NEW ZEALAND GEOTHERMAL ASSOCIATION INC

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Submission on: Proposed Bay of Plenty Regional Water and Land Plan

Name: New Zealand Geothermal Association

Address: The Secretary,
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The New Zealand Geothermal Association (NZGA), an association of individuals with a range of interests in geothermal matters, makes this submission seeking to ensure that the Plan adequately promotes the sustainable development and use of geothermal resources. Specific submissions are listed below.

Page Nº	Section Number & Title	Support/ Oppose	Decision Sought	Reasons
93 - 102	7 Geothermal Resources	Oppose	Review of issues, objectives, methods and policies	Aspects of geothermal resource characteristics have not been properly or fully taken into account
93	7.1.1 Geothermal Resource Issues Issue 44	Oppose	Remove, "at a rate or volume that is greater than the rate of recharge"	Any take will alter the natural state, whether it is greater or less than the natural recharge. (The natural recharge is difficult to determine with any certainty in any event). In some cases, takes less than the natural recharge may cause undesirable effects, conversely the effects from takes that are greater may not cause significant adverse effects.
93 – 94	7.1.1 Geothermal Resource Issues Issues 45 to 48	Support		Relevant and appropriate

94	7.1.2 Geothermal Resource Objectives 53, 54, 56, 57, 58	Support		Relevant and appropriate
94	7.1.2 Geothermal Resource Objective 55	Oppose	Change, “source aquifer”, to “geothermal aquifer”	Conventional geothermal industrial reinjection practice is to return geothermal fluids to a separate aquifer (but in the same geothermal field) – to avoid degradation of the source aquifer.
95	7.1.3 Geothermal Resource Policy 101		Need to define ‘sustainable’.	Interpretation of ‘sustainable’ has a significant impact on the level of use that is appropriate.
95	7.1.3 Geothermal Resource Policy 101 a to h, except c and e	Support		Compare (f) with Objective 55
95	7.1.3 Geothermal Resource Policy 101 c	Support	Add, “It is recognised, however, that perfect knowledge is not possible, so the precautionary principle will not unduly hinder beneficial use”.	The precautionary approach needs to be tempered with reality – perfect knowledge is not achievable and should not unduly restrict beneficial development.
95	7.1.3 Geothermal Resource Policy 101 e	Oppose	Change to, “Each deep geothermal reservoir will be managed as a whole. The manager will have representation from all stakeholders. Multiple small users are possible, where takes are limited and constrained by an overall field plan.”	A single entity should be responsible for managing each deep geothermal reservoir. Overseas experience has shown that multiple tappers of a deep reservoir leads to inefficient use of and damage to the geothermal resource. Unconstrained use by large numbers of small users has a similar effect (Rotorua). Limited, controlled use by separate small users may be appropriate in some fields but an overall manager is still required.
95	7.1.3 Geothermal	Support		Appropriate categories

	Resource Policy 102			
96-98	7.1.3 Geothermal Resource Policy 103 to 113	Support		
99-101	7.1.4 Geothermal Resource Methods of Implementation, 187b, to 196, except 195 (d)	Support		
100	7.1.4 Geothermal Resource Methods of Implementation, 195 (d)	Oppose	Add, 'where appropriate'	In high temperature fields the bore discharge is usually two-phase; orifice plates are not suitable for flow measurement
182-186	9.12 Geothermal Rules: 72 to 77	Support		

I do wish to be heard in support of my submission.

If others make a similar submission I would be prepared to consider presenting a joint case with them at the hearing

[Signature of person making submission] [Date]

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