



FM Global Insurance Company Ltd.
ABN 99 007 502 829
Level 37, 140 William Street
Melbourne, Victoria 3000 Australia
T: +61 3 9609 1300 F: +61 3 9602 5880 www.fmglobal.com
Incorporated in U.K.

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Natural Disaster Insurance Review
C/- The Treasury
Langton Crescent
Parks ACT 2600

Dear Sir/Madam,

Re: Natural Disaster Insurance Review – FM Global Submission

Background to FM Global

FM Global is an insurance company which was established over 175 years ago in the United States. It specialises in corporate and larger commercial property and business interruption insurance as well as extensive loss-prevention engineering and development of loss-prevention standards. Our scientists and engineers conduct research and analysis into loss and property risks in order to work with clients to reduce the likelihood and severity of loss. The company-owned research campus in Rhode Island, United States, is the premiere centre in the world for property loss-prevention scientific research and product testing.

The company has operated in Australia since 1973 as FM Insurance Company Ltd. FM Insurance Company Ltd. is a member of the Insurance Council of Australia.

Introduction

The Natural Disaster Insurance Review (NDIR) is primarily focused on household and small business insurance cover for flood and other natural disasters. As a company, FM Global is not involved in domestic insurance products. However, Chapter 9, „Measuring Flood Risk“ and Chapter 10, „Risk Mitigation and Insurance“ within the NDIR Issues document are very relevant to FM Global’s business and we would like to offer comment on these two chapters in particular.

Each chapter of the Issues paper has a series of questions embedded. We have provided feedback on these questions first and then included any additional comment afterwards.

Chapter 9 – Measuring Flood Risk

Q1. What are the merits of developing a single national standard for flood mapping in Australia?

Many stakeholders are interested in whether or not a property is exposed to flood, including councils, planners, property owners, developers and insurers. A single national standard for flood mapping is needed to eliminate controversy about assumptions, frequency of events, output and the minimum level of information provided.

Q2. What, if any, impediments are there in doing so?

Apart from the initial challenge of establishing such a standard, there may be resistance to the information about flood-exposed properties becoming readily available. Councils and developers may be concerned about the flood maps generated. Such maps could call into question previous developments and also potentially impact on property values. They could also have an impact on proposed projects which may require large additional costs to provide flood mitigation works (e.g. raised floor levels, levees, increased drainage works, etc).

Q3. Who would be best placed to develop such a standard?

We believe that the national flood mapping standard should be developed by a federal agency with direct input by knowledgeable user groups like FM Global assisting the ICA and various flood mapping companies. Catchment management authorities and/or local councils may also assist, but the scope of the activity and standard need to be determined by a multi-party review of a number of stakeholders, including those from the insurance industry.

Q4. Who should bear responsibility for producing and maintaining relevant flood maps? Who should fund this activity?

We believe that a federal agency like Emergency Management of Australia (EMA) should be responsible with federal funding. What is needed is a central body charged with the responsibility of producing consistent flood maps using the standard that is developed, and maintaining an open public interface to access all the information as needed. This could be different levels of detail depending on the user. The general public may only need the inundation lines currently available, while insurers can get access to detail depending on their own internal system requirements. Funding should be by both the federal government and state governments for macro flood mapping while local councils or catchment authorities pay for their own micro flood mapping. Users may assist by paying small user fees for the maintenance and updating of flood mapping.

Q5. To what extent do land-use decisions take flood risk into account?

In our experience, there is not enough consideration of flood risk in land-use decisions. New South Wales uses a risk-based approach where if life safety is not compromised then development on flood-prone land may be deemed acceptable. This does not adequately address property conservation and sustainability. Other states and councils use inundation maps, and some other councils do not disclose what they do. There is massive inconsistency in consideration of flood risk in land use at present.

Q6. What, if any, are the potential impediments to councils making flood maps publicly available in a way similar to Brisbane City Council?

There is the potential impediment that past council decisions could be put under scrutiny and some property values may drop as a result if the general public is made aware via publically available flood maps that their property is in an area of greater risk of flood. However, once past that hurdle, there should be no impediments and we feel that the benefits to the consumer far out way the potential impediments. We strongly believe that there needs to be transparency to all stakeholders with respect to flood-exposed properties.

Q7. To what extent is the lack of consistency and availability of flood maps limiting the insurance industry's ability to offer flood insurance?

It is a key limitation. Without solid flood maps, it is extremely difficult for insurers to identify who is at risk or not. As a result, it places major limitations on the insurer in providing adequate pricing. At

FM Global we only insure large industrial or commercial property and we have the benefit of using engineering consultants to assess flood risk at the individual sites and dig out all the information to come up with an assessment as to the potential flood exposure. This, however, is still often flawed as the source flood information from individual councils is often inconsistent and not easily obtained.

Q8. To what degree is not having a single source for flood maps an impediment to national consistency, both in terms of how maps are developed and how they are used?

At present, flood maps are the responsibility of a disparate group including local councils, water supply authorities and other authorities depending on the local jurisdiction. They are not readily accessible and in fact many authorities have resisted providing access to them. A single entity could be the repository and clearing house, while others prepare the flood maps to a nationally consistent standard for a state government department, catchment authority, or council, etc. However, it would be far better to have the one agency responsible for all macro mapping done throughout the country and manage updates from micro mapping as well as updating the macro maps for areas of continuous growth.

An independent source of flood maps/data like EMA will both be beneficial and transparent but it needs to be designed to allow for management of change. Local councils will need to monitor and approve changes in the field, then feed back to, say, EMA. This would be similar to the arrangement in the United States which has the FEMA system.

General Remarks on the Chapter 9 'Measuring Flood Risk' Contents

Section 9.2 – Flood risk is a function of likelihood and consequences, but it is wrong to continue to use Average Reoccurrence Interval (ARI) terminology. The panel refers to 100 years as the average time between floods, which sends the wrong message to politicians and consumers – refer to possible „engineering thresholds“ 3.10 and footnote 7. This could be considered as misleading.

One suggestion would be to use the term „probability of exceeding in any given year“.

Section 9.8 – Flood maps of an acceptable quality and reliability are rarely available. A clear distinction should be made between „planning maps“ and „flood maps“. While most of the time the planning maps are based on flood maps from flood studies, these in general are not readily available. There should be a clear distinction between „flood maps“ that objectively consider hydrological and hydraulic factors, and „planning maps“ that are influenced by the local council's appetite for risk. Flood maps should be developed for a multitude of frequencies (not only the so called 100-year ARI). Flood maps should also state the level of accuracy. The 100-year flood level can vary substantially if a confidence interval of 50% is used. Flood maps should also state

clearly the boundary conditions used and any assumptions made, so that knowledgeable flood map users can make their own decisions.

Section 9.10 – “The review Panel notes that the Brisbane City Council...has its own internal expertise to update flood maps and it makes its expertise available to other councils”. While the comment about the internal expertise is probably true, the outcome „flood maps” are not, in our opinion, of the quality desired to represent an example – they are merely inundation maps. While several flood studies have been conducted between 1978 and 2003, the outcome („flood maps”) is considered unreliable. None of the maps produced have a frequency associated with them which might be of use to other parties. They also state: “Shading indicates areas where overland flow paths/creek, river or tidal river may occur” with no background information on frequency or depth, etc. An example of the Brisbane maps is attached as Appendix A. Moreover, it is very likely that the so-called „100-year flood” map and levels will change – increase, even if one was to ignore the January 2011 flood.

Section 9.12 – Australian Rainfall and Runoff update along with the BOM rainfall data update (to include additional 30 years of records) will indeed produce significant modifications to the current flood levels if there was a quick and easy way of doing that. Previous hydrological analysis (the majority of current flood maps) would have to be redone from scratch to incorporate this new data. More recent mapping techniques using current technological advances are capable of being relatively quickly updated as new data becomes available.

Section 9.13 – Availability of flood maps in Brisbane is overrated. Refer to our comment above (9.10) – these are outdated, have no frequency assigned, and are based on assumptions not necessarily confirmed by the 2011 rainfall and flood behaviour.

Section 9.18/9.19 – This is an over-simplified definition of what insurers need from a flood map. Firstly, it implies that the 100-year flood level is the universal level/number to use. It is our suggestion that a working group should be formed to determine what other information would be useful and should be the output formats. There is so much more that can be obtained from a flood study than a „flood map” and some levels.

Section 9.21 – The National Flood Information Database (NFID) produced by the Insurance Council is only as good as the data that it is populated with. This is currently very inconsistent, incomplete and unreliable because it comes from the previously mentioned disparate sources with no standardised approach. Hence, an NFID based on inconsistent and insufficient flood data (quality and quantity) is not the answer. If the consultants preparing the NFID receive better data as requested by insurance companies, they will produce a better product probably in a different, more useful, format.

Section 9.23 – The statement that interpolation of flood mapping data by insurers “may lead to further confusion by the public” is correct. This is why better flood data sufficient for each of the insurance companies to analyse the risk is the answer, including other than the so-called 100-year and occasional PMF levels. Importantly, the flood data can then be transparent to the public so they too have the opportunity to understand why an insurer may be adopting a particular approach to their property risk.

Chapter 10 – Risk Mitigation and Insurance

Q1. How have the building codes that have been developed in response to cyclones affected the underwriting and pricing practices of insurers and reinsurers?

We suspect that the building code changes have had little impact other than reducing loss in newer housing stock. The actuarial guidelines may take the year of construction into account as one of the premium calculation variables, thereby giving credit to the improved resilience that improved building code requirements bring to the table. Over time, better building codes will yield fewer and smaller losses and this experience will ultimately be reflected in underwriting and premiums. As a company we base our pricing on a risk evaluation of the property against our own engineering standards for wind securement.

Q2. How much weight can be given by insurers to flood mitigation measures in areas subject to flood risk?

The insurance cover/prices in most cases would already place full weight on mitigation measures if they are known, but many of these are in fact questionable structures. It is our experience that levees and other mitigation measures are often inadequately maintained and in many cases the ownership and responsibility for maintenance is unclear or misunderstood. Reliance on levees should be based on their condition and the need for the owner to prove its condition (adequacy/reliability). While the local council may be the owner, the auditing body should be independent. There should be some minimum guidance for freeboard and how to audit levees, and EMA and ICA – including FM Global – should be heavily involved in developing such standards.

Q3. To what extent are responses to the recommendations of the Victorian Bushfires Royal Commission expected to reduce bushfire risk in Victoria? How are these responses being reflected by insurers in their pricing of home insurance?

The new revision of the Bushfire construction standard is as yet unproven – certainly for the Black Saturday event, but would improve significantly the survivability of new homes to a more normal bushfire event. The problem is the standard does nothing for existing homes, so the overall impact is only on new construction and it will take time before an impact is seen.

Q4. To what extent are insurers able and willing to undertake repair and reconstruction of a home following a natural disaster so that it incorporates enhancements to improve resilience before formal changes to building standards?

General household insurance policies would respond to restore pre-loss conditions and would not typically go beyond. Carrying out enhancements which go beyond the current codes to improve resilience is an excellent way to reduce further flood loss. The issue for domestic insurance policies will be in how to validate and quantify these improvements on a case-by-case basis, the cost of which could negate any potential premium reduction.



Q5. To what extent should decisions on these matters require the agreement of the homeowner?

This can only be provided as an option if it can be provided at all and would have to be very specific as to what the improvements would be, which would require intimate knowledge of the property in question and hence be potentially unworkable for normal household insurers.

We hope that this information is of assistance.

Yours sincerely,

Paul May
Operations Engineering Manager

Appendix A

