



Australian Government
Bureau of Meteorology

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In reply please quote
40/2406

Mr Bruce Rush
Melbourne Water
PO Box 4342
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Dear Bruce

Re: Port Phillip and Westernport Flood Management and Drainage Strategy

I refer to the Discussion Paper on the above that Melbourne Water recently released for comment and feedback. I thought the paper was an excellent document that identified the critical issues associated with the development of an effective drainage and flood management strategy for a densely populated area such as Melbourne. In particular the need to balance the different risks and the need to utilise a range of structural and non-structural solutions as was highlighted is very important as well as the need to take an integrated approach including full community participation.

The Bureau of Meteorology has an active role in drainage and flood management throughout Australia and, because of the high populations at risk, this role is especially important in major cities such as Melbourne. This role involves essentially two aspects of our operations; the provision of flood and flash flood (severe weather) warning services, and the development of rainfall design information. I am aware that we already have close relationships with Melbourne Water through our Victorian Regional Office with regard to our forecast and warning services and we look forward to contributing where we can in these areas in support of the eventual strategy. This response to the discussion paper is concerned just with our role in design rainfall information.

As is made very clear in the paper, both the development and the ultimate conduct of the strategy will depend on a clear understanding of the different levels of flood risk throughout the region. While there may be areas where this risk is well understood, there will be many where it isn't and studies will be needed to support a proper risk assessment. A key input to studies of this type is good design rainfall information and the present standard here is that data as provided in the Institution of Engineers (Australia) publication *Australian Rainfall and Runoff* released in 1987. This design information is based on data as available up to 1983 and we have been in discussion with Engineers Australia (the renamed Institution of Engineers (Australia)) about the need to revise that information in the light of the addition of more than 20 years of data and new developments in statistical analysis. In that regard we note that some of the notable rainfall events used to highlight the flooding risks in the discussion paper have occurred since 1983 and therefore will not have been included in the analysis

supporting the current design data. Without a full study it is not possible to estimate the impact of additional data and improved analytical procedures on the design estimates, but I suggest that the best available design rainfall data should be seen as an essential element of the knowledge base needed to underpin the strategy.

We have been working toward the development of revised rainfall design information and are close to completing a pilot study in the South East Queensland area. We plan to gradually extend this work to other areas of Australia. This work is part of the overall aim of Engineers Australia (EA) to revise the whole of Australian Rainfall and Runoff and we will be working in concert with EA as we move into other areas. While we will continue to progress this work within the limits of our resources, we are concerned that this may not meet the needs of strategies such as is under discussion here and so we are seeking to develop partnerships to help support and accelerate the work. In that regard, we would be pleased to discuss the needs you see for improved design rainfall information in support of the Port Phillip and Westernport Flood Management and Drainage Strategy, with the view to meeting those needs through some form of partnership arrangement in future.

Thank you again for the opportunity to provide this input.

Yours sincerely

Jim Elliott
Superintendent Hydrology
18 April 2007