



Prudential Standard GPS 116

Capital Adequacy: Insurance Concentration Risk Charge

Objective and key requirements of this Prudential Standard

This Prudential Standard requires a general insurer or Level 2 insurance group to maintain adequate capital against the risks associated with insurance concentration in its activities.

The ultimate responsibility for the prudent management of capital of a general insurer or Level 2 insurance group rests with its Board of directors. The Board must ensure that the general insurer or Level 2 insurance group maintains an adequate level and quality of capital commensurate with the scale, nature and complexity of its business and risk profile, such that it is able to meet its obligations under a wide range of circumstances.

The Insurance Concentration Risk Charge is the minimum amount of capital required to be held against insurance concentration risks. The Insurance Concentration Risk Charge relates to the risk of an adverse movement in the general insurer's or Level 2 insurance group's capital base due to a single large loss or series of losses.

This Prudential Standard sets out the method for calculating the Insurance Concentration Risk Charge. This charge is one of the components of the Standard Method for calculating the prescribed capital amount for general insurers and Level 2 insurance groups.

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Authority

1. This Prudential Standard is made under section 32 of the *Insurance Act 1973* (the Act).

Application

2. This Prudential Standard applies to each:
 - (a) **general insurer** authorised under the Act (**insurer**); and
 - (b) **Level 2 insurance group** as defined in *Prudential Standard GPS 001 Definitions* (GPS 001).

Where a requirement applies to a Level 2 insurance group, the requirement is imposed on the **parent entity** of the Level 2 insurance group.

3. This Prudential Standard applies to insurers and Level 2 insurance groups (**regulated institutions**) from 1 July 2019.

Level 2 insurance groups

4. Paragraphs 9 to 59 and Attachment A apply to insurers only. The remaining paragraphs apply to all regulated institutions. Attachment B sets out additional requirements for Level 2 insurance groups.

Interpretation

5. Terms that are defined in GPS 001 appear in bold the first time they are used in this Prudential Standard.
6. For the purposes of this Prudential Standard:
 - (a) ‘aggregate reinsurance cover’ includes:
 - (i) aggregate reinsurance cover that protects the regulated institution from an accumulation of retained losses from multiple events of a certain size; and
 - (ii) aggregate stop-loss reinsurance cover that protects the regulated institution from an accumulation of retained losses from multiple events on a part or totality of its portfolio;
 - (b) ‘natural perils’ are all natural events, including, but not limited to, earthquakes, storms and conflagration as well as fire or surge following a natural peril, that affect property risks and other **classes of business** to which a regulated institution is exposed; and
 - (c) ‘whole-of-portfolio’ is an estimation approach that takes into account all possible perils in all regions to determine the size of loss that could occur from a single event at a certain exceedance probability for a regulated institution’s portfolio. The time horizon to be considered is one year. For

clarity, this does not assume that two or more events occur in the same year.

Insurance Concentration Risk Charge

7. This Prudential Standard sets out the method for calculating the Insurance Concentration Risk Charge for a regulated institution using the **Standard Method** to determine its **prescribed capital amount**.
8. The Insurance Concentration Risk Charge for a regulated institution is intended to represent the net financial impact on the regulated institution from either a single large event, or a series of smaller events, within a one year period. The determination of the Insurance Concentration Risk Charge is based on the formulae and requirements set out in this Prudential Standard.

Insurance Concentration Risk Charge formula

9. The 'Insurance Concentration Risk Charge' for an insurer is the greatest of the following amounts:
 - (a) the natural perils vertical requirement determined in accordance with paragraphs 18 to 26;
 - (b) the natural perils horizontal requirement determined in accordance with paragraphs 27 to 43;
 - (c) the other accumulations vertical requirement determined in accordance with paragraphs 44 to 52; and
 - (d) where applicable¹, the lenders mortgage insurer concentration risk charge determined in accordance with paragraph 53.

An insurer does not need to calculate amounts for each of sub-paragraphs (a) to (d) above if it is able to demonstrate that the amount determined for one or more of those sub-paragraphs is always expected to be materially lower than the amount determined for one of the other sub-paragraphs.

10. The Insurance Concentration Risk Charge calculated in paragraph 9 must not be less than zero.
11. An insurer must not make tax adjustments to the amounts calculated in paragraph 9.
12. Where there is a change in the insurer's business (for example, due to a material purchase or sale of a portfolio of business) or reinsurance program (for example, due to material cancellations or additions to reinsurance layers), the insurer must recalculate all applicable components of the Insurance Concentration Risk

¹ Only a **lenders mortgage insurer** must calculate (d). The definition of lenders mortgage insurer in GPS 001 includes a reinsurer that writes lenders mortgage insurance. Therefore, a reinsurer that provides reinsurance on lenders mortgage insurance must calculate (d).

Charge. The insurer must consult with APRA to determine the approach to recalculate the natural perils horizontal requirement in paragraph 9.

Reinsurance arrangements

13. In calculating potential **reinsurance recoverables** in any component of the Insurance Concentration Risk Charge², an insurer may take into account potential reinsurance recoverables receivable from a reinsurance arrangement to which it is a party only if the reinsurance arrangement:
 - (a) complies with the two month and six month rules imposed under *Prudential Standard GPS 230 Reinsurance Management* (GPS 230); or
 - (b) fails to comply with those rules as at the date of the relevant deadline, but:
 - (i) subsequent to the deadline specified under the two month rule, the reinsurance arrangement is documented in accordance with the other requirements of the two month rule (in which case the reinsurance recoverables from the reinsurance arrangement may be taken into account until the reinsurance arrangement fails to comply with the six month rule); or
 - (ii) subsequent to the deadline specified under the six month rule, the reinsurance arrangement is documented in accordance with the other requirements of the six month rule; or
 - (c) has been treated by APRA, under GPS 230, as complying with the two month rule and six month rule.
14. In calculating potential reinsurance recoverables in any component of the Insurance Concentration Risk Charge³, an insurer may take into account potential reinsurance recoverables receivable from a reinsurance arrangement only if the reinsurance arrangement meets the ‘governing law’ and ‘dispute’ requirements of GPS 230.
15. Subject to paragraph 16, an insurer must have, at the inception date of its catastrophe reinsurance program, a contractually agreed reinstatement, of its catastrophe reinsurance arrangements that reduces its natural perils vertical requirement (determined in accordance with paragraph 18). An insurer with multiple inception dates for its catastrophe reinsurance program must consult with APRA to determine the approach to the relevant inception date in this paragraph.
16. An insurer that does not have a contractually agreed reinstatement of its catastrophe reinsurance program as required by paragraph 15 must demonstrate to APRA that it is not practical or appropriate given the nature of its reinsurance arrangements. The insurer must set out its approach to the placement of reinstatement of cover in its **Reinsurance Management Strategy** (ReMS). If

² This includes the determination of reinsurance for lenders mortgage insurance in Attachment A.

³ This includes the determination of reinsurance for lenders mortgage insurance in Attachment A.

APRA is not satisfied with the approach taken by the insurer, APRA may apply a **supervisory adjustment** to the prescribed capital amount in accordance with paragraph 36 of *Prudential Standard GPS 110 Capital Adequacy* (GPS 110).⁴

17. During the period of the catastrophe reinsurance program, an insurer must review and consider the adequacy of reinstatements of all or parts of its reinsurance program, including the requirements of paragraph 16. This review must also consider the financial and operational implications of not having a sufficient number of contractually agreed reinstatements during the period of cover. Details of this review must be included in the insurer's ReMS and **Internal Capital Adequacy Assessment Process (ICAAP)**.

Natural perils vertical requirement

18. The natural perils vertical requirement (NP VR) for an insurer that has exposures to natural perils is calculated as:

- (a) the greater of:
- (i) 'NP PML' defined in paragraph 21 less 'NP reinsurance recoverables' defined in paragraph 22; and
 - (ii) the 'net whole-of-portfolio loss' defined in paragraph 23;

less

- (b) 'NP reinstatement premiums' defined in paragraph 24; plus
- (c) 'NP reinstatement cost' defined in paragraph 25; less
- (d) any other adjustments to NP VR in accordance with paragraph 26.

An insurer does not need to calculate amounts for sub-paragraphs 18(a)(i) and 18(a)(ii) if it is able to demonstrate that one of these amounts is expected to be materially lower than the amount determined for the other.

19. Subject to paragraphs 9 and 12, NP VR must be calculated and reported to APRA as at each **reporting date**. The calculation of NP VR, at a reporting date, must take into account the reinsurance program in place for the next **reporting period**. The NP VR calculation at each reporting date must only include potential reinsurance recoverables that were contractually agreed on or before the reporting date.
20. An insurer must regularly monitor the level of NP VR during the reporting period, including determining the impact of a catastrophic event. Where an event occurs during the reporting period, the insurer must determine the impact of that event on the level of the NP VR. Any changes made to the NP VR as a result of the catastrophic event are then to be applied until the end of the current

⁴ [For the purposes of this requirement, reinsurance from the Australian Reinsurance Pool Corporation can be treated as having a contractually agreed reinstatement.](#)

reinsurance treaty or the occurrence of another event that impacts the NP VR, whichever occurs first.

NP PML

21. An insurer that has exposures to natural perils must determine a Probable Maximum Loss (PML) for its portfolio (NP PML). NP PML is the gross loss arising from the occurrence of a single event, where that loss is not less than the whole-of-portfolio annual loss with a 0.5 per cent probability of occurrence. NP PML must not include any allowance for potential reinsurance recoverables. The calculation of NP PML must include:
- (a) the impact of the event on all classes of business of the insurer;
 - (b) an allowance for non-modelled perils⁵; and
 - (c) potential growth in the insurer's portfolio.

NP reinsurance recoverables

22. An insurer that has exposures to natural perils must determine the level of potential reinsurance recoverables should there be the occurrence of the event that gives rise to NP PML (NP reinsurance recoverables). NP reinsurance recoverables must not include any amounts due from aggregate reinsurance cover.

Net whole-of-portfolio loss

23. An insurer that has exposures to natural perils must determine the net loss⁶ arising from the occurrence of a single event, where that net loss is not less than the whole-of-portfolio annual net loss with a 0.5 per cent probability of occurrence (net whole-of-portfolio loss).

NP reinstatement premiums

24. An insurer that writes **reinsurance** may receive inwards reinstatement premiums from cedants as a result of the event that gives rise to its NP PML or the net whole-of-portfolio loss determined in paragraph 23, as appropriate (NP reinstatement premiums). NP reinstatement premiums must only be included in NP VR if the reinsurance contract specifically stipulates that offsetting with the cedant will occur at the time of the payment of the reinsurance claim.

NP reinstatement cost

25. An insurer that has exposures to natural perils must determine the cost (if any) of reinstating all catastrophe reinsurance cover relating to the reinsurance

⁵ Where certain perils are material to an insurer but not included in its computer-based modelling techniques, an allowance for losses in respect of these perils would need to be estimated and added to the NP PML.

⁶ The net loss is the gross loss less potential reinsurance recoverables.

recoverables determined in paragraph 22 or paragraph 23, as appropriate (NP reinstatement cost). In determining this cost, if the insurer does not have contractually agreed rates for the reinsurance cover, the insurer must estimate the cost based on current reinsurance market conditions. The amount must not be less than the full original cost of the cover with no deduction for the expiry of time since the inception of the reinsurance arrangements, unless the insurer is able to demonstrate to APRA that the amount materially overstates the cost that would prevail.

Other adjustments to NP VR

26. An insurer may apply to APRA to recognise potential reinsurance recoverables from aggregate reinsurance cover. Aggregate reinsurance cover is eligible to be considered for inclusion in the NP VR once the aggregate reinsurance cover has reached its attachment point, or will as a result of the occurrence of NP PML or net whole of portfolio loss, as appropriate. The reinsurance recoverables from aggregate reinsurance cover must then be applied up until the cover has been exhausted by claims by the insurer or the date that the aggregate reinsurance treaty expires, whichever occurs first. The reinsurance arrangements must meet the requirements of paragraphs 13 and 14 to be considered under this paragraph. The insurer must agree with APRA a methodology for the determination of the adjustment that may be made for this type of reinsurance arrangement.

Natural perils horizontal requirement

27. The natural perils horizontal requirement (NP HR) for an insurer that has exposures to natural perils is calculated as:
- (a) the greater of ‘H3 requirement’ and ‘H4 requirement’ defined in paragraphs 29 and 36, respectively; less
 - (b) ‘PL offset’ (if any) defined in paragraph 43.

An insurer does not need to calculate both H3 requirement and H4 requirement if it is able to demonstrate that one of these amounts is expected to be materially lower than the amount determined for the other.

28. Subject to paragraphs 9 and 12, NP HR must be calculated at the reporting date on or prior to the inception date of the insurer’s catastrophe reinsurance program and then held constant for the remaining duration of the catastrophe reinsurance program.⁷ If the catastrophe reinsurance program of an insurer has multiple inception dates, the insurer must agree with APRA the reporting date that will apply to the calculation of NP HR. The NP HR calculation must only

⁷ The first reporting period after the effective date of this Prudential Standard may be part way through the catastrophe reinsurance program treaty year. If this is the case, the insurer must determine NP HR as if the requirement to determine NP HR applied at the inception date of the catastrophe reinsurance program (ignoring any events that may have occurred between the inception date of the current catastrophe reinsurance program and the effective date of this Prudential Standard).

include potential reinsurance recoverables that were contractually agreed on or before the relevant reporting date.

H3 requirement

29. The H3 requirement is calculated as:
- (a) the greater of:
 - (i) three times the ‘H3 loss’ defined in paragraph 30 less ‘H3 reinsurance recoverables’ defined in paragraph 31; and
 - (ii) three times the ‘net H3 loss’ defined in paragraph 32;
 - less
 - (b) ‘H3 aggregate offset’ defined in paragraph 33; less
 - (c) ‘H3 reinstatement premiums’ defined in paragraph 34; plus
 - (d) ‘H3 reinstatement cost’ defined in paragraph 35.

An insurer does not need to calculate amounts for sub-paragraphs 29(a)(i) and 29(a)(ii) if it is able to demonstrate that one of these amounts is expected to be materially lower than the amount determined for the other.

30. An insurer that has exposures to natural perils must determine the gross loss arising from the occurrence of a single event, where that loss is not less than the whole-of-portfolio annual loss with a 10 per cent probability of occurrence (H3 loss). This amount must not include any allowance for potential reinsurance recoverables. The calculation of H3 loss must include:
- (a) the impact of the event on all classes of business of the insurer;
 - (b) an allowance for non-modelled perils⁸; and
 - (c) potential growth in the insurer’s portfolio.
31. An insurer that has exposures to natural perils must determine the level of potential reinsurance recoverables should there be the occurrence of three H3 losses over the catastrophe reinsurance program treaty year (H3 reinsurance recoverables). The reinsurance recoverables must not include any amounts due from aggregate reinsurance cover as this is provided for under paragraph 33.
32. An insurer that has exposures to natural perils must determine the net loss⁹ arising from the occurrence of a single event, where that net loss is not less than

⁸ Where certain perils are material to an insurer but not included in its computer-based modelling techniques, an allowance for losses in respect of these perils would need to be estimated and added to the H3 loss.

⁹ The net loss is the gross loss less potential reinsurance recoverables.

the whole-of-portfolio annual net loss with a 10 per cent probability of occurrence (net H3 loss).

33. An insurer may reduce its H3 requirement for potential reinsurance recoverables from aggregate reinsurance cover (H3 aggregate offset). The insurer must not allow for any reinstatements of aggregate reinsurance cover unless these have been contractually agreed with the reinsurer(s). If reinstatements are included, the cost of reinstatement must be netted from the offset. The insurer must agree with APRA a methodology for the determination of this adjustment. This methodology may allow for any portion of paid and outstanding claims and premiums liabilities that contribute to the insurer's retained losses for the purposes of the retention on any aggregate reinsurance cover, provided it does not result in a double-count between this offset and the PL offset determined in accordance with paragraph 43.
34. An insurer that writes reinsurance may receive inwards reinstatement premiums from cedants as a result of the events that give rise to three H3 losses or three net H3 losses, as appropriate (H3 reinstatement premiums). H3 reinstatement premiums must only be included in the H3 requirement if the reinsurance contract specifically stipulates that offsetting with the cedant will occur at the time of the payment of the reinsurance claim.
35. An insurer that has exposures to natural perils must determine the cost (if any) of reinstating catastrophe reinsurance cover after the occurrence of the first two H3 losses or the first two net H3 losses, as appropriate (H3 reinstatement cost). The cost (if any) must reflect the cost of reinstating reinsurance cover up to the size of the third event. In determining this cost, if the insurer does not have contractually agreed rates for the reinsurance cover, the insurer must estimate the cost based on the reinsurance market conditions that would prevail after the occurrence of the events. The amount must not be less than the full original cost of the cover, with no deduction for the expiry of time since the inception of the reinsurance arrangements, unless the insurer is able to demonstrate to APRA that the amount materially overstates the cost that would prevail in the market after the occurrence of the events.

H4 requirement

36. The H4 requirement is calculated as:
 - (a) the greater of:
 - (i) four times 'H4 loss' defined in paragraph 37 less 'H4 reinsurance recoverables' defined in paragraph 38; and
 - (ii) four times the net 'H4 loss' defined in paragraph 39;
 less
 - (b) 'H4 aggregate offset' defined in paragraph 40; less
 - (c) 'H4 reinstatement premiums' defined in paragraph 41; plus

(d) 'H4 reinstatement cost' defined in paragraph 42.

An insurer does not need to calculate amounts for sub-paragraphs 36(a)(i) and 36(a)(ii) if it is able to demonstrate that one of these amounts is expected to be materially higher than the amount determined for the other.

37. An insurer that has exposures to natural perils must determine the gross loss arising from the occurrence of a single event, where that loss is not less than the whole-of-portfolio annual loss with a 16.7 per cent probability of sufficiency (H4 loss). This amount must not include any allowance for potential reinsurance recoverables. The calculation of H4 loss must include:
- (a) the impact of the event on all classes of business of the insurer;
 - (b) an allowance for non-modelled perils¹⁰; and
 - (c) potential growth in the insurer's portfolio.
38. An insurer that has exposures to natural perils must determine the level of potential reinsurance recoverables should there be the occurrence of four H4 losses over the catastrophe reinsurance program treaty year (H4 reinsurance recoverables). The reinsurance recoverables must not include any amounts due from aggregate reinsurance cover as this is provided for under paragraph 40.
39. An insurer that has exposures to natural perils must determine the net loss¹¹ arising from the occurrence of a single event, where that net loss is not less than the whole-of-portfolio annual net loss with a 16.7 per cent probability of occurrence (net H4 loss).
40. An insurer may reduce its H4 requirement for potential reinsurance recoverables from aggregate reinsurance cover (H4 aggregate offset). The insurer must not allow for any reinstatements of aggregate reinsurance cover unless these have been contractually agreed with the reinsurer(s). If reinstatements are included, the cost of reinstatement must be netted from the offset. The insurer must agree with APRA a methodology for the determination of this adjustment. This methodology may allow for any portion of paid and outstanding claims and premiums liabilities that contribute to the insurer's retained losses for the purposes of the retention on any aggregate reinsurance cover, provided it does not result in a double-count between this offset and the PL offset determined in accordance with paragraph 43.
41. An insurer that writes reinsurance may receive inwards reinstatement premiums from cedants as a result of the event that gives rise to four H4 losses or four net H4 losses, as appropriate (H4 reinstatement premiums). H4 reinstatement premiums must only be included in the H4 requirement if the reinsurance

¹⁰ Where certain perils are material to an insurer but not included in its computer-based modelling techniques, an allowance for losses in respect of these perils would need to be estimated and added to the H4 loss.

¹¹ The net loss is the gross loss less potential reinsurance recoverables.

contract specifically stipulates that offsetting with the cedant will occur at the time of the payment of the reinsurance claim.

42. An insurer that has exposures to natural perils must determine the cost (if any) of reinstating catastrophe reinsurance cover after the occurrence of the first three H4 losses or the first three net H4 losses, as appropriate (H4 reinstatement cost). The cost (if any) must reflect the cost of reinstating reinsurance cover up to the size of the fourth event. In determining this cost, if the insurer does not have contractually agreed rates for the reinsurance cover, the insurer must estimate the cost based on the reinsurance market conditions that would prevail after the occurrence of the events. The amount must not be less than the full original cost of the cover, with no deduction for the expiry of time since the inception of the reinsurance arrangements, unless the insurer is able to demonstrate to APRA that the amount materially overstates the cost that would prevail in the market after the occurrence of the events.

PL offset

43. The **Appointed Actuary** of the insurer must determine the portion of the net premiums liability provision which relates to catastrophic losses¹² (PL offset). PL offset by class of business is determined by:
- (a) calculating the amount of the insurer's net premiums liability central estimate provision¹³ that relates to catastrophic losses;
 - (b) annualising the amount from sub-paragraph (a);
 - (c) adding the diversified risk margin¹⁴ to the amount from sub-paragraph (b); and
 - (d) adding the Premiums Liability Risk Charge¹⁵ to the amount from sub-paragraph (c).

The Appointed Actuary must then sum the outcomes from sub-paragraph (d) by class of business to determine the total PL offset. The Appointed Actuary must provide this determination to the insurer in a timely manner that allows the insurer to lodge reporting forms to APRA within the timeframes specified by the Reporting Standards made under the *Financial Sector (Collection of Data) Act 2001*. The Appointed Actuary must include details of the determination of

¹² Catastrophic losses are those that give rise to a relatively significant number of claims and occur no more frequently than every three months. The Appointed Actuary needs to consider historical data over an appropriate period of time.

¹³ Net premiums liability central estimate provision will be determined in accordance with *Prudential Standard GPS 340 Insurance Liability Valuation (GPS 340)*.

¹⁴ The diversified risk margin will already be determined in accordance with GPS 340 and does not need to be split into a catastrophic and attritional loss component. The diversified risk margin will be a dollar amount determined by applying the percentage risk margin to the amount determined in sub-paragraph (b).

¹⁵ The Premiums Liability Risk Charge will be the prescribed 'Premiums Liability Risk Capital Factor' for that class of business from *Prudential Standard GPS 115 Capital Adequacy: Insurance Risk Charge* multiplied by the amount determined in sub-paragraph (c).

the PL offset for the reporting year and the estimated PL offset to be utilised in the upcoming year in the **Actuarial Valuation Report (AVR)**.

Other accumulations vertical requirement

44. The other accumulations vertical requirement (OA VR) for an insurer that has exposures to other accumulations is calculated as:
- (a) 'OA PML' defined in paragraphs 47 and 48; less
 - (b) 'OA reinsurance recoverables' defined in paragraph 49; plus
 - (c) 'OA reinstatement cost' defined in paragraph 52.
45. An insurer must regularly monitor the level of its OA VR, including determining the impact of the occurrence of an event. Where an event occurs during the reporting period, the insurer must determine the impact of that event on the level of OA VR. Any changes made to the OA VR as a result of the event are then to be applied until the end of the current reinsurance treaty or the occurrence of another event that impacts OA VR, whichever occurs first.
46. Subject to paragraphs 9 and 12, OA VR must be calculated and reported to APRA at each reporting date. The calculation of OA VR, at the reporting date, must take into account the reinsurance program in place for the next reporting period. The OA VR calculation at each reporting date must only include potential reinsurance recoverables that were contractually agreed on or before the reporting date.

OA PML

47. An insurer that has exposures to accumulations of losses arising from a common dependent source or non-natural perils (other accumulations) must determine a PML for its portfolio (OA PML).¹⁶ OA PML is the gross loss arising from the occurrence of a single event, where that loss has 0.5 per cent probability of occurrence over 12 months. An insurer must consider all classes of business and all business underwritten in those classes in determining the largest loss. OA PML must not include any allowance for potential reinsurance recoverables.
48. An insurer that has exposures to other accumulations may reduce OA PML for any losses within the other accumulations scenario that are already specifically allowed for in the premiums liability¹⁷ of the insurer. This amount must be determined by the Appointed Actuary and included in the AVR. APRA may require the insurer to modify the adjustment to OA PML.

¹⁶ The determination of OA PML must consider the nature of products provided, losses that may lead to an aggregation of multiple per-risk or per-policy losses arising from a common dependent source, the potential for multiple classes of insurance and/or portfolios to be impacted from this common dependent source and whether the upper limit of reinsurance cover purchased is sufficiently high to cover the OA PML.

¹⁷ 'Premiums liability' is determined in accordance with GPS 340.

OA reinsurance recoverables

49. An insurer that has exposures to other accumulations must determine the level of potential reinsurance recoverables¹⁸ should there be the occurrence of OA PML (OA reinsurance recoverables). OA reinsurance recoverables may include any amounts due from aggregate reinsurance cover if the cover has reached its attachment point, or will as a result of the occurrence of OA PML.¹⁹ The reinsurance recoverables must then be applied up until the cover has been exhausted by claims by the insurer or the date that the aggregate reinsurance treaty expires, whichever occurs first.
50. An insurer may discount the retention on any aggregate reinsurance cover for the time value of money if the retention is fixed and not indexed for inflation. The discount period must not be greater than the average period of discount in determining the premiums liability provision. The discount rate must be the relevant **risk-free discount rates** used by the Appointed Actuary in the AVR.
51. An insurer must only apply the premiums liability adjustment in paragraph 48 or paragraph 49. The insurer must not apply the adjustment from both paragraphs 48 or 49 as this will result in the premiums liability provisions being deducted twice.

OA reinstatement cost

52. An insurer that has exposures to other accumulations must determine the cost (if any) of reinstating all catastrophe reinsurance cover relating to the reinsurance recoverables determined in paragraph 49 (OA reinstatement cost). In determining this cost, if the insurer does not have contractually agreed rates for the reinsurance cover, the insurer must estimate the cost based on current reinsurance market conditions. The amount must not be less than the full original cost of the cover, with no deduction for the expiry of time since the inception of the reinsurance arrangements, unless the insurer is able to demonstrate to APRA that the amount materially overstates the cost that would prevail.

Lenders mortgage insurer concentration risk charge

53. A **lenders mortgage insurer** must determine the lenders mortgage insurer concentration risk charge (LMICRC) by applying Attachment A.

¹⁸ For the purposes of this paragraph, ‘potential reinsurance recoverables’ include reinsurance assets receivable from the Commonwealth Government in respect of:

- (a) a high cost claim indemnity as defined under the *Medical Indemnity Act 2002* (Medical Indemnity Act); and
- (b) amounts payable under the High Cost Claims Protocol as defined under the Medical Indemnity Act.

¹⁹ The attachment point in this calculation may allow for any portion of paid and outstanding claims and premiums liabilities that contribute to the retained losses. APRA may require the insurer to modify the adjustment made in accordance with this paragraph.

Use of alternative capital and risk mitigants

54. If an insurer is considering the use of protections including alternative capital or risk mitigants to reduce the Insurance Concentration Risk Charge, the insurer must apply to APRA for approval to include that mitigant in the calculation of the Insurance Concentration Risk Charge. This includes, but is not limited to, the use of securitisation and catastrophe bonds.

Catastrophe models

55. It is common practice for an insurer to use computer-based modelling techniques, developed either in-house or by external providers, to estimate likely losses under different catastrophe scenarios. If an insurer uses such a model, the model must be conceptually sound and capable of consistently producing realistic calculations. An insurer must be able to demonstrate:
- (a) that the model has been researched and tested;
 - (b) that the insurer has taken measures to ensure that the data used to estimate its losses is sufficiently consistent, accurate and complete, and there is appropriate documentation of any estimates of data used; and
 - (c) an understanding of the model used in estimating losses, including;
 - (i) perils and elements that are not included in the model;
 - (ii) assumptions and any estimates used in the modelling process; and
 - (iii) the sensitivity of the model outputs as a result of the factors in (i) and (ii).

Review and reporting

56. An insurer must document in its ReMS the process and methodologies for setting and monitoring its Insurance Concentration Risk Charge. This must also include justification for any adjustments or assumptions made, such as all allowances made for aggregate reinsurance cover and adjustments to OA VR. GPS 230 sets out further details on this requirement.
57. In addition to the requirements of paragraph 56, an insurer that writes **lenders mortgage insurance** business must outline in its ReMS how it manages the exposures and mitigants in place for the risk in relation to future placement of reinsurance arrangements.
58. The Appointed Actuary of an insurer must review and comment on the adequacy of the calculation of the Insurance Concentration Risk Charge as part of the **Financial Condition Report**. For an insurer that has other accumulations exposures, the Appointed Actuary must consider the impact on the Insurance Concentration Risk Charge of the occurrence of multiple events in a year.

59. An insurer must inform APRA within 20 **business days** of any material changes to its Insurance Concentration Risk Charge that results from any changes in its ReMS, risk profile, classes of business underwritten or reinsurance program.

Adjustments and exclusions

60. APRA may, by notice in writing to a regulated institution, adjust or exclude a specific requirement in this Prudential Standard in relation to that regulated institution.

Determinations made under previous prudential standards

61. An exercise of APRA's discretion under the previous version of this Prudential Standard continues to have effect under this Prudential Standard. For the purposes of this paragraph, 'the previous version of this Prudential Standard' means *Prudential Standard GPS 116 Capital Adequacy: Insurance Concentration Risk Charge* (GPS 116) made on 30 November 2012.

Attachment A

Lenders mortgage insurer concentration risk charge

1. This Attachment applies to a lenders mortgage insurer (LMI) for the purposes of determining the lenders mortgage insurer concentration risk charge (LMICRC).
2. For the purposes of this Attachment:
 - (a) 'Loans' are loans secured by an insured mortgage over residential or other property;
 - (b) 'Sum insured' is the original exposure amount for an LMI as stated in the mortgage insurance policy;
 - (c) 'Loan-to-Valuation Ratio' (LVR) is the ratio of the amount of the loan to the value of the secured residential property, as at the date of origination of the loan. Where the mortgage insurance premium is capitalised in the loan amount, the LVR must be calculated including the premium; that is, the loan amount must be increased by the amount of the capitalised premium, irrespective of whether the premium is insured. The inclusion of a First Home Owners Grant in the deposit for a mortgaged property will not otherwise increase the LVR of a loan;
 - (d) 'Probability of default' (PD) is the risk of default by the borrower;
 - (e) 'Loss given default' (LGD) is the loss to the LMI upon default by the borrower;
 - (f) 'Age' is the length of time from the date of origination of the loan to the date of calculation for the purposes of determining the seasoning factors in Table A of this Attachment;
 - (g) A 'standard loan' is a loan predominantly secured by residential property and meets the following criteria:
 - (i) the LMI or lender has formally verified the borrower's income and employment; and
 - (ii) the borrower passes standard credit checks and income requirements as documented in the LMI or lender's underwriting or credit policies and procedures;
 - (h) A 'non-standard loan' is a loan predominantly secured by residential property which does not meet the criteria in paragraph 2(g) of this Attachment;
 - (i) A 'commercial loan' is a loan that is not predominantly secured by a registered mortgage over residential property;
 - (j) 'Coverage type' refers to whether the 'LMI policy' of insurance provided is for 100 per cent of the loan or pool amount, or less than 100 per cent of

the loan amount or pool amount. The latter is referred to as top cover for 'individual LMI policies' and partial cover for 'pooled LMI policies';

- (k) 'Individual LMI policy' is lenders mortgage insurance underwritten and issued in respect of an individual loan. Bulk and/or tranche transactions associated with securitisations, where each loan is individually insured, falls into this category;
- (l) 'Pooled LMI policy' is lenders mortgage insurance underwritten and issued in respect of a pool of loans. For clarity, each loan is not individually insured;
- (m) 'Premiums liability' is calculated in accordance with *Prudential Standard GPS 340 Insurance Liability Valuation* (GPS 340). 'Net premiums liability' is the premiums liability after netting of **reinsurance recoverables** and **non-reinsurance recoveries**. Net premiums liability is also calculated in accordance with GPS 340; and
- (n) 'Outstanding claims liabilities' are as calculated in accordance with GPS 340.

PML and Prescribed Stress Scenario

- 3. For the purpose of this Attachment, the 'Probable Maximum Loss' (PML) is assumed to arise from a catastrophic event such that the size of loss from the three year event is equal to a loss with a 0.5 per cent probability of occurrence. APRA requires the PML to be determined on the basis of a Prescribed Stress Scenario as defined in paragraph 4 of this Attachment.
- 4. The 'Prescribed Stress Scenario' is in the form of a three-year economic or property downturn, and is applied to the business in force as at the calculation date. The LMI must assume a constant aggregate sum insured over the three-year scenario (except for LMIs in run-off as provided in paragraph 18 of this Attachment).
- 5. The modelled losses must be allocated in the proportion of 25 per cent to year one, 50 per cent to year two and 25 per cent to year three of the downturn. These losses include future claim payments in the lenders mortgage insurer's premiums liability that relate to an economic downturn.

Determining the lenders mortgage insurer concentration risk charge

- 6. Subject to paragraph 7 of this Attachment, the LMICRC is calculated by:
 - (a) working out the PML in accordance with paragraphs 8 to 18 of this Attachment;
 - (b) deducting the amount of Allowable Reinsurance in accordance with paragraphs 19 to 24 of this Attachment; and
 - (c) deducting the amount of net premiums liability relating to an economic downturn, in accordance with paragraph 25 of this Attachment.

7. LMICRC must not be less than 10 per cent of the PML as determined in paragraph 6(a) of this Attachment. This means that the sum of the deductions in 6(b) and 6(c) of this Attachment must not exceed 90 per cent of the PML.

Prescribed calculation of PML

8. The PML of an LMI is calculated by the addition of the amounts calculated in paragraphs 9 to 18 of this Attachment for all LMI policies in force at the calculation date.
9. For each individual LMI policy, the PML is the sum insured multiplied by all of the relevant factors that apply to the policy loan type as set out in Table A of this Attachment.
10. Where a policy or loan has characteristics of more than one loan and/or coverage type, the exposure must be recognised in the category that produces the highest PML for that exposure.
11. For each pooled LMI policy, the PML is calculated by applying the principles in paragraphs 9 and 10 of this Attachment and then applying the terms of the pool cover to the calculated PML amount.²⁰
12. For an LMI writing inwards reinsurance on a non-proportional basis, the PML for each of these contracts is calculated by:
 - (a) determining the impact of the Prescribed Stress Scenario on the business that is reinsured by applying the rules in paragraphs 8 to 11 of this Attachment; and
 - (b) determining under the terms of the inwards reinsurance contract, the amount of claim by the cedant against the LMI that will arise under (a) above.

This amount becomes the LMI's PML.

13. For an LMI writing coverage for an additional loan, or otherwise changing or extending an individual LMI policy, the LMI must determine the PML based on the total sum insured to which it is exposed and the LVR must be based on the total loan as at the most recent date of underwriting (and in accordance with paragraph 2(b) of this Attachment). The age of the individual LMI policy must be based on the origination date of the original loan and not the date of the extension to the individual LMI policy, unless a different methodology has been agreed with APRA.
14. For an LMI writing any other lenders mortgage insurance business not captured in paragraphs 9 to 13 of this Attachment, the LMI must consult with APRA. APRA must approve the method for calculating the PML in these instances.

²⁰ For example, reducing the PML amount by any aggregate deductible, applying a maximum cover limit or other partial cover factors, if applicable.

15. APRA may direct an LMI to assume that the sum insured, LVR or age of a particular loan or group of loans is either:
 - (a) the sum insured, LVR or age as specified in APRA's direction; or
 - (b) the sum insured, LVR or age worked out by applying instructions contained in APRA's direction.
16. APRA may determine a formula for the calculation of the PML in relation to an exposure that does not readily fit into the definitions of loans and / or coverage types.
17. APRA may direct an LMI to reclassify a loan where it considers the relevant factor(s) in Table A of this Attachment of the original classification do not reflect the inherent risk of the loan.

LMIs in run-off

18. For an LMI no longer writing new business (i.e. in run-off), the sum insured is expected to decrease over the three-year scenario and it may be appropriate for an LMI in run-off to adjust its PML downwards. The methodology for adjusting an LMI's PML in a run-off situation must be approved by APRA and documented in the LMI's ReMS.

Available Reinsurance

19. In addition to the requirements on potential reinsurance recoverables in this Prudential Standard (refer to paragraphs 13 and 14 of this Prudential Standard), only reinsurance arrangements that are contractually committed may be applied during the Prescribed Stress Scenario.
20. APRA recognises that the business that is covered by an LMI's reinsurance arrangements and therefore relevant to the Available Reinsurance calculation will vary for each LMI. In some cases, the level of paid claims, Outstanding Claims Liability and/or Premiums Liability²¹ for the period of the Prescribed Stress Scenario may need to be allowed for in determining how much reinsurance will be available to meet claims arising from the Prescribed Stress Scenario. If an LMI allows for any of these amounts in its Available Reinsurance calculation, the level must be subject to review by the Appointed Actuary, as part of prescribed actuarial advice²² or through other written advice.
21. An LMI must allocate the PML, and any addition to this in accordance with paragraph 20 of this Attachment, over each year of the prescribed three-year stress scenario and then apply its reinsurance program(s) to the resulting

²¹ Outstanding claims liability and premiums liability provisions in excess of a 75 per cent level of sufficiency must not be recognised.

²² The Actuarial Valuation Report or Financial Condition Report that are required to be completed by the Appointed Actuary in accordance with CPS 320.

projected claims. To the extent that approximations are necessary, a best estimate approach must be used.

22. In calculating Available Reinsurance, the LMI must consider the impact of the Prescribed Stress Scenario on its overall reinsurance arrangements and take account of all the relevant financial impacts.²³
23. APRA may require the LMI to vary the amount of Available Reinsurance applied in the LMI's calculation of its LMICRC.²⁴

Allowable Reinsurance

24. The amount of Available Reinsurance to be deducted from the PML in determining the LMICRC is limited to a maximum of 60 per cent of the PML, irrespective of the amount available under paragraphs 19 to 23 of this Attachment. This amount of Available Reinsurance is referred to as 'Allowable Reinsurance'.

Net premiums liability deduction

25. Net premiums liability of the LMI that relate to an economic downturn may be deducted from the PML in determining the LMICRC. The percentage of total net premiums liability of the LMI that is deducted must be determined by the Appointed Actuary. The methodology for the determination of the percentage must be included in the AVR.

²³ This might include, for example, allowing for reversing accruals for experience bonus or other financial adjustments.

²⁴ APRA will review the allowable reinsurance calculation as set out in the ReMS when making this determination.

Table A - PD, LGD and seasoning factors to be applied in determining the PML of LMIs

Standard loans

The aggregate PD and LGD factors by LVR, over the three-year scenario, for standard loans are:

LVR	PD factor	LGD factor – 100 per cent cover	LGD factor – top cover
Greater than 100%	14.0%	40%	
95.01 – 100%	8.2%	40%	
90.01 – 95%	5.1%	40%	Minimum of:
85.01 – 90%	3.2%	30%	100%; or
80.01 – 85%	2.0%	30%	LGD factor /
70.01 – 80%	1.9%	30%	Top cover % ²⁵
60.01 – 70%	0.9%	20%	
Less than 60.01%	0.6%	20%	

The seasoning factors by age for standard loans are:

Age of loan	Seasoning factor
Less than 3 years	100%
3 years to less than 5 years	75%
5 years to less than 10 years	25%
10 years or more	5%

²⁵ Top cover % is the percentage of the loan amount covered by the lenders mortgage insurance.

Non-standard loans

The aggregate PD and LGD factors by LVR, over the three-year scenario, for non-standard loans are:

LVR	PD factor	LGD factor – 100 per cent cover	LGD factor – top cover
Greater than 100%	31.5%	40%	
95.01 – 100%	18.5%	40%	
90.01 – 95%	11.5%	40%	Minimum of:
85.01 – 90%	7.2%	30%	100%; or
80.01 – 85%	4.5%	30%	LGD factor /
70.01 – 80%	4.3%	30%	Top cover % ²⁶
60.01 – 70%	2.0%	20%	
Less than 60.01%	0.9%	20%	

The seasoning factors by age for non-standard loans are:

Age of loan	Seasoning factor
Less than 3 years	100%
3 years to less than 5 years	75%
5 years to less than 10 years	25%
10 years or more	5%

Commercial loans

The PML for the three-year scenario is the sum insured multiplied by 8 per cent. No seasoning factor applies to commercial loans.

²⁶ Top cover % is the percentage of the loan amount covered by the lenders mortgage insurance.

Attachment B

Level 2 insurance groups

1. A Level 2 insurance group must comply with paragraphs 1 to 8 and 60 to 61 of this Prudential Standard and the requirements of this Attachment to determine its Insurance Concentration Risk Charge.

Insurance Concentration Risk Charge formula

2. The Insurance Concentration Risk Charge for a Level 2 insurance group is the greatest of the following amounts:
 - (a) the natural perils vertical requirement determined in accordance with the principles of paragraphs 18 to 26 of this Prudential Standard;
 - (b) the natural perils horizontal requirement determined in accordance with the principles of paragraphs 27 to 43 of this Prudential Standard;
 - (c) the other accumulations vertical requirement determined in accordance with the principles of paragraphs 44 to 52 of this Prudential Standard; and
 - (d) where applicable²⁷, the lenders mortgage insurer concentration risk charge determined in accordance with the principles of Attachment A.

A Level 2 insurance group does not need to calculate amounts for each of sub-paragraphs (a) to (d) above if it is able to demonstrate that the amount determined for one or more of those sub-paragraphs is always expected to be materially lower than the amount determined for one of the other sub-paragraphs.

3. Each component of the Insurance Concentration Risk Charge in paragraph 2 of this Attachment must be determined after consolidation of intra-group reinsurance arrangements.
4. The Insurance Concentration Risk Charge determined in paragraph 2 of this Attachment must not be less than zero.
5. A Level 2 insurance group must not make tax adjustments to the amounts calculated in paragraph 2 of this Attachment.
6. Where there is a change in the Level 2 insurance group's business (for example, due to a material purchase or sale of a portfolio of business) or reinsurance program (for example, due to material cancellations or additions to reinsurance layers), the Level 2 insurance group must consult with APRA to determine the

²⁷ A Level 2 insurance group that includes a lenders mortgage insurer must calculate (d). The definition of lenders mortgage insurer in GPS 001 includes a reinsurer that writes lenders mortgage insurance. Therefore, a Level 2 insurance group with a reinsurer that provides reinsurance on lenders mortgage insurance must calculate (d).

approach to recalculate all applicable components of the Insurance Concentration Risk Charge in paragraph 2 of this Attachment.

7. In the application of paragraph 2 of this Attachment, a Level 2 insurance group must either:
 - (a) undertake the calculations by applying a regional approach where the regions are to be agreed with APRA and are expected to be consistent with the regions used for the Level 2 insurance group's accounts²⁸; or
 - (b) apply to APRA to use a different method that is consistent with a whole-of-portfolio approach and achieves at least the same level of security to policyholders as the calculation of the relevant gross and net losses on a whole-of-portfolio basis. The application to APRA must include a detailed description of the method and how the resulting Insurance Concentration Risk Charge provides at least the same level of security to policyholders.
8. A Level 2 insurance group must not apply to APRA, under paragraph 7(b), to use an alternative method to determine the lenders mortgage insurer concentration risk charge in paragraph 2 of this Attachment.

Reinsurance arrangements

9. In calculating potential reinsurance recoverables in any component of the Insurance Concentration Risk Charge²⁹, a Level 2 insurance group may take into account:
 - (a) potential reinsurance recoverables receivable from a reinsurance arrangement to which a **Level 1 insurer** is a party only if the reinsurance arrangement meets the requirements of paragraphs 13 and 14 of this Prudential Standard; and
 - (b) potential reinsurance recoverables receivable from a reinsurance arrangement to which any other consolidated entity carrying on insurance business in a foreign jurisdiction is a party only if the reinsurance arrangement meets the requirements (if any) for documentation of reinsurance contracts applicable in that jurisdiction.³⁰
10. Subject to paragraph 11 of this Attachment, a Level 2 insurance group must have, at the inception date of its catastrophe reinsurance program, a contractually agreed reinstatement of its catastrophe reinsurance arrangements that reduces its natural perils vertical requirement. A Level 2 insurance group with multiple inception dates for its catastrophe reinsurance program must consult with APRA to determine the approach to the inception date in this paragraph.

²⁸ Australia must be treated as a single region for the purposes of this sub-paragraph.

²⁹ This includes the determination of reinsurance for lenders mortgage insurance in Attachment A.

³⁰ For avoidance of doubt, this paragraph excludes intra-group reinsurance arrangements as these are consolidated in accordance with paragraph 3 of this Attachment.

11. A Level 2 insurance group that does not have a contractually agreed reinstatement of its catastrophe reinsurance program as required by paragraph 10 of this Attachment must demonstrate to APRA that it is not practical or appropriate given the nature of its reinsurance arrangements. The Level 2 insurance group must set out its approach to the placement of reinstatement of cover in its ReMS. If APRA is not satisfied with the approach taken by the insurer, it may apply a supervisory adjustment to the prescribed capital amount in accordance with paragraph 36 of GPS 110.³¹
12. During the period of the catastrophe reinsurance program, a Level 2 insurance group must review and consider the adequacy of reinstatements of all or parts of its reinsurance program, including the requirements of paragraph 11 of this Attachment. This review must also consider the financial and operational implications of not having a sufficient number of contractually agreed reinstatements during the period of cover. Details of this review must be included in the Level 2 insurance group's ReMS and ICAAP.

Use of alternative capital and risk mitigants

13. If a Level 2 insurance group is considering the use of protections including alternative capital or risk mitigants to reduce the Insurance Concentration Risk Charge, the insurer must apply to APRA for approval to include that mitigant in the calculation of the Insurance Concentration Risk Charge. This includes, but is not limited to, the use of securitisation and catastrophe bonds.

Catastrophe models

14. It is common practice for a Level 2 insurance group to use computer-based modelling techniques, developed either in-house or by external providers, to estimate likely losses under different catastrophe scenarios. If a Level 2 insurance group uses such a model, the model must be conceptually sound and capable of consistently producing realistic calculations. A Level 2 insurance group must be able to demonstrate:
 - (a) that the model has been researched and tested;
 - (b) that the Level 2 insurance group has taken measures to ensure that the data used to estimate its losses is sufficiently consistent, accurate and complete, and there is appropriate documentation of any estimates of data used; and
 - (c) an understanding of the model used in estimating losses, including:
 - (i) perils and elements that are not included in the model;
 - (ii) assumptions and any estimates used in the modelling process; and

³¹ For the purposes of this requirement, reinsurance from the Australian Reinsurance Pool Corporation can be treated as having a contractually agreed reinstatement.

- (iii) the sensitivity of the model outputs as a result of the factors in (i) and (ii).

Review and reporting

15. A Level 2 insurance group must document in its ReMS the process and methodologies for setting and monitoring its Insurance Concentration Risk Charge. This must also include justification for any adjustments or assumptions made, such as all allowances made for aggregate reinsurance cover and adjustments to OA VR. GPS 230 sets out further details on this requirement.
16. In addition to the requirements of paragraph 15 of this Attachment, a Level 2 insurance group that writes lenders mortgage insurance business must outline in its ReMS how it manages the exposures and mitigants in place for the risk in relation to future placement of reinsurance arrangements.
17. The Group Actuary of a Level 2 insurance group, must review and comment on the adequacy of the calculation of the Insurance Concentration Risk Charge for the Level 2 insurance group as part of the Level 2 insurance group's AVR. For a Level 2 insurance group that has other accumulations exposures, the Group Actuary must consider the impact on the Insurance Concentration Risk Charge of the occurrence of multiple OA events in a year.
18. The Group Actuary of a Level 2 insurance group must submit the review of the Insurance Concentration Risk Charge to the Board when substantive changes are made or at least annually.
19. A Level 2 insurance group must inform APRA within 20 business days of any material changes to its Insurance Concentration Risk Charge that results from any changes in its ReMS, risk profile, classes of business underwritten or reinsurance program.