

IN THE MATTER OF the Resource Management
Act 1991

and

IN THE MATTER OF of applications by Mighty
River Power Ltd for
Resource Consents to
Repower Marsden B Power
Station with Coal

**Greenpeace New
Zealand, Inc.**

Submitter

and on behalf of 92
submitters

Opening Submissions of Counsel for Greenpeace New Zealand, Inc.

Duncan Currie
Barrister
7 Rangatira Terrace
St Andrews Hill
Christchurch

Opening Submissions of Counsel for Greenpeace New Zealand, Inc.

Contents

Introduction	1
Witnesses.....	3
The Law	5
Section 5.....	6
Section 6.....	6
Section 7.....	8
Breach of the Air Quality Guidelines.....	10
Relevance of ANZECC Guidelines.....	12
Water Matters.....	13
National Coastal Policy Statement 1994, the Northland Regional Policy Statement, the Regional Coastal Plan, the Regional Water and Soil Plan, the Northland Regional Air Quality Plan, and the Precautionary Principle.....	15
The Precautionary Approach.....	17
Section 104D and Status of Activity.....	22
Section 104E.....	24
Section 104(c).....	25
Section 105 and Alternatives.....	26
Conclusion	28

Opening Submissions of Counsel for Greenpeace New Zealand, Inc.

INTRODUCTION

1. Greenpeace New Zealand, Inc. ('Greenpeace') made submissions on this proposal by Mighty River Power Ltd (MRP) to repower Marsden B power station using coal. These oral submissions are made in support of its original submission, and are also made on behalf of ___92__ submitters who also asked to be heard.
2. Greenpeace opposes the resource consents applied for by Mighty River Power limited for the repowering of Marsden B power station for coal. The proposed power generation facility would emit over 1.8 million tonnes of carbon dioxide per year and require 850,000 tonnes of coal per annum, imported from outside the region, and probably even outside the country. The Bream Head/Te Whara Reserve, the wetlands of the Ruakaka Estuary, Passenger Island Marine Reserve and Whangarei Harbour are in the immediate vicinity of the proposed facility, and Marsden B proposes to discharge SO_x, NO_x, particulates, polycyclic aromatic hydrocarbons (PAHs), naturally occurring radioactive materials, mercury, cadmium and other heavy metals to the air, and persistent and toxic substances including PAHs and heavy metals, including mercury, cadmium and copper, as well as dioxins, to the marine environment. Marine mammals, including whales and dolphins, are known to bioaccumulate dioxins. Heavy metals and POPS would accumulate in the sediments and bioaccumulate in the ecosystem. These are persistent, toxic and some (such as PAH and dioxins) are carcinogenic. Arsenic, beryllium and nickel are also significant carcinogens. Shelley Anderson will give evidence as to these matters. In our submission, they have no place being discharged into the marine environment.

3. Approval of the proposal would impede New Zealand's moving towards renewable energy generation projects and would impede New Zealand meeting the strategic directions set following the Climate Convention and the Kyoto Protocol. The effects of climate change and the benefits to be derived from renewable energy alone mean this consent should be refused.

4. Coal-fired power stations are major world polluters responsible for emissions of a wide range of pollutants, including mercury, SO_x, NO_x, particulates, cadmium and other heavy metals, POPs, PAHs and dioxins. This would cause cumulative effects on sediments in the marine environment.

5. These submissions focus on the following effects:

The discharge of carbon dioxide to the air, and its effect on climate change, to the extent that the use and development of renewable energy enables a reduction in the discharge into air of greenhouse gases.

The discharge of carbon dioxide to the air and its direct effect on the oceans, other than through climate change.

The discharge of sulphur dioxide, nitrogen oxides and other substances to the air.

The discharge of heavy metals, particularly mercury, selenium, boron and thorium, and dioxins, to Bream Bay.

6. These submissions support others in opposition that include concerns over the storage of ash waste close to the facility, leachate from the landfill, transportation of coal to the site, and other environmental effects. Other parties have made submissions in opposition on these issues and Greenpeace supports those submissions. Shelley Anderson briefly addresses the ash disposal area and we do note that the New Zealand Waste Strategy is to

implement remediation or clear management programs for all high-risk contaminated sites by December 2015. The project could run until 2043 (including 3 years for construction).

7. Granting of this consent would undermine the economic viability of clean renewable energy alternatives such as wind energy. Marsden B is contrary to numerous national directives and strategies on waste, coastal policy, energy efficiency and conservation and climate change. These are detailed in our earlier written submission. Marsden B is also contrary to international commitments including the Stockholm Convention.
8. The Assessment of Effects on the Environment (AEE) required by Schedule 4, although voluminous, is inadequate. It neither includes an adequate description of the proposal, nor does it make a serious attempt to provide a description of any possible alternative locations as required by paragraph (a) or methods for undertaking the activity – i.e. renewable energy, as required by paragraph (b). The assessment is limited to one coal type but the quality of the range of coal types to be burned at the power station remains unspecified, and in particular the range of effects across coal with possible sulphur contents and different contaminant contents (such as mercury) is not assessed, nor is there a baseline analysis of the existing contamination in receiving waters. Other ambient data does not exist and has been arrived at by guesswork – see Gavin Fisher’s evidence at paragraph 43. The evidence does not evaluate the impact of Marsden B’s emissions on ambient levels of ozone and does not evaluate carbon monoxide emissions. Greenpeace is also concerned that the impacts of sulphur dioxide emissions on Whangarei Heads School have not adequately been assessed. Nor has PM_{2.5} been assessed. Very fine particulates (PM_{2.5}) are now considered to be the major contributor to health effects, as these particles can block the very small passages of the lungs.

Witnesses

9. Greenpeace will call the following evidence in support of its submission:

Vanessa Atkinson, Greenpeace campaigner, will make a brief submission by way of overview.

Dr Greg Miller, of Envirotest in Queensland, will give evidence on inappropriate technology, i.e. the use of non-renewable technology and increased pollution compared with alternative options, Coal burning emissions of regional and international concern, and environmental costs of Marsden B proposal related to pollution emissions and alternative options.

Shelley Anderson, also of Envirotest, who produced the scientific report submitted with our original submission, will give evidence on coal fuel quality and impacts on environmental discharges, gaseous emissions, specifically sulphur dioxide, and air dispersion modelling, potential exceedances of the Ambient Air Quality National Environmental Standards, health and environmental risks associated with the project, and resource consent issues including the proposed licence conditions and monitoring plans.

Dr Phyllis Fox, environmental analyst of the United States, will give evidence on experience with coal fired power stations in the United States and the deficiencies in the present application. Since the Commissioners declined a request to have Dr Fox's evidence presented via either video link or phone conference, her evidence will be presented only in written form. She concludes that the plant could not be permitted as a proposal in the United States because it does not use best available controls to mitigate environmental impacts. She addresses the lack of controls on haze, particulates, effects on residents of plume touchdowns, and tells of one case in which she is an expert witness in which problems with the plant's sulphur dioxide scrubber caused health and environmental problems so severe that the operator bought out the entire town.

Professor Ralph Sims, of the Massey University, will give evidence on the effects of climate change and on the benefits to be derived from renewable energy, matters relevant under section 104E and Part II of the Act. Professor Sims will give evidence on 2 August.

THE LAW

10. The Resource Management Act 1991 (RMA) has a single purpose: Commissioners should make an overall broad judgment about the proposal in the context of the Act, to decide whether the proposal will promote the sustainable management of natural and physical resources.¹ Consistent with that, the provisions of sections 6, 7 and 8 are subordinate and accessory to the primary purpose of the Act.² It is our submission that the consents for this proposal should be refused, since the proposal does not promote the sustainable management of natural and physical resources. In fact in our submission this proposal fails by a considerable margin, whether one takes account of the close to 2 million tonnes of CO² and the effect of CO² on the ocean, on the climate and the effect of this proposal on renewable energy in New Zealand, the discharges into the air, particularly of sulphur dioxide, and the discharges to the water, particularly of mercury and dioxins, as well as other heavy metals. Further, no resource consent may be issued since it is likely that the air quality standards will be exceeded by sulphur dioxide, and since discharges will give rise to significant adverse effects on aquatic life, contrary to section 107.
11. All matters to which the consent authorities must have regard under section 104 are subject to Part 2 of the Act. Sections 5, 6, 7 and 8 of the Act are highly relevant to this application.

¹ *Green & McCahill Properties Ltd and others v Auckland Regional Council* (HC 4/97, Auckland Registry), 14, per Salmon J. and see *NZ Rail v Marlborough DC & Port Marlborough NZ Ltd* AP 169/93, 9, [1994] NZRMA 70, per Greig J.

² *Mahuta v Waikato RC* A091/98, para. 228.

12. In our submission, the relevant principles are *Jackson Bay Mussels & Others v West Coast Regional Council* C77/2004, in particular paragraphs 71 to 89 as to Part II matters generally, and paragraphs 128 to 132 as to the precautionary approach. This approach was very recently adopted by the Environment Court in *Solid Energy New Zealand Ltd and Others v West Coast Regional Council and Others* C74/2005, (para 60) which also adopted the decision of the High Court in *Auckland Volcanic Cone Society Inc. v Transit New Zealand* [2003] NZRMA 316, para. 34-42.

Section 5

13. The purposes of the Act being the sustainable management of natural and physical resources in section 5 of the Act will be fulfilled by declining the application. The proposed power station would not sustain the potential of natural and physical resources, including water and air, to meet the reasonably foreseeable needs of future generations, so is contrary to section 5(2)(a) of the Act. It would not safeguard the life-supporting capacity of air, water, soil and ecosystems as required by section 5(2)(b) of the Act, and in fact would degrade the life-supporting capacity of each. It would not adequately avoid, remedy or mitigate the adverse effects of the proposed activity on the environment, as is required by section 5(2)(c) of the Act.

Section 6

14. Section 6 of the Act requires that in achieving the purpose of the Act, being the sustainable management of resources, all persons exercising functions and powers under it, in relation to managing the use, development and protection of natural and physical resources, shall *recognise and provide for* the stated matters of national importance. As noted by the Environment Court in *Jackson Bay Mussels & Others v West Coast Regional Council* C77/2004 (at para 73), section 6 matters are mandatory in nature, as distinct from sections 7 and 8.

Opening Submissions of Counsel for Greenpeace New Zealand, Inc.

These include

(a) the preservation of the natural character of the coastal environment, including the coastal marine area (CMA), and its protection from inappropriate use and development.

15. The High Court in *Auckland Volcanic Cone Society Inc. v Transit New Zealand* [2003] NZRMA 316, para. 32 accepted that ‘preservation’ may be a higher standard than ‘protection’.
16. The Bream Head/Te Whara Reserve, the wetlands of the Ruakaka Estuary, Passenger Island Marine Reserve and Whangarei Harbour are in the immediate vicinity of the proposed facility, and Marsden B proposes to discharge persistent and toxic substances and heavy metals, including mercury, cadmium and copper, as well as dioxins to the marine environment. The proposal, far from preserving the natural character of the coastal environment and the CMA, would degrade and pollute it, and the discharge of chemicals and heavy metals is an entirely inappropriate use of the CMA. Bream Bay would suffer pollution from the proposal in a way that is completely inconsistent with the sustainable management purposes of the Act. The Court in *Jackson Bay* made it clear (para 88) that both water quality and coastal ecosystems, and specifically in that case effects on marine mammals (para 106) were aspects of natural character.

(c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna.

17. The proposal would degrade Bream Bay, Whangarei Harbour, the Te Whara Reserve and the Whangarei Heads area, which are nationally significant habitats for marine life and birdlife.

Opening Submissions of Counsel for Greenpeace New Zealand, Inc.

Marine mammals, including whales and dolphins, are known to bioaccumulate dioxins. The range of dioxin levels reported in fish in New Zealand is already high and exceeds the levels found in other foods. The risk is therefore increased for people that consume a high proportion of seafood in their daily diet. Further, the impacts of the proposal on these mammals have not been addressed. Shelley Anderson will address these aspects

(e) the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga.

18. The proposed power station discharges would pollute historic and current sources of kai moana such as the tuatua beds adjacent to Marsden B. There has been no specific analysis of impacts on tuatua.

Section 7

19. In achieving the purpose of the Act, all persons exercising functions and powers under it, in relation to managing the use, development and protection of natural and physical resources, are required to have *particular regard* to the following.

(a) Kaitiakitanga. The proposed power station discharges would pollute historic sources of kai moana.

(aa) the ethic of stewardship. Granting this resource consent to pollute Bream Bay is inconsistent with the ethics of stewardship.

(b) The efficient use and development of natural and physical resources. This proposal would undermine the economic viability and use and development of clean renewable energy alternatives including using wind resources. Marsden B is contrary to numerous national directives and strategies on waste, coastal policy, energy efficiency and conservation and climate change. These are detailed in the attached summary of National

Opening Submissions of Counsel for Greenpeace New Zealand, Inc.

Directives and Strategies Relevant to Marsden B. Approval of the proposal would impede New Zealand's moving towards renewable energy generation projects using wind resources. The proposed power generation facility would emit over 1.8 million tonnes of carbon dioxide per year and require 850,000 tonnes of coal per annum, imported from outside the region, and possibly even outside the country.

(c) the maintenance and enhancement of amenity values. The widely enjoyed and valued amenity values of Bream Head/Te Whara Reserve, the wetlands of the Ruakaka Estuary and Whangarei Harbour would be greatly affected by the discharge, as would the amenity values of land from the air discharges of SO_x (sulphur oxides) and NO_x (Nitrogen oxides). Swimming, surfing, shellfish gathering (mainly tuatua) and surfcasting, fishing, pipi and scallop harvesting, rock lobster potting and other recreational and food gathering activities would suffer.

The repowering of Marsden B using a coal-fired boiler would impact on the scenic and amenity values and recreational attributes of this part of the coastline. This would directly impact the lifestyle of the Ruakaka community as well as the tourism potential (and therefore economic impacts) of the area. People could no longer swim in the Bay and otherwise enjoy the area without concerns about the heavy metals and dioxins polluting the bay.

(d) The intrinsic values of ecosystems.

20. Heavy metals and POPS would accumulate in sediments and bioaccumulate in the ecosystem. The intrinsic values of the marine ecosystems would be degraded.

(f) maintenance and enhancement of the quality of the environment.

21. The air discharges, including SO_x (sulphur oxides) and NO_x (Nitrogen oxides), and water discharges and leachates from the ashpile discharged to the groundwater and sea, as well as the effects of climate change, mean that the quality of the environment would be reduced let alone maintained or enhanced, by the proposed power station.

(g) Any finite characteristics of natural and physical resources.

22. The degradation of Bream Bay, the discharges into air and the contribution to climate change from the proposed power station would take place in contravention of the recognition that land, water and air is finite and must be managed sustainably.

Breach of the Air Quality Guidelines

23. The Air Quality Guidelines³ provide that “A consent authority must decline an application for a resource consent to discharge sulphur dioxide into air if the discharge to be permitted by the resource consent **is likely, at any time**, to cause the concentration of sulphur dioxide in the airshed to breach its ambient air quality standard.”
24. This provision means that if the discharge is likely at any time during the duration of the requested resource consent to cause SO₂ to exceed either the 570 micrograms per cubic metre, expressed as a one hour mean, or is likely to exceed 350 micrograms per cubic metre more than 9 hours in a 12-month period expressed as a 1-hour mean, then the resource consent must be declined.
25. In our submission, the Applicant has the burden of showing that it is not likely, at any time. The Applicant must prove its case. There is always a persuasive burden resting on an applicant because it is a fundamental requirement of any judicial system that the person

³ Resource Management (National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics) Regulations 2004

Opening Submissions of Counsel for Greenpeace New Zealand, Inc.

who desires the Court to take action must prove his/her case. *Shirley Primary School v Christchurch City Council* [1999] NZRMA 66, para 121. In the case of an application for a non-complying activity the threshold tests in s105(2)(b) suggests a burden of proof resting on the applicant when it refers to the consent authority being "satisfied that..." one of the two tests is met.

26. Specifically, in *Shirley Primary School v Christchurch City Council* [1999] NZRMA 66, para 134, the court considered 'potentiality' in the context of adverse effects. The Court held that when considering section 3(f) effects, it was required to evaluate beyond the balance of probabilities (i.e. 50/50) where the risk even if low, is of high potential impact. The Court held (para. 223) that the appropriate standard is on a sliding scale between the 'balance of probabilities' and 'beyond reasonable doubt' depending on the impact of the events. In this case, where the law regards a breach as so serious that no resource consent may be issued, in our submission, the higher standard should be applied. The existence of a higher threshold was also accepted by the Environment Court in *McIntyre v Christchurch City Council* [1996] NZRMA 289 in stating that

"We accept that to make a finding we need to feel persuaded that it is correct; and that we ought to exclude sampling results which cannot be said with any reasonable degree of confidence to be non-complying. Further, although a finding might be made on the balance of probabilities where there was not more than 51 per cent confidence in the reliability of the evidence, in recognising the gravity of the present matter we would wish to have rather greater confidence than that."

27. In our submission, our evidence, and analysis of the evidence of Mr Fisher, shows that an exceedance of the 570 mcg standard for sulphur dioxide is in fact likely, at some time.
28. The evidence of Shelley Anderson will show that the following variations in the assumptions used in air dispersion modelling could produce ground level concentrations of sulphur dioxide that exceed national standards or other guidelines: increased sulphur content of coal, inclusion of background data and consideration of model errors and

uncertainty. The predicted ground level concentrations would be likely to be exceed the maximum levels at some locations if coal with a sulphur content of 3% or greater was used. Additionally, there has been no background monitoring carried out by the applicant, and there was no sensitivity analysis carried out by the applicant. When the precautionary principle and appropriate standards of proof are applied to these uncertainties and lack of evidence, no resource consent may be issued.

Relevance of ANZECC Guidelines

29. The ANZECC Guidelines are just that: guidelines. They are not New Zealand Standards. In making decisions under the RMA, New Zealand Standards are not binding, and compliance is not decisive; but they are commonly used and are generally accorded respect: *Body Corporate 164980 v Auckland City Council [1996] NZRMA 289, A015/96* per Judge Sheppard, page 10, and in *McIntyre v Christchurch City Council A015/96 [1996] NZRMA 289* per Judge Sheppard, stated that a consent authority is free to make its own judgment about the weight to be given to such a standard. Moreover, “parties to resource consent proceedings are not bound to accept that compliance with a New Zealand standard would avoid adverse effects on the environment that should be taken into account in deciding whether resource consent should be granted or refused.” (*McIntyre*, page 11)

30. It is not the case that a resource consent should be issued if the discharges are less than the ANZECC guidelines. This is particularly so when we have no baseline data, so do not know, for instance, what the effects of adding mercury or cadmium to shellfish or finfish which already have elevated levels of mercury or cadmium. Similar considerations apply to copper and dioxins. The principles discussed above, and above all test of whether the proposal will promote the sustainable management of natural and physical resources, should guide the Commissioners. Dr Miller will give evidence that the project has a low degree of sustainability in terms of natural and physical resources and waste production,

contaminant discharges to air, water and land, and the effects on of renewable energy resources in New Zealand. The contamination of Bream Bay and Whangarei Harbour is likely to be irreversible. In addition, the Commissioners need to be satisfied that section 107 is not breached and that the proposal is not contrary to the relevant objectives and principles of statutory Plans.

Water Matters

Mercury:

31. It is in our submission utterly unacceptable, and contrary to sustainable management, to discharge mercury into the marine area from Marsden B.⁴ Our witnesses will explain that mercury is known to convert to bioavailable form after release to water bodies, and subsequently biomagnify, mercury cycles are highly complex, and need to have a comprehensive and ongoing monitoring program for fish/shell fish in the area. The AEE⁵ admits that contaminant loads may reach mass loads of 75% of permissible mass load for human health protection for fish consumption, the mercury content of coals is highly variable, and these amounts are being added to whatever is already in the environment – which we do not know. Ms Kydd-Smith in her ‘wrap up’ evidence acknowledges mercury may reach 79% of EPA guidelines (Part 2, page 16) – even on MRP’s own estimates.
32. Worse yet, MRP has at no stage committed itself to any specific coal with mercury content. Simply put, garbage in – garbage out. Indonesian coal, if used, has close to twice the average mercury content of New Zealand coal. Yet Dr Hickey stated for MRP⁶ that “all data for Indonesian coals indicates lower concentrations than for coal A and would

⁴ Safe human levels are lowering: see http://www.who.int/ipcs/food/jecfa/summaries/en/summary_61.pdf and http://www.efsa.eu.int/science/contam/contam_opinions/259/opinion_contam_01_en1.pdf.

⁵ *Effects of Cooling Water Abstraction and Discharge*, p72

thus represent a reduced risk to the environment (Exhibit 8).” Table 8⁷ in fact shows *average* concentration in Indonesian export coal of 0.07 PPM, compared to 0.043 PPM in the ‘Type A coal that ‘may be considered’ for use in Marsden B, and compared to maximum concentration in New Zealand coal of 0.45 PPM. The data for Indonesian coal is merely referenced as ‘Pers. Comm’. We submit and our experts will show that Dr Hickey’s assessments for mercury are fatally flawed and can give this hearing no comfort.

33. These errors are carried forward by other witnesses. Janeen Kydd-Smith states (Part 2 para 15) that Dr Hickey used a standardized coal, together with international coal comparisons, and showed that “for this particular coal type (i.e. Coal Type A) the discharge will be within the proposed discharge limits for all contaminants.” In our submission this conclusion is highly misleading for the reasons discussed above. Firstly, it fails to admit that other coals will be burned with higher contaminants during the 35 year life of the power station. Secondly, in stating the discharges are ‘within the proposed discharge limits’, it fails to acknowledge the lack of baseline data on existing concentrations, and implies there is some statutory limit, which if not exceeded, allows discharges beneath the limit. That is not the case. The witness states later that “The maximum level of mercury accumulation has been calculated for foreshore shellfish as less than 20% of the New Zealand food standard.” (page 16 of Part 2). Again, this cannot be stated where existing concentrations are not known, and this statement assumes a certain mercury content in coal, which is only stated for Coal Type A – even assuming other modelling is correct. In this vein, Greenpeace is concerned that recirculating water within Bream Bay can concentrate concentrations further.

⁶ 1.175 on page 57

⁷ Hickey evidence Page 92

34. Global action is underway to address mercury impacts primarily from sea food species accumulation of mercury; accepted safe consumption levels have very recently been lowered and some mercury experts say they should be lowered further. Even if this hearing accepts, as we submit it should not, that the mercury discharges will be below NZACC standards, this in no way means that the levels are consistent with the sustainable management purpose of the Act. These submissions apply to other metals and air omissions as well. A 35 year consent to discharge mercury at these levels is entirely antithetical to sustainable management.
35. Greenpeace submits that a resource consent should not be issued where no baseline studies have been conducted on the levels of important contaminants in the receiving waters, such as mercury. This means that no assessment of cumulative effects has been, or indeed can be, carried out. An effect, under section 3(d) of the Act, includes any cumulative effect.
36. Another area where analysis done on cumulative impacts has not been carried out is in the effects on sediments. Since a significant fraction of many heavy metals discharged would be in soluble forms, accumulation in suspended and bottom sea sediment particles in the marine environment is to be expected. This would result in greater accumulation of heavy metals (and possibly some organic compounds), many of which are toxic to aquatic life and have bioaccumulative potential.

National Coastal Policy Statement 1994, the Northland Regional Policy Statement, the Regional Coastal Plan, the Regional Water and Soil Plan, the Northland Regional Air Quality Plan, and the Precautionary Principle

37. A brief discussion of the various statutory instruments follows.
38. It is a national priority under the NZ Coastal Policy Statement Policy 1.1.1 to preserve the natural character of the coastal environment by (b) taking into account the potential effects of ...use...on the values relating to the natural character of the coastal environment, and

- (c) avoiding cumulative adverse effects of ...use ... in the coastal environment. Clearly this proposal does not do so, in its many pollutants such as heavy metals, PAH and dioxins.
39. It is also a national priority under Policy 1.1.4 of the preservation of the natural character of the coastal environment to protect the integrity, functioning, and resilience of the coastal environment in terms of natural water and air quality, natural biodiversity, productivity and biotic patterns and intrinsic values of ecosystems and national priority to protect ecosystems which are unique to the coastal environment and vulnerable to modification including estuaries. In our submission, discharging heavy metals, PAH and dioxins into the Bay clearly run contrary to this Policy.
40. Amenity values, use and enjoyment of the beach by the public and safety of the public would all suffer a significant adverse impact, contrary to Policy 3.1.1. Recreational activities including swimming, surfing, shellfish gathering (mainly tuatua) and surfcasting. Clearly these will be impacted by water significantly polluted by heavy metals.
41. These effects should be contrasted with the conclusion of Ms Kydd-Smith in her summary in paragraph 95 of her Part 2 evidence, and similar conclusions with respect to the Regional Coastal Plan in paragraph 103 of her evidence, and with respect to the Regional Water and Soil Plan in paragraph 109 of her evidence. In summary, the position of the witnesses for MRP appears to be that provided the contamination is being avoided remedied or mitigated, then the proposal is consistent with the objectives and policies of the relevant documents. Avoiding, remedying and mitigating effects is a requirement of section 17 of the Act. By this interpretation, the policies and objectives of these documents are meaningless.

42. Objective 2 in Water Quality section 17 of the RPS is “The reduction and minimization of the quantities of contaminants which adversely affect water quality entering water bodies, and coastal waters, in particular those that are potentially toxic, persistent or bio-accumulative.” The proposal is, in our submission, clearly contrary to this objective. Similarly, Objective 1 in section 16 is the “sustainable management of the air resource by avoiding, remedying or mitigating adverse effects on the environment from the discharge of contaminants to air.”
43. The Northland Air Quality Plan, which is operative, has in Section 6 the Objective 1 being the sustainable management of Northland’s air resource including its physical, amenity and aesthetic qualities by avoiding, remedying or mitigating adverse effects on the environment from the discharge of contaminants to air, and as Objective 2, the maintenance and, where necessary, enhancement of the quality of the environment so that it is free from noxious, dangerous, offensive or objectionable adverse effects associated with discharges to air, such as odour, dust, smoke and poor visibility. The third objective is the reduction and minimization of adverse effects from discharges of contaminants to air of global significance, such as greenhouse gases or ozone depleting substances, in agreement with government policy.

The Precautionary Approach

44. The precautionary approach is specifically mandated in Policy 5 of the Northland Air Quality Plan: “where the discharges of activities are unknown or not well understood, to adopt a precautionary approach to the granting of resource consents for the discharge of contaminants to air where it is considered that the effects of such discharges on the environment may be significant.”
45. In light of inadequate information about natural processes and effects, a precautionary approach should be adopted towards the proposed discharge, particularly those whose

- effects are as yet unknown or little understood. Under Policy 3.3.1 of the National Coastal Policy Statement, a precautionary approach is required because there is a relative lack of understanding about coastal processes and the effects of activities on coastal processes.
46. Policy 9.8 of the Northland Regional Policy Statement similarly provides that the Regional Council shall adopt a precautionary approach. “Where the effects of activities on a resource are unknown or not well understood, a precautionary approach should be adopted.” Policy 22.7 is to adopt a precautionary approach to coastal management where knowledge is limited about the likely impact of the natural character of the coast of the effects of subdivision, use and development in the coastal environment.”
47. The precautionary approach assumes that the effects of an activity are as yet unknown or little understood. This needs to be acknowledged in the decision making process when considering applications for resource consents where the effects are as yet unknown or little understood or where the functioning of marine ecosystems is poorly understood.
48. The Court in *Golden Bay Marine Farmers* W042/01 6 NZED 399, para. 420 concluded that “where activities take place in the coastal environment, the precautionary principle as the precautionary approach should be applied where the potential effects are unknown or partially unknown (NZCPS) and RPS.”
49. Judge Sheppard stated in *McIntyre v Christchurch City Council* [1996] NZRMA 289 304 that

We distinguish between the policy of the Resource Management Act and a general precautionary principle of environmental law.

The influence of the general precautionary principle on the evaluation and ultimate judgment is a matter of discretion. None of the cases supports the application of a formal threshold. Like all elements that contribute to the ultimate judgment, the weight to be given to the precautionary principle would depend on the circumstances. The circumstances would include the extent of present scientific knowledge, and the impact on otherwise permitted activities.

Opening Submissions of Counsel for Greenpeace New Zealand, Inc.

However we think that in an appropriate case they would also include the gravity of the effects if, despite present uncertainty, they do occur.

50. The *McIntyre* approach was followed by Judge Skelton in *J Crooks and Sons Limited v Invercargill City Council* C081/97, 99-100 in concluding

“In this decision the Tribunal referred to the discretionary judgment whether to grant or refuse resource consent that is provided for by section 105(1) of the Act which is to be exercised after considering the application in the light of the relevant matters in section 104, and we add, informed by the relevant matters in Part II of the Act.

It concluded that the general precautionary principle which has been adopted in some overseas jurisdictions would be applicable and influential as a matter of discretion on such an evaluation and ultimate judgment. It is not a matter of threshold. Like all elements that contribute to the ultimate judgment the weight to be given to the precautionary principle would depend on the circumstances. These would include the extent of present scientific knowledge and the impacts on otherwise permitted activities. In an appropriate case they could also include the gravity of the effects if, despite present uncertainty, those effects were to occur.”

For the purposes of determining this case we respectfully adopt that approach to the so-called "precautionary principle".

51. The Court in *Wratten v Tasman District Council* W008/98, 4 ELRNZ 148, 169 cited *McIntyre* and cited the precautionary principle from Principle 15 of the Rio Declaration on Environment and Development.

“In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to protect environmental degradation.’

The main points taken from this principle are that it applies where there is a threat of serious or irreversible damage, and that lack of knowledge should not be used as an excuse to delay preventative action.”

52. In summary, the application of the precautionary principle under s 104(1)(i) is, in our submission, well established as a means for addressing scientific uncertainty. It is not restricted to the assessment of probability of effects under s 3, and is not subsumed by the general ‘cautious’ policy of the RMA. It is, in our submission, quite different from assessment of the probability of effects. It comes into play when the extent, probability,

likelihood or impact of the effects are not known, due to inadequate scientific knowledge.

It means this Committee cannot shut its eyes and ignore uncertainty or lack of knowledge.

53. The Court in *Jackson Bay* noted (para. 132) that implicit within the prospect of sustainable management is the need to conserve natural and physical resources for future generations.

54. This approach should also carry through to the threshold chosen. Dr Hickey variously adopts a 95% and 99% percentile value in assessing effects. Ms Kidd-Smith claims (Part 2, para 56) that the proposal will meet the AE Water Quality Class in the Third Schedule, being no adverse effect on aquatic life, in addition to the requirement under section 107(1)(g) of the Act that there be “no significant adverse effect on aquatic life.” This assurance can be contrasted with the request of Mr Daysh for MRP, on page 27 of Exhibit SGD1, that the condition “there shall be no acute toxicity, or significant adverse effects of chronic toxicity, to natural aquatic life by reason of a concentration of toxic substances” be deleted. Clearly MRP do not want to have a condition guarantee their assurance stated in evidence, or even to guarantee compliance with section 107(1)(g).

Our witnesses will show that there is adverse effect, in the accumulation of various toxins, in marine life, including the particularly toxic effects of copper and mercury on larvae and juvenile shellfish and finfish.

(i) the effects of climate change and (j) the benefits to be derived from the use and development of renewable energy.

55. “Climate change” is defined in section 2 of the RMA as: “... a change of climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and that is in addition to natural climate variability observed over comparable time periods.” “Renewable energy” is defined in section 2 of the RMA as “... energy

produced from solar, wind, hydro, geothermal, biomass, tidal, wave, and ocean current sources.”

56. Professor Sims will give evidence that a large and increasing body of evidence indicates that due to climate change, the world is likely to experience a rise in temperature, resulting in increasing sea levels, more frequent extreme weather events and a change in rainfall patterns. These climatic changes will potentially impact on New Zealand native ecosystems, industries, infrastructure, health, biosecurity and economy. In the long term, if unchecked, climate change increases the risk of major and irreversible changes to the Earth.
57. In our submission, these changes may not glibly be dismissed. They are pivotal to the sustainable management and go to the heart of the Act. The legislature has not, as is popularly believed, prevented Councils from considering climate change. Far from it. Parliament amended section 7 to make climate change and renewable energy a Part 2 matter, and at the same time, specifically provided in section 104E that climate change is relevant to considerations, to the extent that renewable energy enables a reduction in the discharge into the air of greenhouses gases. Greenpeace has followed both the spirit and letter of these amendments, in strongly and actively supporting wind power, notably in the Environment Court relating to Genesis Energy’s proposed Awhitu wind farm, alongside Mighty River Power, which also supported the wind farm, and also more recently with respect to the proposed West Wind wind farm, which will provide over 200 megawatts of energy. These matters are further discussed below in the context of section 104E in paragraph 63.

58. It is worth noting that the Environment Court⁸, before that amendment to section 7, found that *“On the evidence presented to us, we find that the greenhouse effect and the possibility of climate change are a matter of serious concern. It is difficult to assess the degree of concern because there are widely differing opinions as to the likely environmental consequences. However the weight of scientific opinion is such, that on balance, the threat posed by the enhanced greenhouse effect is sufficiently significant for us to conclude that the greenhouse effect is likely to result in significant changes to the global environment, including New Zealand and the Auckland region.”*

Section 104D and Status of Activity

59. A non-complying activity is under section 77B(5) one which is described as such in the Plan. The Northland Coastal Plan, which is operative, defines a non-complying activity as on which contravenes a rule in the Plan (Section 31/page 224). The proposal, where it discharges water other than cooling or stormwater, breaches Rule 31.4.6(b), since it is not free from any contaminant, as well as the more specific 31.4.6(i), being “the taking, use and discharge of cooling water and the discharge of stormwater from the Marsden A and B power station sites”. The relevant standards, 31.4.13, include the requirement that the discharges to water, after reasonable mixing, comply with the relevant receiving water quality standards, and shall not contain any contaminants which could cause, *inter alia*, (iv) accumulation of debris on the foreshore or seabed underlying or adjacent to the discharge point (being dead and dying organisms) and (v) any significant adverse effects on aquatic life or public health. In our submission it breaches this rule and is thus non-complying. It must be emphasised that (i) is a specific rule addressed to Marsden B cooling water, and contrary to the suggestion of Ms Kydd-Smith (Para. 36, page 12), in

⁸ *Environmental Defence Society (Inc) v Auckland Regional Council* A183/02 [2002] 11 NZRMA 492, page 19 para.

our submission it cannot be sustained that since the discharge also includes contaminants from treated wastewater, it is not provided by that Rule. It breaches that Rule, and thus renders the activity non-complying. It is also relevant that Policy 19.4.10 is “to adopt a permissive approach to the discharge of cooling water to the coastal marine area, provided no contaminant other than heat is involved and any adverse effects on the coastal marine area are minor.” [emphasis added] This is a specific policy addressed to the discharge of cooling water, and the fact that Marsden B has chosen to add contaminants to its cooling water does not exempt it from the policy or the rule made under it.

60. In this context, counsel for MRP submits that the discharge of combined cooling and wastewater is classified as innominate (para. 17) and cites section 77C of the Act. However section 77C(1)(a) applies where there is no relevant rule in the plan. There is such a rule, being Rule 31.4.6(i) of the Coastal Plan. The discharge of cooling water is specifically addressed. By adding contaminants, the Applicant does not avoid the application of the Rule but breaches the Rule, thus making the activity non-complying. MRP has accepted (para. 18 Counsel submissions) that the most stringent activity status must apply to the assessment of the entire consent. Thus, in our submission, the whole activity must be treated as non-complying.
61. Section 104D provides for high threshold tests for non-complying activities:
- (1) Despite any decision made for the purpose of section 93 in relation to minor effects, a consent authority may grant a resource consent for a non-complying activity only if it is satisfied that either-
 - (a) the adverse effects of the activity on the environment (other than any effect to which section 104(3)(b) applies) will be minor; or
 - (b) the application is for an activity that will not be contrary to the objectives and policies of-
-

65.

Opening Submissions of Counsel for Greenpeace New Zealand, Inc.

- (i) the relevant plan, if there is a plan but no proposed plan in respect of the activity; or
 - (ii) the relevant proposed plan, if there is a proposed plan but no relevant plan in respect of the activity; or
 - (iii) both the relevant plan and the relevant proposed plan, if there is both a plan and a proposed plan in respect of the activity.
- (2) To avoid doubt, section 104(2) applies to the determination of an application for a non-complying activity.]

62. In our submission, clearly the adverse effects are not minor, and in our submission, the proposal would breach the objectives and policies of the Coastal Plan, including Objective 13, the maintenance, and, where practicable, enhancement of water quality within Northland's coastal marine area, as well as of the Northland Regional Air Quality Plan, discussed above in paragraph 43. Additional relevant objectives of the Coastal Plan include Objective 14.3.1, to maintain the high standard of air quality within Northland's coastal marine area.

Section 104E

63. Section 104E provides that when considering an application for a discharge permit relating to the discharge into air of greenhouse gases, a consent authority must not have regard to the effects of a discharge on climate change, except to the extent that the use and development of renewable energy enables a reduction in the discharge into air of greenhouse gases either (a) in absolute terms or (b) relative to the use and development of non-renewable energy.
64. It is therefore clear from the provisions of sections 7 and 104E that the councils assessing this application must have particular regard to the effects of climate change, must have particular regard to the benefits to be derived from the use and development of renewable energy, and must have regard to the effects of the Marsden B discharge of greenhouse gases on climate change to the extent that the use and development of renewable energy

enables a reduction in the discharge into air of greenhouse gases either (a) in absolute terms or (b) relative to the use and development of non-renewable energy.

65. Marsden B would emit from 1.8 million to 2.17 million tonnes of carbon dioxide per year. It would significantly impede New Zealand meeting the strategic directions set following the Climate Convention and the Kyoto Protocol. This coal station would increase the hurdles to renewable electricity generation in New Zealand in providing the coal industry with further effective subsidies including the failure to internalize the cost to the country and the environment of the emissions of greenhouse gases, the effect on the price and supply of electricity, effectively making renewable energy less competitive, and the failure to send strong signals to the electricity generating sector that generation of electricity by fossil fuels is to stop. Vanessa Atkinson will address the issue of the carbon charge.

Section 104(c)

66. Relevant considerations under section 104(c) include relevant international obligations. The United Nations Framework Convention on Climate Change (UNFCCC) is the overarching Convention addressing climate change. The 1997 Kyoto Protocol to the Convention shares the Convention's objective, principles and institutions, but significantly strengthens the Convention by committing Annex I Parties to individual, legally-binding targets to limit or reduce their greenhouse gas emissions. New Zealand has ratified the Kyoto Protocol, which entered into force on February 16, 2005. Individual targets for Annex I Parties, which include New Zealand, are listed in the Kyoto Protocol's Annex B. New Zealand's target is 100%, which means that New Zealand is required under the Protocol to reduce its greenhouse gas emissions back to 1990 levels on average during the first commitment period of 2008-2012. Meeting this target would require reductions in CO₂ emissions, but more drastic reductions would need to be negotiated for future commitment periods.

67. Renewable energy such as wind energy would significantly assist New Zealand to meet its obligations under the Kyoto Protocol whilst helping to meet New Zealand's growing electricity demand without increasing the use of thermal generation, a major contributor of greenhouse gases to climate change.
68. Also relevant is the Stockholm Convention on Persistent Organic Pollutants.⁹ Article 5 of the Convention states that: "[e]ach Party shall at a minimum take the following measures to reduce the total releases derived from anthropogenic sources of each of the chemicals listed in Annex C, with the goal of their continuing minimization and, where feasible, ultimate elimination:" Annex C includes dioxins.¹⁰

Section 105 and Alternatives

69. Section 105 provides that:
- (1) Where an application is for a discharge permit or coastal permit to do something that would otherwise contravene section 15 or 15B, the consent authority must, in addition to the matters in section 104(1), have regard to—
 - (a) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and
 - (b) the applicant's reasons for making the proposed choice; and
 - (c) any possible alternative methods of discharge, including discharge into any other receiving environment.
70. Dr Phyllis Fox in her evidence states that additional controls should have been used, including a dry cooling system to replace once through seawater cooling, a 99 plus percent efficient lime scrubber to remove sulphur dioxide; low NOx burners; a combination

⁹ Stockholm Convention on Persistent Organic Pollutants, entered into force 17 May 2004, text at http://www.pops.int/documents/convtext/convtext_en.pdf. Ratified by New Zealand in September 2004.

¹⁰ These measures include promoting the use of best available techniques and best environmental practices for new sources, which include fossil fuel-fired utility and industrial boilers. When applying best available techniques and best environmental practices, Parties should take into consideration the general guidance on prevention and release reduction measures in that Annex and guidelines on best available techniques and best environmental practices to be adopted by decision of the Conference of the Parties.

optimization system and a selective catalytic reduction system to reduce nitrogen oxides and organic compounds; a wet electrostatic precipitator to control acid mists; a more efficient particulate control device and a complete enclosure for the coal pile. Nor does the proposal include any technologies for mercury removal.

Section 107 and Discharges

71. Section 107 provides that

(1) Except as provided in subsection (2), a consent authority shall not grant a discharge permit or a coastal permit to do something that would otherwise contravene section 15 [or section 15A] allowing -

(a) The discharge of a contaminant or water into water; or

[(b) A discharge of a contaminant onto or into land in circumstances which may result in that contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) entering water; or

(ba) The dumping in the coastal marine area from any ship, aircraft, or offshore installation of any waste or other matter that is a contaminant, -]

if, after reasonable mixing, the contaminant or water discharged (either by itself or in combination with the same, similar, or other contaminants or water), is likely to give rise to all or any of the following effects in the receiving waters:

(c) The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials:

(d) Any conspicuous change in the colour or visual clarity:

(e) Any emission of objectionable odour:

(f) The rendering of fresh water unsuitable for consumption by farm animals:

(g) Any significant adverse effects on aquatic life.

72. None of the exceptions in subsection 2 apply (exceptional circumstances, temporary nature or necessary maintenance work).

73. Our witnesses and the witnesses of other submitters such as the Whangarei Citizens Association will show that there are likely to be significant adverse effects on aquatic life. The effect of many heavy metals such as the effects of copper on shellfish larvae, turbidity (see evidence of Shelley Anderson), dioxins, and even entrainment of aquatic organisms in the water intake all could fall under section 107. Counsel for MRP has acknowledged that

“to monitor the number of marine organisms entrained would be fruitless (not to mention impossible).” (Counsel submissions para. 35) High levels of mercury in shellfish and finfish, rendering them unsafe for human consumption, would also be as a significant adverse effect on aquatic life. It must be noted that effects include cumulative effects, and potential effects of low probability which have a high potential impact, under section 3 of the Act. They would also mean the project would breach the Regional Coastal Plan standard 31.4.14 (c)(iv) any significant adverse effect on aquatic life or public health.¹¹

CONCLUSION

74. In our submission, the proposed consents cannot and should not be granted.
75. They breach section 107(1)(g) in giving rise to significant adverse effects on aquatic life, they breach the Air Quality Guidelines, in being likely at any time to cause the concentration of sulphur dioxide to breach the air quality standards, and being non-complying in terms of the Northland Coastal Plan, give rise to effects that are more than minor and that breach the Plan’s Objectives.
76. In addition, and if the Committee does not uphold either of the above submissions, the many adverse environmental effects, particularly of the discharges to air, water, and the effects of the carbon dioxide emissions on climate change, to the extent that the use and development of renewable energy enables a reduction into air of greenhouse gases, mean that the proposal does not promote the sustainable management of natural and physical resources under section 5 of the Act. The project has a low degree of sustainability in terms of natural and physical resources and waste production, and contaminant discharges to air, water and land.

¹¹ See first evidence of Janeen Kydd-Smith page 11.

77. In reaching this conclusion, the Committee should recognise and provide for the matters of national importance in section 6 of the Act, including the preservation of the natural character of the coastal environment, bearing in mind the irreversible nature of the various discharges, and the protection of the coastal environment from inappropriate use, the protection of the coastal habitats of indigenous fauna, and the relationship of Maori and their culture and traditions with water and other taonga. The Committee should also in considering the discharges to air and water have particular regard to kaitakitanga, the ethic of stewardship, the maintenance and enhancement of amenity values, the intrinsic values of ecosystems, and the maintenance and enhancement of the quality of the environment. The Committee should also have particular regard to the effects of climate change and the benefits to be derived from the use and development of renewable energy, in light of the 2 million ton discharge of CO² and the effect on renewable energy in New Zealand.