BEFORE INDEPENDANT HEARING COMMISSIONERS
APPOINTED BY THE CANTERBURY REGIONAL COUNCIL

UNDER:	the Resource Management Act 1991
IN THE MATTER OF:	Proposed Plan Change 7 to the Canterbury Land and Water Regional Plan – Section 14: Orari-Temuka-Opihi-Pareora

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RESPONSE OF DR TIM KERR TO QUESTIONS FROM THE HEARINGS PANEL ON BEHALF OF THE ADAPTIVE MANAGEMENT WORKING GROUP (SUBMITTER NO.381)

Dated: 14 December 2020

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1 INTRODUCTION

1.1 My full name is Tim Kerr. My experience and qualifications are set out in my primary statement for the Adaptive Management Working Group dated 17 July 2020.

1.2 This statement responds to Commissioner Van Voorthuysen's question regarding my Evidence in Chief paragraph 6.3 part (f), which explains that my computer model did not account for the impact of rainfall falling directly into Lake Opuha. My understanding of the Commissioner's question was that he was interested in how much rain falls into the lake, and so how the exclusion of lake rain might impact my model results. I have addressed this below.

2 RAIN FALLING DIRECTLY ONTO LAKE OPUHA

2.1 The ECan model includes an assessment of lake rain, so I have used their numbers. These are available from the spreadsheet model that ECan have made available on the Plan Change 7 website.

2.2 From the ECan model lake rain contributes a daily average of 0.17 m^3s^{-1}.

2.3 For context, the average contribution to the lake from the combined North Opuha and South Opuha Rivers in the ECan model is 4.6 m^3s^{-1}. River flows usually have an uncertainty (resulting from limitations of flow measuring technology) of 6 %, or 0.3 m^3s^{-1}.

2.4 Omitting the lake rain will result in the model having a small low bias on modelled lake levels and Opihi River flows. This is unlikely to have an impact for purposes of inter-comparisons of regimes using the same model, as they will all have the same low bias.

2.5 For intercomparisons of models, this effect will lead to a low bias on my model compared to the ECan model.

Tim Kerr

14 December 2020