk mitigation renewal.
MassMutual Financial Group	USA	Other	No	The reality is that the items mentioned in this question are unknown in the stress scenarios. In the context of availability, it may be fair to assume what is available in the market currently is available in the stress scenario. This assumption could be mitigated by a change in option cost, rooted in supervisory judgement. This approach is arguably crude, but we believe a rough proxy for the impact of hedging key risks is preferable to not reflecting hedging at all.

Q96

Q96 Section 6.3.4.5 Should a materiality threshold for basis risk arising from any risk mitigation techniques be defined? If "yes", please provide a detailed suggestion of a definition that would be appropriate for the ICS and your rationale.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	No	
EIOPA	EIOPA	IAIS Member	No	No	In principle, setting a materiality threshold is a difficult exercise, considering both the necessary arbitrariness of the threshold, and the potential cliff-edge effects resulting from this threshold. Moreover, the concept of basis risk itself is not easy to neatly specify. Therefore, we think the materiality of basis risk should be left to the appreciation of the supervisors; to this end, the IAIS could specify a list of test / criteria to be applied as guidance in the materiality assessment.
BaFin	Germany	IAIS Member	No	No	
Financial Supervisory Service	Korea	IAIS Member	No	No	
Ageas	Belgium	Other	No	No	We propose to be aligned with Solvency II. From the Delegated Acts :

					Basis risk is material if it leads to a misstatement of the risk-mitigating effect on the insurance or reinsurance undertaking´s Basic Solvency Capital Requirement that could influence the decision-making or judgement of the intended user of that information, including the supervisory authorities.
Canadian Institute of Actuaries	Canada	Other	No	Yes	Risk mitigation should reflect practice, but should nonetheless reflect operational risks associated with that practice. It would be appropriate to recognize that during stress scenarios, speed to execution may be delayed due to market conditions.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	No	
Insurance Europe	Europe	Other	No	No	
Actuarial Association of Europe	European Union	Other	No	No	
Institut des Actuaires	France	Other	No	No	
Allianz	Germany	Other	No	No	
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	No	
German Association of Actuaries (DAV)	Germany	Other	No	No	

Munich Re	Germany	Other	No	No	
AIA Group	Hong Kong	Other	No	No	
General Insurance Association of Japan	Japan	Other	No	No	
Great Eastern Holdings Ltd	Singapore	Other	No	No	
Swiss Re	Switzerland	Other	No	No	
RAA	United States and many other jurisdicitons	Other	No	No	Basis risk should be accounted for and measured in the ICS valuation of assets and liabilities. With respect to insurance risk mitigation, basis risk may require separate treatment under the MAV and GAAP Plus approaches. Under the MAV valuation, insurance risk mitigation, whether it be indemnity reinsurance or non-indemnity risk mitigation techniques that involve basis risk, can be reduced to probability weighted cash flows in the MAV valuation model. Basis risk would not matter. Under a GAAP Plus approach where claims reserves are not discounted, basis risk could be significant and should not be ignored. In the insurance risk mitigation context under US GAAP and statutory accounting, basis risk does not exist as reinsurance of insurance risk requires indemnification. US GAAP requires that: 1) the reinsurer indemnify the cedent against loss on the underlying original insurance, 2) the contract must transfer both timing and underwriting risk and 3) the reinsurer must have a reasonable possibility of incurring a significant loss on the contract.
Prudential Financial, Inc.	United States of America	Other	No	Yes	An IAIG should utilize historical actuals to identify the basis risk of their risk mitigation techniques. An appropriate threshold based on their historical experience should be established and recognized as a potential risk charge. To

					the extent that a new risk mitigation technique is put into place, external and professional sources should be relied upon to estimate expected basis risk of the risk mitigation technique.
MassMutual Financial Group	USA	Other	No	Yes	If there is sufficient evidence that the change in value of the hedge instrument parallels the change in value of the respective risk, we believe it may be appropriate to ignore basis risk. In such instances, basis risk is arguably immaterial, and does not need to be captured. Alternatively, it may be prudent to layer on a certain 'cost' based on supervisory judgement related to basis risk. In other instances, risk mitigation techniques have a material amount of basis risk, and we believe it should be captured appropriately. Additionally, the level at which basis risk is analyzed may be important, as certain risk mitigation strategies are often managed at the portfolio level, opposed to the security level. There may be a hedge that does not explicitly mirror any one risky asset, but it is part of a broader basket of hedges mitigating a broader basket of risk.

Q97

Q97 Section 6.3.4.5 Are you aware of organisations that account for basis risk arising from risk mitigation techniques? If "yes", please provide details on how this is done in practice.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
EIOPA	EIOPA	IAIS Member	No	Yes	In the European framework, a risk mitigation technique is only recognized in the calculation of capital requirements if the basis risk is not material or is appropriately reflected in the calculation of capital requirements.
BaFin	Germany	IAIS Member	No	No	
Financial Supervisory Service	Korea	IAIS Member	No	No	
KNF - Polish Financial Supervision Authority	Poland	IAIS Member	No	Yes	Please see article 86 of COMMISSION DELEGATED REGULATION (EU) 2015/35 of 10 October 2014 supplementing Directive 2009/138/EC of the European Parliament and of the Council on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II).
Ageas	Belgium	Other	No	Yes	Different technics exist in function of the nature of the Basis Risks (e.g. parametric triggered Cat Protection, multi-currency reinsurance arrangements, etc. The variety of pricing options are discussed in Zeng, L. (2003): Hedging Catastrophe Risk Using Index-Based Reinsurance Instruments. Casualty Actuarial Society Forum Spring, 245–268. Another overview is presented in Gatzert, Schmeiser,

					Doplek: An analysis of pricing and basis risk for industry loss warranties. Working papers on risk management and insurance No. 43, 2007.
Canadian Institute of Actuaries	Canada	Other	No	No	
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	No	
Actuarial Association of Europe	European Union	Other	No	No	
Allianz	Germany	Other	No	No	
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	Yes	It is based on actuarial analyses.
German Association of Actuaries (DAV)	Germany	Other	No	No	
Munich Re	Germany	Other	No	Yes	It is based on actuarial analyses.
AIA Group	Hong Kong	Other	No	No	
International Actuarial Association	International	Other	No	Yes	The gap in the basis risk of the actual to modeled results is tracked over time (daily and monthly) with active management oversight (including prior determined limits and agreed to actions to rectify). This oversights reviews the strength of the

					mapping process and how to enhance that strength. For example analyzing the magnitude of the peak to trough of the basis risk gaps is one indicator.
General Insurance Association of Japan	Japan	Other	No	No	
Great Eastern Holdings Ltd	Singapore	Other	No	No	
Swiss Re	Switzerland	Other	No	Yes	Reinsurers that hedge themselves in financial markets constantly account for the related basis risk. This can be most precisely done through the use of regulatory approved internal models.
RAA	United States and many other jurisdicitons	Other	No	Yes	There are a variety of actuarial approaches used to measure basis risk for risk mitigation of insurance risk in the property casualty context. Under US GAAP the broader concept of basis risk is evaluated in terms of hedge effectiveness.
Prudential Financial, Inc.	United States of America	Other	No	Yes	As discussed in our response to question 96, historical actual net hedge losses/gains should be used to estimate basis risk for existing risk mitigation strategies.
MassMutual Financial Group	USA	Other	No	No	

Q98

Q98 Section 6.3.5 Are there any further comments on risk mitigation that the IAIS should consider in the development of ICS Version 1.0? If "yes", please explain with sufficient detail and rationale.

Organisation	Jurisdiction	Role	Confidential	Answer	Answer Comments
Bermuda Monetary Authority (BMA)	Bermuda	IAIS Member	No	No	
China Insurance Regulatory Commission	China	IAIS Member	No	No	
BaFin	Germany	IAIS Member	No	No	
Financial Supervisory Service	Korea	IAIS Member	No	No	
Ageas	Belgium	Other	No	Yes	We recommend to look at the guidelines provided by EIOPA on application of outwards reinsurance arrangements to the non-life underwriting risk sub-module, in particular for multi-lines and/or multi-entities reinsurance covers.
Canadian Institute of Actuaries	Canada	Other	No	Yes	We note that market risks tend to be more material for life insurers and have a relatively small impact on non-life insurers. The changes we propose relating to dynamic programs and other renewable risk mitigation arrangements would have

					a measurable impact on life insurers without degrading the overarching principles established by the IAIS.
Ping An Insurance (Group) Company of China Ltd.	China	Other	No	No	
Insurance Europe	Europe	Other	No	Yes	Insurance Europe strongly supports the inclusion of internal models and IAIG-specific adjustments to the standard method in the ICS development. Internal models and IAIG -specific adjustments to the standard method should be explicitly tested in the upcoming field testing exercises as alternatives to allow the IAIS to develop conclusions on internal models based on concrete proof. Proposing only a standard method that captures all risks across firms is not adequate and not sufficient, particularly given the bespoke nature of insurers' risks. The necessity of internal models and/or IAIG-specific adjustments, in addition to the standard formula-type methods to identify and to capture all potential risk classes by risk type or region will avoid an arbitrary allocation of risks to certain classes with consequences for the calibration and aggregation of those risks and/or an overly complex standard method which does not reflect the risk profiles of many of the groups to which it is applied. For a significant part of the European market, internal models are a key tool from a risk management perspective. They are integral to their business and are not only used to generate a solvency number. The use for internal models allows for an alignment of internal steering view with regulatory view and appropriate determination of risk, including adequate reflection of risk mitigation instruments and quantification of diversification benefits.
Actuarial Association of Europe	European Union	Other	No	No	

Institut des Actuaires	France	Other	No	Yes	The criteria the RMT eligibility in the calculations should be detailed.
Allianz	Germany	Other	No	No	
GDV - Gesamtverband der Deutschen Versicherungswirtschaft	Germany	Other	No	No	
German Association of Actuaries (DAV)	Germany	Other	No	No	
AIA Group	Hong Kong	Other	No	No	
General Insurance Association of Japan	Japan	Other	No	No	
Great Eastern Holdings Ltd	Singapore	Other	No	No	
Swiss Re	Switzerland	Other	No	No	
Aegon NV	The Netherlands	Other	No	Yes	Aegon believes that a failure to appropriately reflect risk mitigation, risks creating severe distortions in the ICS. In particular, the complete exclusion of dynamic hedging techniques increases the likelihood that the ICS will produce solvency ratios that are not reflective of an insurers' financial situation, significantly reducing its usefulness and relevance and also undermining comparability.
Association of British Insurers	United Kingdom	Other	No	Yes	There should be consistency across decisions that the IAIS is making across all areas. Some areas where inconsistent decisions are made are illustrated below. It

					should be noted that such inconsistency will result in capital requirements that are far greater than what may be required as per the target level of calibration. • Time horizon - The IAIS has decided that it will be assumed that new business is written for 12 months after the valuation date. However, when considering the impact of risk mitigation techniques, only exposures as at valuation date are considered (Para 308). Further, consistent with the assumption of writing new business for 1 year, the impact of the new business on net assets and ICS should both be considered. • Instantaneous stress – The IAIS has attempted to calibrate stress based on a 1 year horizon. However, there is an assumption that stresses occur instantaneously. This in effect makes that overall level of stress much more onerous than the target 1 in 200 level. Further, a number of stresses would not be relevant or observable over a 1 year horizon, such as longevity trend. • Treatment of hedges that expire in less than 12 months – only partial credit is allowed and this is inconsistent with the assumption that the stress occurs instantaneously. In an instantaneous stress, the full benefit of the hedge instrument currently held by the IAIG will be available. • Risk mitigation – where clearly defined hedging strategies exist, artificial constraints relating to non-renewal of hedges should not be applied. The assumption that it may not be feasible to renew any hedges, or implement other comparable risk mitigation strategies, is clearly much more severe than a 1 in 200 scenario.
RAA	United States and many other jurisdicitons	Other	No	Yes	Risk mitigation through reinsurance is a core risk management activity that is fundamental to the insurance business model. The development of the ICS must address this in a comprehensive and realistic manner to ensure that risk and capital is appropriately measured in the ICS standard.
MassMutual Financial Group	USA	Other	No	No	

End of Section 6.3