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Enterprise Risk Management Lessons From the Front Line

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General Insurance Conference 2011

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ERM – Lessons From the Front Line Synopsis

An unprecedented string of major catastrophes has hit the Asia Pacific region. In the last 12 months natural catastrophes in Australasia have wiped out an estimated US\$25bn in insurance capital. (The diagram below shows the incidence of Australasian “\$billion cats” over recent years.)

Regional \$billion insurance industry events	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2009												
2010			 									
2011		 										

When adding the impact of the further tragedy in Japan (also shown) more than US\$65bn has been lost.

The presentation will cover ERM changes and response that we have seen to these cat events.

Across that same period, APRA, the Australian regulator has been revisiting its capital standards for general insurers; placing further emphasis on the application of enterprise risk management principles. The New Zealand regulator is following similar steps as are other regulators in the region.

APRA plays a key role as a member of the International Association of Insurance Supervisors. Given this, we will also cover the increased focus on specific ERM principles and techniques that this may herald for insurance regulation in the Asia Pacific region.

ERM – Lessons From the Front Line

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Setting the Scene – Catastrophes

- **Victorian Bush Fires – 7 February 2009**
- **Double Trouble – Melbourne & Perth**
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- **Cyclone...one after another**
- **NZ Canterbury Earthquakes**

Setting the scene – APRA

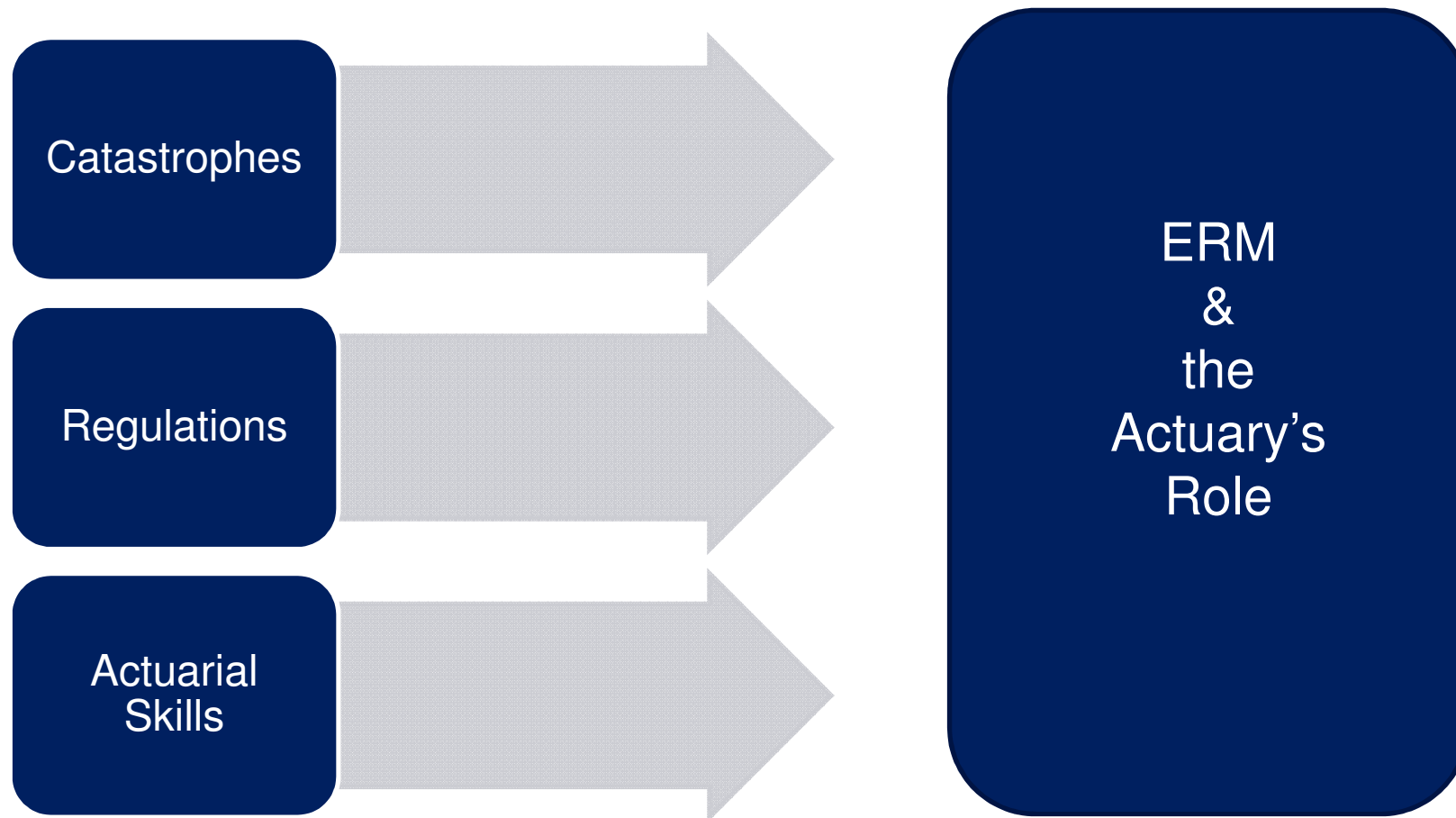
Setting the scene – MAS – Risk Mgmt Com

Catastrophes – key observations and lessons learned

Bringing it all together

Speaker Bio's and contact details

ERM – Lessons From the Front Line Objectives



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Setting the Scene – Catastrophes

Victorian bush fires (Feb 2009)

1



Melbourne and Perth Hail Storms (Mar 2010)

2



3



Queensland flooding – Bundaberg/Rockhampton/Toowoomba/Brisbane (Dec/Jan 2011)

4



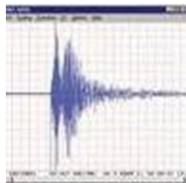
Cyclone Yasi (Feb 2011)

5



NZ earthquake take1,2,3 (September 2010, December 2010 and February 2011)

6



7



8



Japanese earthquake/tsunami (Mar 2011)

9



Victorian Bush Fires – 7 February 2009

Insurance Council of Australia estimated cost to the insurance industry - \$1.070bn
resulted in Australia's highest ever loss of life from a bushfire; 173 people died and 414 were injured as a result of the fires.

Issues raised

- How to differentiate between those that had purchased insurance and those that hadn't,
- Fire services levy collected through insurance premiums

Fire Services Levy

The Victorian Government has abolished the Fire Services Levy (FSL), and is moving to a property based levy by 1 July 2012. The industry is now arguing that the NSW Government should abolish its FSL.



Double Trouble Melbourne (6 March 2010) and Perth Hail Storms (22 March 2010)



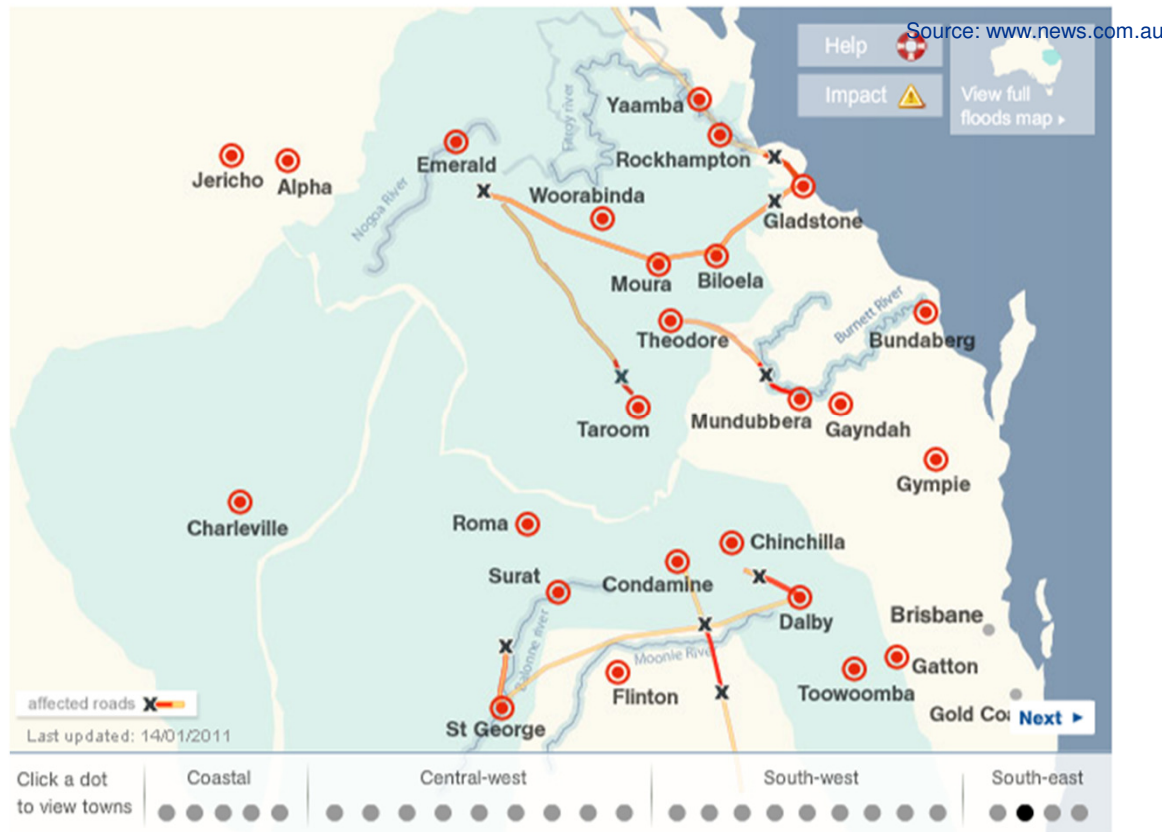
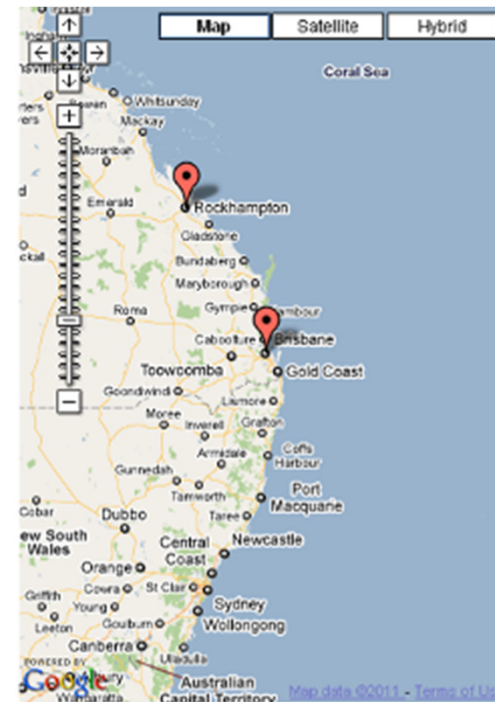
Melbourne Hail Storm
Insurance Council estimated
insurance industry cost \$1.044bn



Perth Hail Storm
Insurance Council estimated
insurance industry cost \$1.053bn

Queensland flood disaster

Worst Queensland flood disaster in history: Dec 2010 – Jan 2011



Total distance between
Rockhampton and Brisbane:
522km

The Floods cover an area of the size of France & Germany

Torrential rain throughout Dec 2010 to Jan 2011 causes flooding across Central and South-east Queensland. Sadly, the events include loss of life. Towns e.g. Rockhampton, Toowoomba, Ipswich and Brisbane suffered significant damages to infrastructure - houses, roads etc. Several towns were isolated for weeks. The beef and coal industries suffered heavy losses. Crops destroyed esp. banana and sugar cane.

Queensland flood disaster

Toowoomba – Inland Tsunami

Toowoomba 'like a ghost town' [1/11/2011]

[Heraldsun] the city is "like a ghost town" after surging floodwaters cut off the community and left a trail of devastation in its wake



Queensland flood disaster

Brisbane / Ipswich / Wivenhoe Dam release

Brisbane suburbs to be hit by flooding [11/11/2011]
[Yahoo News] Forecasts show about 6500 properties will be flooded in Brisbane; expected peak in the Brisbane River on Thursday.

"Today is very significant, tomorrow is bad, and Thursday is going to be devastating for the residents and businesses concerned."
Lord Mayor Campbell Newman.



Ipswich CBD under water [12/11/2011]
[Ninemsn] Homes in Ipswich west of Brisbane have been almost completely submerged in floodwater from the Bremer River which is expected to peak at 20.5m by mid-afternoon.
[Heraldsun] Early today, the Coles supermarket was inundated to a depth of eight feet deep (2.44m), with just the awning and store logo showing above the floodwaters which continue to rise.

Cyclone...one after another

Cyclone Tasha, Cyclone Anthony and then the devastating Cyclone Yasi

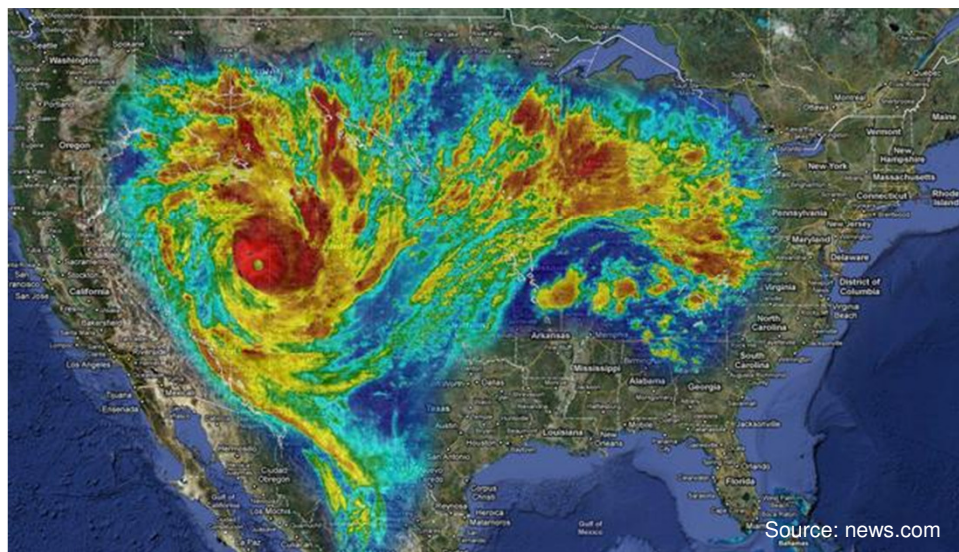
[25/12/2010] Cyclone Tasha: Category 1

[31/1/2011] Cyclone Anthony: Category 2

[2/2/2011] Cyclone Yasi: Category 5

Yasi already causing damage in Innisfail

[News.com] Winds of 290km/h are predicted for the Category 5 cyclone which is expected to hit the coast just south of Innisfail at about midnight



A map showing Tropical Cyclone Yasi superimposed over the USA / news.com.au

[News.com] Hours after landfall, it was still a category three and was still a category two and category one cyclone hundreds of kilometres inland.

It is so large it would almost cover the United States, most of Asia and large parts of Europe. The pre-landfall core was over 500km wide and its associated activity stretched well over 2000km

NZ Canterbury Earthquakes

On 4 September 2010, a magnitude 7.1 earthquake struck the Canterbury region in New Zealand causing significant damage on land and properties.

- Over 5000 aftershocks
- No fatality
- Estimated insurance lost: US\$6 billion



A strong earthquake has hit the city of Christchurch on New Zealand's South Island, killing scores of people.

Source: bbc.co.uk.



The earthquake also dealt severe damage to the famous Christchurch Cathedral. Its spire toppled into the square below.

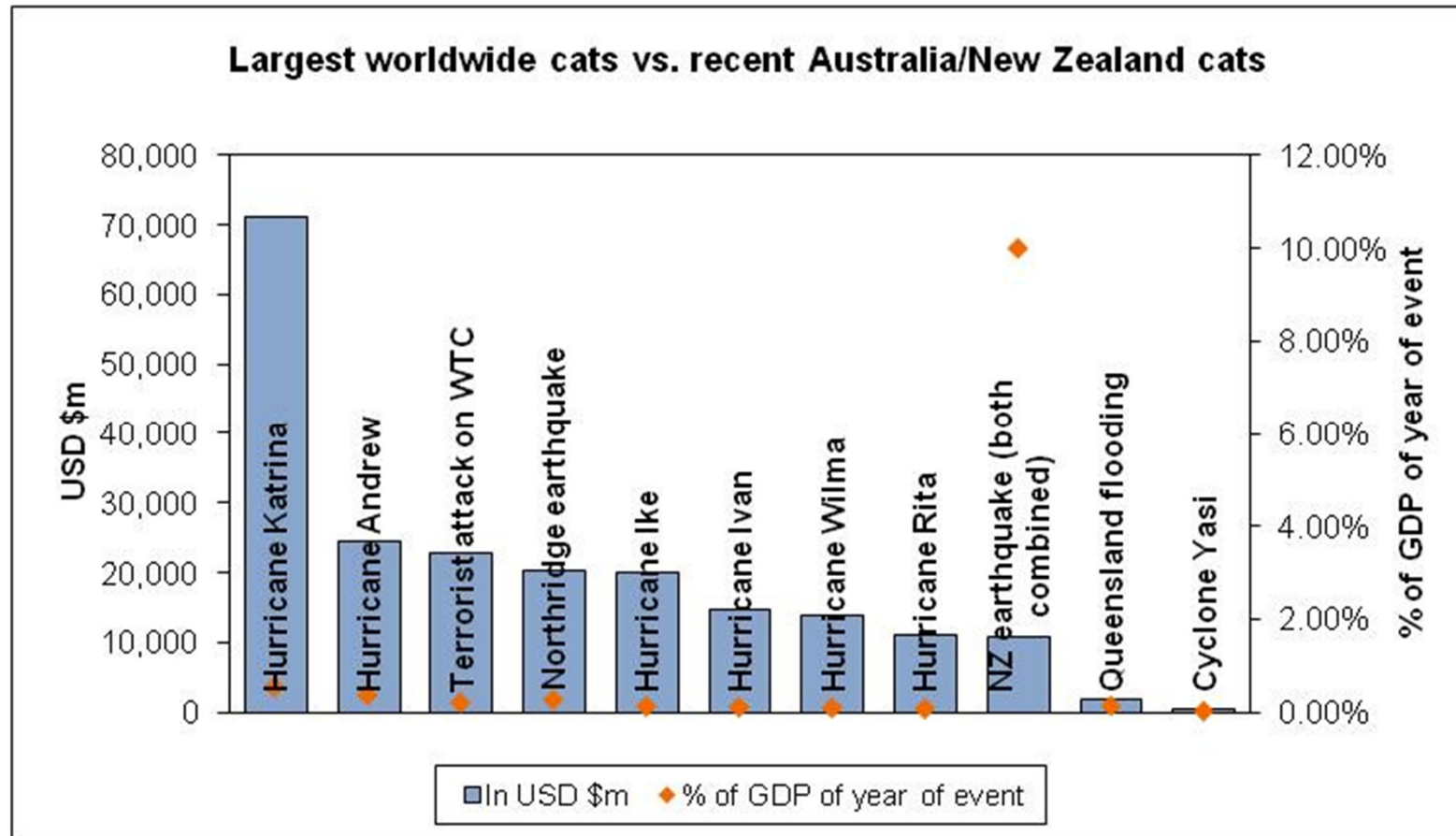
Source: bbc.co.uk.

On 22 February 2011, a magnitude 6.3 earthquake struck near Christchurch in New Zealand causing widespread damage and multiple fatalities.

- The quake struck in the middle of the day near the city centre.
- This was part of a series of aftershocks in the region following the 4 September earthquake.
- Death toll is expected to be about 180
- Estimated insurance cost: up to \$12 billion

NZ Canterbury Earthquakes

Why this is a big issue for New Zealand



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Setting the Scene – Australian Prudential Regulation Authority

Speech - 'Views from APRA'

Presented by Ian Laughlin,
member of APRA

Insurance Council of
Australia's Regulatory
Update Seminar on 9 March
2011

Introduced increased
emphasis on governance
and ERM principles within
supervision

Emphasised and discussed

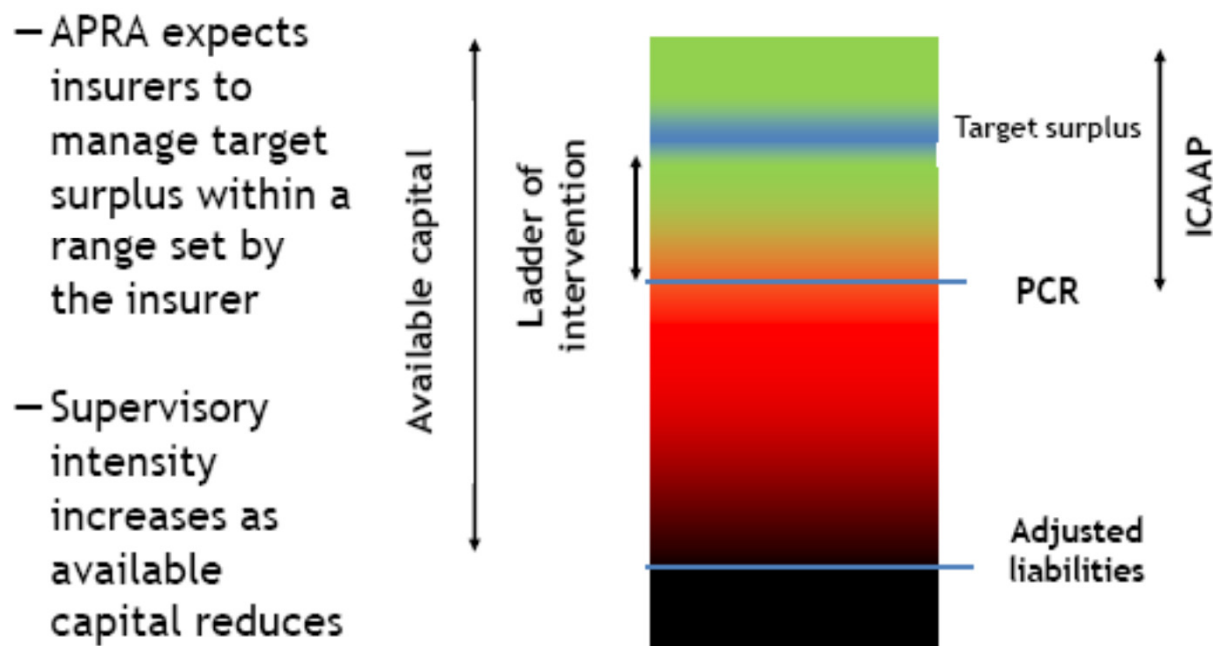
- ICAAP-the Individual Capital Adequacy Assessment Process
- Risk appetite
- Adequacy of controls
- Communication
- Scenario analysis
- Stress testing
- All relevant to the MAS environment
- (<http://www.apra.gov.au/speeches/Views-from-APRA.cfm>)

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Setting the Scene – Australian Prudential Regulation Authority

Source - speech - 'Views from APRA', presented by Ian Laughlin, member of APRA, Insurance Council of Australia's Regulatory Update Seminar on 9 March 2011

Control levels



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Setting the Scene – Australian Prudential Regulation Authority

Source - speech - 'Views from APRA', presented by Ian Laughlin, member of APRA, Insurance Council of Australia's Regulatory Update Seminar on 9 March 2011

RA GUIDE FOR SUPERVISORS - GOVERNANCE



- Board engaged in the development of the RA
- RA considers the interests & expectations of all relevant stakeholders.
- RA is periodically reviewed in the context of the economic conditions and competitive environment.
- There is a feedback loop to Board
- Board satisfied that risk tolerances & limits are understood & applied as intended.
- The RA seems reasonable, makes sense.
- Within group structures a) a group RAS; and b) a RAS for each entity which is consistent with the group RAS.

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Setting the Scene – Australian Prudential Regulation Authority

Source - speech - 'Views from APRA', presented by Ian Laughlin, member of APRA, Insurance Council of Australia's Regulatory Update Seminar on 9 March 2011

RA GUIDE FOR SUPERVISORS - RISK MANAGEMENT



- *The RA considers the material types of risks.*
- *The RA statement is core to the risk management framework and sets clear boundaries and expectations.*
- *The RA is supported by tolerances and limits, which are embedded in the business.*
- *The RA is considered when assessing the adequacy of controls in mitigating risks.*

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Setting the Scene – Australian Prudential Regulation Authority

Source - speech - 'Views from APRA', presented by Ian Laughlin, member of APRA, Insurance Council of Australia's Regulatory Update Seminar on 9 March 2011

RA GUIDE FOR SUPERVISORS - IMPLEMENTATION



- *The entity's strategic objectives and business plans are consistent with the RA.*
- *The entity's capital management plan is consistent with the RA; and capital levels and targets are monitored and reported against the RA.*
- *The risks necessary to produce required returns on capital are within the RA.*

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Setting the Scene – MAS – Risk Management Committee

21 January 2011 Mr Heng Swee Keat, MD of MAS, made a keynote address stating that MAS will mandate that all local banks and significant insurers have a dedicated Risk Management

For this committee to have an appropriate balance of skills and expertise:

- There must be a majority of non-executive directors, including the chairman
- Two members of the RMC should have ‘relevant technical financial sophistication in risk disciplines or business experience, as the board interprets such qualification in its judgement’.
- There is no requirement for a majority of independent directors, unlike the other board committees
- The committee will have unfettered access to information and external advice



What are the actuarial roles within this framework?

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Setting the Scene – MAS – Risk Management Committee

Background

- Was created as part of a larger inquiry to reform corporate governance of risk; and
- Understanding of risks provides a foundation for stability and growth

The Objectives of the RMC are to:

- Assist the Board in its discharge of risk management related responsibilities;
- Increase the level of risk consciousness in their respective institutions;
- Exercise effective risk management oversight;
- Identify, measure and report on risks – including compliance, fraud, operational, regulatory;
- “Put once-neglected risks, such as counterparty credit risk, model risk, liquidity risk and technology risks, at the forefront of risk considerations” (Mr Heng Swee Keat, MD of MAS); and
- Provide technical expertise (more so than independence).

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Setting the Scene – MAS – Risk Management Committee

Responsibilities and roles of the RMC

The responsibility of the RMC is to assist in relation to:

- The establishment and operation of an independent risk management system for identifying, measuring, monitoring, controlling and reporting risks on an enterprise-wide basis.
- Ensuring the adequacy of risk management practices for the material.
- Reviewing risk profile, risk tolerance level and risk strategy.
- Ensuring the risk management function has adequate resourcing and experienced and qualified staff.
- Ensuring risk management has appropriate reporting lines, independent of business lines.
- Commenting in the annual report on the adequacy of existing risk management processes



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Catastrophes – Key observations and lessons learned (to date)

Capital

- Substantial capital erosion. Aggregations require close monitoring
- Regulatory capital impact greater than IFRS impact
- Re-examination of models and extreme event scenarios
- Consideration of correlations
 - Insurance liabilities and assets
 - Weather events to climate patterns (La Nina vs El Nino)

Operational

- Claims handling (no spare capacity), challenges from catastrophe itself
- Increased reporting/ scrutiny – regulators, management, shareholders

Reinsurance

- Adequacy of “Sideways” cover
- Back-up cover and response: what is consistent with the risk appetite?
- Reinstatement costs
- Reinsurance renewals – availability and pricing

Reserving

- Risk margins – gross and net
- Market models and exposure information
- Uncertainty
- Post balance sheet events

Insurers, Reinsurers and the regulator continue to respond to the demands of the recent catastrophes.

Further update will be provided at the session.

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Bringing it all together

Key ERM Observations

- Risk Framework has prepared some better than others
- A clear Risk Appetite Statement helps inform response
- Single, cohesive business forecasts modelling both IFRS and regulatory balance sheet is key
- Expect operational difficulties
- Communication of outcomes key

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Bringing it all together

Next steps

- **It starts with the Framework**
- **Scenario tests: couch these in language Board's understand**
- **Stress tests and Scenario tests are similar BUT different**
- **Even scenario tests need stress testing**
- **Risk monitoring KPIs**
- **A new emphasis and use of existing skills**
- **Take your expertise to the Risk Committee**

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Speaker Bios and contact details

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Director, KPMG Actuarial Pty Limited

Melissa has more than fifteen years of experience in the Financial Services industry, with a focus on general insurance over the last ten years.

She has worked in both corporate and consulting general insurance environment, with extensive experience in valuation of insurance liabilities, management reporting and pricing reviews.

She has previously held Approved Actuary role (appointed under the Australian Insurance Act) and currently the co-signing actuary for the self insurance fund of the Australian Commonwealth Government. She also provides actuarial audit support to a number of Malaysian and Singapore insurance companies through KPMG Malaysia and KPMG Singapore.



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Speaker Bios and contact details

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Jefferson has 20 years' actuarial consulting experience. Specialising in General Insurance, self insurance and corporate risk management.

Experienced with reinsurers, insurers, captives and government insurers. Has examined liabilities in jurisdictions around the globe including Australia, NZ, Singapore, Malaysia, the UK and the US among others.

Holds the valuation actuary role for three entities. Has assisted in the audit of more than 50 insurance entities. Has assisted strategically examining insurers value, claims, underwriting and reinsurance functions. Has assisted corporate (non-insurance) clients in workers compensation and captive feasibility assessment, the design of insurance programmes and appointment of insurance brokers. Experience in mergers and acquisitions for buyers and sellers, strategic and expert witness work.

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