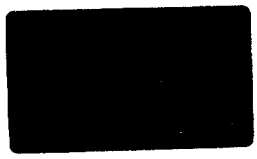
IN THE HIGH COURT OF NEW ZEALAND
WELLINGTON REGISTRY

AP177/00



IN THE MATTER of the Hazardous Substances and New Organisms Act 1996

AND

IN THE MATTER of an appeal pursuant to s126 of the Act against decision GMF98009 of the Environmental Risk Management Authority

436

BETWEEN CLAIRE BLEAKLEY

Appellant

AND ENVIRONMENTAL RISK MANAGEMENT AUTHORITY

Respondent

Coram: McGechan and Goddard JJ

Hearing: 7, 8 and 9 February 2001

Counsel:
J P Ferguson, S M Sharpe and MCW Hickford for Appellants Bleakley, Wierzbicki, Webster (Ngati Wairere) and McGuiness
M T Scholtens and H A Sharpe for Respondent Environmental Risk Management Authority
JBM Smith and K B Marshall for New Zealand Pastoral Agriculture Research Institute Limited ("Ag Research") and Multiple Sclerosis Society of New Zealand Inc.
A D McMecham for New Zealand Dairy Board (leave to withdraw)
A E N Greensill in person

Decision: 2 May 2001

RESERVED DECISION OF McGECHAN J

Solicitors:
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Office Solicitor, Environmental Risk Management Authority
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Rudd Watts & Stone, Wellington, for New Zealand Dairy Board

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PRELIMINARY

[1] This proceeding comprises appeals under s126 and otherwise under Part VIII of the Hazardous Substances and New Organisms Act 1996 ("the Act"). They are against a decision of a special committee of the Environmental Risk Management Authority, frequently termed "ERMA" and which I will term "the Authority". That decision dated 21 July 2000 approved the following organism for field testing, with controls:

> "*Bos taurus* (cattle): Construct: Myelin Basic Protein (MBP) cattle (insertion of sequence coding for human myelin basic protein); Phenotype: expression of the human myelin basic protein in the milk of genetically modified cattle."

The decision concerned was made by a Committee constituted under s19(2)(b) of the Act. Under s19(3) it is to be treated as though it were a decision of the Authority, and it will be termed for convenience a decision of the Authority.

[2] This Court does not have *de novo* Appellate jurisdiction under which it could reassess the Authority's decision upon its merits, reaching perhaps a different view whether consent is warranted. We do not have power to engage in a second stage general reconsideration. The Court's jurisdiction is limited by s126(1) to questions of law arising in relation to the Authority's decision. While the present proceeding is viewed as of some importance from a legal perspective, being the first of its kind brought under the Act, it is not a vehicle for discussion of the rights or wrongs of genetic engineering from a moral or social standpoint, and persons interested only in those perspectives should look elsewhere.

SOME BACKGROUND : THE APPLICATION

[3] Ag Research is seeking to develop through genetic modification a class of Friesian cow which will produce milk containing the human myelin basic protein. It is hoped the milk will assist in research into multiple sclerosis. It is also seen as basic research in an area—dairy technology—important to this country.

[4] The activity involved falls within the Act. As such, it requires approval by the Authority at three stages.

[5] The first was development of genetically modified embryos under laboratory conditions. Under a quirk in the legislation, that approval does not call for public notification, and was given. Ag Research has been successful.

[6] The second is for field testing. This involves the gestation of the embryos in surrogate cows, and eventually production of milk down through sufficient generations. That is the approval currently sought, and which has been granted subject to this appeal. (The embryos are currently in gestation, blissfully unaware of the problems they are generating, with births due from June 2001 onwards.

[7] The third is for release. That is not (yet) sought.

[8] The development and field testing work is carried out at Ag Research's secure research facility at Ruakura in the Waikato. The land on which the facility stands has been transferred in recent times to Tainui as part of the Raupatu settlement. It was and remains subject to a lease or licence of some variety to the Crown for Ag Research purposes. It stands on ancestral lands of the Ngati Wairere hapu.

[9] Ag Research's original application under s40, dated 15 March 1999, sought approval for field testing of three constructs designed to affect milk. The first two related to casein and beta-lactoglobulin. The required notification drew numerous objections, both general and Maori. I have no difficulty in taking judicial notice of the fact that genetic modifications currently are a controversial topic, and the topic is indeed the subject of a Commission of Inquiry.

[10] The Authority appointed its special Committee. After hearings on 25 August 1999, the Authority approved the first two constructs subject to controls. The third, presently relevant, with its human sequence code aspect, was adjourned for further input from Maori. After further dialogue, including a hui, opposition remained. Opposition has a twofold basis, as will be discussed. On 21 July 2000 the Authority

gave its approval to the third construct, again subject to controls. These appeals have followed.

[11] The Authority has been in breach of statutory directions in s59(2) as to times within which decisions are required. No point has been taken in that regard. Nor should it be. The time limits are directory only, and in a case of this significance are impracticable.

THE LEGISLATION

[12] The Act has its procedural complexities.

[13] Ag Research was required to obtain approval from the Authority for the proposed field testing under s39(1)(b) and s40(1)(c). Approval is governed by s45 and cross-reference within s45 to ss44 and thus 37.

[14] Section 45 provides:

> **"45. Determination of application—**
>
> (1) After considering any application for approval made under section 40 of this Act, the Authority (if the application is not approved under section 42 of this Act) may, in its discretion,--
>
> (a) Approve the application if--
>
> (i) The application is for one of the purposes specified in section 39(1) of this Act; and
>
> (ii) After taking into account all the effects of the organism and any inseparable organism, including, but not limited to, the effects on the matters in section 43 of this Act (for applications made under section 40(1)(b) of this Act) or the matters in section 44 of this Act (for applications made under section 40(1)(a) or (c) of this Act), the beneficial effects of having the organism in containment outweigh the adverse effects of the organism and any inseparable organism should the organism escape; and

(iii) The Authority is satisfied that the organism can be adequately contained; or

(b) Decline the application in any other case.

(2) The application may be approved subject to controls to provide for each of the matters specified in the Third Schedule to this Act.

(3) The Authority shall give its decision in writing, including reasons for the decision, give written notice of the decision to the applicant and every person who made a submission, and publicly notify the decision."

[15] Section 44, so cross-referenced, provides:

> **"44. Additional matters to be considered on applications for importing and field testing of organisms—**
>
> The Authority, when making a decision under section 45 of this Act, on an application made under section 40(1)(a) or (c) of this Act, shall have regard to--
>
> (a) The matters in section 37 of this Act; and
>
> (b) The ability of the organism to escape from containment."

[16] Section 37, so brought in by ss45 and 44, provides:

> **"37. Additional matters to be considered—**
>
> The Authority, when making a decision under section 38 of this Act, shall have regard to--
>
> (a) The ability of the organism to establish an undesirable self-sustaining population; and
>
> (b) The ease with which the organism could be eradicated if it established an undesirable self-sustaining population."

[17] While going through these hoops the Authority was required under Part II of the Act to pay heed (to speak neutrally for the moment) to a range of stated considerations. I set out the relevant provisions of Part II:

"PART II -- PURPOSE OF ACT

4 PURPOSE OF ACT—

The purpose of this Act is to protect the environment, and the health and safety of people and communities, by preventing or managing the adverse effects of hazardous substances and new organisms.

5 PRINCIPLES RELEVANT TO PURPOSE OF ACT—

All persons exercising functions, powers, and duties under this Act shall, to achieve the purpose of this Act, recognise and provide for the following principles:

(a) The safeguarding of the life-supporting capacity of air, water, soil, and ecosystems:

(b) The maintenance and enhancement of the capacity of people and communities to provide for their own economic, social, and cultural wellbeing and for the reasonably foreseeable needs of future generations.

6 MATTERS RELEVANT TO PURPOSE OF ACT—

All persons exercising functions, powers, and duties under this Act shall, to achieve the purpose of this Act, take into account the following matters:

(a) The sustainability of all native and valued introduced flora and fauna:
(b The intrinsic value of ecosystems:
(c) Public health:
(d) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, valued flora and fauna, and other taonga:
(e) The economic and related benefits to be derived from the use of a particular hazardous substance or new organism:
(f) New Zealand's international obligations.

7 PRECAUTIONARY APPROACH--

All persons exercising functions, powers, and duties under this Act, including but not limited to, functions, powers, and duties under sections 29, 32, 38, 45, and 48 of this Act, shall take into account the need for caution in managing adverse effects where there is scientific and technical uncertainty about those effects.

8 TREATY OF WAITANGI--

All persons exercising powers and functions under this Act shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).

9 **METHODOLOGY TO BE USED--**

(1) The Governor-General may from time to time, by Order in Council, establish a methodology (which includes an assessment of monetary and non-monetary costs and benefits) for making decisions under Part V of this Act; and the Authority shall consistently apply that methodology when making such decisions. . ."

[18] The Order in Council establishing methodology envisaged in s9(1) is the Hazardous Substances and New Organisms (Methodology) Order 1998, SR 1998/217 (which I term the "Methodology Order"). To a significant extent the Methodology Order merely repeats requirements already laid down in the Act, but as doubtless was envisaged it adds additional and detailed requirements of a risk management character. It is convenient to defer quotation from the Order to a later point. Suffice it to say, for present, that there are specific provisions requiring the use of recognised risk identification, assessment, evaluation and management techniques, requirements as to treatment of uncertainty, requirements in the course of evaluations to combine groups of risks costs and benefits using common units of measurement where possible, and to state the criteria in the Act and in the methodology relied upon by the Authority in reaching its decision, along with the reasons for the decision.

THE DECISION

[19] The decision dated 21 July 2000 is of some length. For the most part a summary must suffice. Where the wording of particular passages or the exact treatment of particular topics assumes high importance further quotation will be provided at a later point.

[20] The Committee opened by recording the application process, hearings, submitters, additional information obtained, and legislative criteria applicable by reference to section numbers and to the Methodology Order. It then noted the scope of the application: to produce and field test in containment cattle containing a genetic

construct coding for a human protein ("MBP") in order to evaluate the milk produced. The cows were expected to produce human MBP in their milk. The development of the embryos, it was noted, already had been approved. The application was to be undertaken at Ruakura, within the capacity of the containment facility. In essence, it was said, the application comprised an extension of research already undertaken.

[21] The Committee then turned to so-called "key issues" derived obviously enough by reference to the legislation. The completeness of these being something of an issue in itself, I quote the passage concerned:

> "**Key Issues**
>
> The Committee's consideration of the application encompassed those matters relevant to the application, and included:
>
> 1. The adequacy of the proposed containment regime, including:
>
> i. the ability of the organism or any heritable material to escape from containment including:
>
> - breach of containment following deliberate action
> - containment of bulls
> - containment of semen and ova.
>
> ii. the ability of the organism to establish a self-sustaining population
>
> iii. the ease of eradication of any population established.
>
> Other containment issues considered, included:
>
> i. disposal of genetically modified cattle
> ii. disposal of surrogate mothers
> iii. disposal of milk.
>
> 2. The effects of the organism, including:
>
> i. animal welfare issues
> ii. risks of the environment
> iii. risks to public health
> iv. risks to the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, valued flora and fauna, and other taonga
> v. the maintenance and enhancement of the capacity of people and communities to provide for their own economic, social, and cultural wellbeing and for the reasonably foreseeable needs of future generations.

3. The principles of the Treaty of Waitangi and in particular the requirement to consult effectively.

4. The benefits to be derived from the application."

[22] The Committee then dealt with these issues—or some of them—seriatim.

[23] As to the adequacy of the containment regime, the Committee was satisfied there would be adequate containment, with the possibility of an escape very low, and with sufficient controls over retention of semen and ova. The probability of establishment of a self-sustaining population, or entry into the national herd through undetected breeding was likewise very low. The Committee noted carcasses and the like would be buried onsite in manner minimising leaching to aquifers, surrogate cows which had not become pregnant would be released only after specified scanning and delays, and disposal of milk would be by incineration or spraying onsite after treatment to destroy any cells.

[24] As to the effects of the organism, the Committee was satisfied animal welfare was covered by the applicable legislation and by animal ethics constraints with associated reporting; and that there was no identifiable risk of entry of genetically modified cattle into the human food chain (considered subsequently as a public health issue, and dismissed as such). Genetically modified cattle posed no greater risk to the environment than ordinary cattle. The possibility of escape was very low. Risks posed to the environment were therefore "negligible". Human consumption of meat or milk was not intended, and the probability was very low. If it occurred, as MBP was a protein it was highly likely it would be inactivated by cooking and gastric acid and enzymes. If not, no adverse effect was anticipated. Approvals would be required for any future pharmaceutical products. The Committee then proceeded to consider long-term unanticipated health effects. The Committee noted submissions that there was still uncertainty as to the consequences of genetic modification, and that Ag Research could not provide an assurance against unanticipated long-term adverse effects on the environment or human health. The Committee noted those issues could be considered under s5(b) and s7, and did "not dismiss" the concerns. However, in the Committee's view they were to be regarded as "more relevant" to release applications than to research in containment. The

"caution" requirement related to adequacy of containment and management, in which regard risks were negligible for current and future generations.

[25] Risks to the relationship of Maori and their culture and traditions with taonga were dealt with under differing majority and minority findings.

[26] The majority noted Ngati Wairere's belief that genetic modification involving different species was contrary to their tikanga, as it interfered with whakapapa and mauri of both species involved. The majority noted belief Ngati Wairere kaitiakitanga extended to cattle which could be regarded as "valued species" under s6(d). It noted belief genetic modification may result in adverse health consequences or death to Ngati Wairere. The basic unacceptability to Ngati Wairere of transgenic modification could not be ameliorated. Approaching matters under s6(d), the majority held the beliefs at issue did not justify declining the application relative to the benefits, in knowledge terms, of the research proceeding. Approaching the matter under s8 the majority noted Treaty principles, beneath the overarching principle of partnership, included the duty of active protection of Maori interests and taonga. The Committee noted Ngati Wairere's claim that whakapapa and mauri, as central elements of tikanga, were taonga requiring active protection; but considered decision lay with the Authority not Ngati Wairere. The majority noted that spiritual beliefs "are different" from taonga as understood in previous cases and "are not amenable to active protection in the same way as more tangible taonga". Active protection as sought by Ngati Wairere would mean decisions under the Act should be made according to tenets of Maori spiritual beliefs, as defined from time to time, and the principles of the Treaty do not go so far. The need for active protection of spiritual beliefs did not make such "the determinant" whether the research should be approved. In practical terms, declining the application would be a precedent which would mean all transgenic modifications would be declined. The Committee recommended ongoing consultation and evaluation.

[27] The minority invoked the Treaty obligation of active protection of taonga. Taonga include the intangible. The most sacred taonga is "man". Whakapapa is the central (albeit spiritual) value which maintains the mauri (life force). To compromise whakapapa by genetic modifications which could not occur naturally is

against tikanga. It breaches the principle of active protection. No criterion had been established to assess the cultural and spiritual risks to Maori, and no methodology was followed in weighing up those risks against costs and benefits. The risks have not been adequately understood or assessed: there were "very significant risks" to Ngati Wairere cultural physical and spiritual values "and to their health and wellbeing" which could not be ameliorated or compromised. Illness or even death cannot be lightly discounted. Cultural issues far outweigh the information benefits. Further concerns were expressed at contamination or destruction of natural features, destroying the mauri and unbalancing the wairua (spirit) of those taonga. The proposed containment and controls did not bear on the issue. There was concern at the precedent potential of the decision, and at repeated effects. There was a need for the Authority to consult with Maori expertise, and for a wider debate. The research effects were "blatant breaches" of the Treaty and it should not proceed.

[28] The decision does not deal, or deal further, with the Authority's subheading 2(v) relating to capacity to provide for wellbeing and future needs, or (3) relating to principles of the Treaty under specific headings. It moves to the question of benefits to be derived, and then to an "overall evaluation".

[29] As to benefits to be derived, the principal benefit ("as with all research") is the scientific knowledge expected to be gained. There were indirect benefits through the research being undertaken in New Zealand. Longer term, there may be downstream benefits from commercial applications, but such at present are speculative. The degree of "long-term benefit", "as with all fundamental research" is difficult to quantify. Exploratory research is put as an essential prerequisite of scientific progress. The Committee then added that given the significance of dairy and pastoral industries in New Zealand, research institutions should be at the "leading edge" in the area.

[30] The Committee then gave the following "overall evaluation":

> **"The overall evaluation of risks, costs and benefits and conclusions**
>
> 1. Pursuant to section 45(1)(a)(i) of the Act, the Committee is satisfied that this application is for one of the purposes

specified in section 39(1) of the Act, being section 39(1)(b): Field testing any new organism.

2. The physical risks to the environment and human health from the possible escape of the genetically modified MBP cattle are considered to be negligible, given the nature and extent of the containment and cattle management regime set out in this decision.

3. As regards the MBP construct, the Majority concluded that the risks to the relationship between Maori, and in particular Ngati Wairere, and their taonga, are not sufficient to justify declining the application, and there are counterbalancing scientific benefits to be obtained from the proposed research.

4. The Minority however concluded that the risks to the relationship between Maori, and in particular Ngati Wairere, and their taonga, and the breaches to the principles of the Treaty of Waitangi are significant, and the application should be declined.

5. Having considered all the possible effects of the organism, in accordance with sections 45(1)(a)(ii) and (iii) of the Act, the Majority is thus of the view based on consideration and analysis of the information provided and taking into account the application of risk management controls specified in this decision, that the risks of adverse effects associated with the field testing of genetically modified cattle containing this modification, are outweighed by the benefits of conducting the research in containment.

6. The Committee is satisfied that the proposed containment regime together with the additional controls imposed will adequately contain the organism.

7. The application for field testing of cattle containing the MBP construct is thus approved, with controls."

THE APPEALS

[31] The principal appeal (Bleakley et al, supra) dated 21 August 2000 advances 18 asserted errors of law, put as questions of law, many overlapping. A notice of further grounds of appeal filed under s131 by Professor Wills advances two more. A like s131 notice by N. K. Wierzbicki added six, of which three (paras 3, 5, and 6) were not pursued.

[32] Pre-trial directions required the advance filing of written submissions, which were not to be repetitive of those filed in the principal appeal. Ms Greensill did not file a separate s131 notice, but gave notice under s128 and filed a submission in general support of submissions made by counsel on the principal appeal. Professor Wills filed written submissions. Mr Wierzbicki did not.

[33] One formulation regularly adopted as a component of asserted errors or questions of law was that the Authority reached a decision "...so unreasonable that no reasonable Authority properly directing itself in law and considering the evidence could have reached such a decision". That looks very like administrative law *Wednesbury* unreasonableness. In submissions, however, counsel rather reformulated the assertions as "no evidence" error of law, and after discussion confirmed that is the sense in which the formulation concerned is to be understood.

[34] I record that in course of hearing counsel for the principal Appellants sought to introduce an additional argument postulating a particular approach to s45. Objections were raised by counsel for the Authority and Ag Research on the basis such constituted a new point, as opposed to an additional ground supporting an existing point, thus contravening Rule 706. The Authority subsequently modified its objection, abiding decision. The objection by Ag Research stands. Considerable argument already having been heard, I chose to reserve the objection and to hear full argument on the merits. I will return to this additional argument at a later point.

[35] Putting that last matter aside, counsel for the principal Appellants helpfully categorised the various questions and errors of law raised in all appeals under seven headings:

> "(a) Maori and Treaty issues – grounds of appeal 1, 2, 3, 12 and 17 in the notice of appeal of Ms Bleakley dated 21 August 2000;
>
> (b) Disposal of surrogate cows and milk – grounds of appeal 4, 5 and 6 in the notice of appeal of Ms Bleakley dated 21 August 2000;
>
> (c) Effect on people and communities – grounds 7 and 8 of the notice of appeal by Ms Bleakley dated 21 August 2000 (ground 1 in Mr Wills' notice of additional grounds for appeal dated 11 September 2000 is perhaps most closely aligned to these grounds);

(d) Scientific uncertainty/precautionary principle – grounds 9, 10 and 11 of the notice of appeal of Ms Bleakley dated 21 August 2000 and ground 2 of the additional points of appeal of Mr Wierzbicki dated 19 September 2000;

(e) Failure to apply the methodology – grounds 13, 14, 16 and 18 of the notice of appeal by Ms Bleakley dated 21 August 2000 (ground 2 in Mr Wills' notice of additional grounds for appeal dated 11 September 2000 is perhaps most closely aligned to these grounds);

(f) External scientific advisor – ground 4 of the additional grounds of appeal of Mr Wierzbicki dated 19 September 2000;

(g) Precedent effect – ground 15 of the notice of appeal of Ms Bleakley dated 21 August 2000 and ground 1 of the additional grounds of appeal of Mr Wierzbicki dated 19 September 2000."

That categorisation is somewhat uneasy in its absorption of some of the Wills and Wierzbicki appeal points, but was adopted by Ag Research for the purpose of analysis. In that light, I will do the same. The precise questions raised will be quoted at the outset of each category as dealt with.

MAORI AND TREATY ISSUES

Bleakley Paragraphs 1, 2, 3, 12, 17

"1. The Environmental Risk Management Authority ("the Authority") erred in law and misdirected itself in determining that the term "taonga" in section 6(d) of the Hazardous Substances and New Organisms Act 1996 ("the Act") is limited in its meaning to physical and/or tangible taonga.

2. The Authority erred in law in failing to take into account in terms of section 6(d) of the Act the relationship of Maori and their culture and traditions with their spiritual taonga.

3. The Authority erred in law and misdirected itself in determining that in terms of section 8 of the Act spiritual taonga are not amenable to the Treaty principle of active protection in the same way as "tangible taonga".

12. The Authority erred in law and applied the wrong legal test in considering the beliefs of Ngati Wairere (as opposed to considering the adverse effects of the field test taking into account those beliefs) relative to the benefits of the research and in determining that "the beliefs at issue" relative to the benefits were not such as to justify declining the application, and its decision thereon was so unreasonable that no reasonable Authority properly directing itself in law and considering the evidence could make such a decision.

17. The Authority erred in law and applied the wrong legal test in determining that where the other requirements of the Act are met, Maori spiritual values and beliefs cannot prevail."

[36] Counsel did not pursue the concluding "unreasonable" arm of paragraph 12.

[37] I will set out in some detail various submissions on these controversial issues, not only so it is known what was put before the Court, but so that it can be known in the future what was *not* put forward.

Principal Appellant's Submissions

[38] Counsel for the principal Appellants put the concerns of Maori (Ngati Wairere) in the following admittedly simplified form. I include some oral expansion:

(i) Ngati Wairere has mana whenua over the land concerned.

(ii) The land is a taonga of Waikato and Ngati Wairere (all land is—it is not asserted this land has some unique characteristic).

(iii) The concept of taonga includes whakapapa (genealogical links to territory and to all living things) and mauri (roughly, life force, possessed by all things). The "tangible" and "intangible" aspects of taonga are inseparable. I add for clarity that the concepts of whakapapa and mauri—essentially spiritual beliefs—are put as taonga in their own right, and not necessarily as an aspect of some tangible taonga.

(iv) Interference by genetic modification, particularly human, is irreconcilable with and offensive to the cultural and spiritual values inherent in these taonga.

(v) There will be effects, or an unmeasured risk of effects, identified by reference to assorted submissions and documentation. I distil these as (a) offence to the cultural and spiritual values concerned in their own

right (b) desecration of the land concerned, diminishing its utility to Ngati Wairere even after whakanoa (cleansing) (c) risks resulting from the metaphysical imbalances to the environment and to general well-being, which risks extend to physical and mental health. The evidence invoked referred in particular to mate Maori (said to be often misdiagnosed as schizophrenia) and even to death.

[39] Against the background of those concerns, counsel submitted Part II requires "special consideration" to be given to Maori interests and Treaty principles, avoiding any narrow construction. Reliance was placed on judicial pronouncements in relation to the "not dissimilar" provisions of the Resource Management Act 1991 ss6(e), 7(a), and 8.

[40] Taking Bleakley paragraphs 1, 2 and 3 as interrelated, counsel submitted the Authority erred by referring to a dichotomy between "spiritual/intangible" taonga on the one hand and "physical/tangible" taonga on the other. The Authority erred further, it is said, by determining that ("effectively") a higher threshold exists when alleged effects are spiritual and unconnected to physical taonga. That analysis is flawed: there is no such differentiation in the holistic Maori world, and it disregards the fact activity will take place on Ngati Wairere land. Counsel submitted it has been recognised in both Courts and the Waitangi Tribunal that provision is to be made for both physical and spiritual taonga, without differing standards (I dispense with citations).

[41] Turning to s6(d) counsel submitted, consistently, "other taonga" should not be read as limited by the preceding words—which refer to the tangible—but should be construed in terms of the remainder of s6 and the purpose of the Act. Unlike s6 of the Resource Management Act, s6 of the Act extends to intangible concepts. Further, it was added orally, it is "inconceivable" that Parliament did not intend the Treaty and thus wider traditional meaning. The Authority, however, had not taken that approach. Despite initial acknowledgement (p5) that it was required to assess weight to be given to "taonga which are spiritual beliefs in themselves", it proceeded to favour protection of taonga only where taonga were clearly definable and other options were open, and concluded that "spiritual beliefs are different from taonga as

they have come to be understood in the cases...and are not amenable to active protection in the same way as more tangible taonga". That, counsel submitted, erroneously limited taonga to the physical or tangible. The mauri and whakapapa of the cattle and land involved are taonga, "as is the land".

[42] Turning to s8, counsel submitted the Authority erred in its finding (supra) that the Treaty principle of active protection did not apply to intangible taonga in the same way as to tangible taonga; or as otherwise put by counsel "to the same degree" as physical taonga. The s8 obligation to "take account" of Treaty principles was put (at its highest) as imposing a duty "to weigh Treaty principles with other matters being considered and...effect a balance of the matter at issue", with corresponding duty to be able to show this was done (*Haddon v Auckland Regional Council* [1994] NZRMA 49). That duty, on Resource Management Act authority, extended to weighing cultural considerations. Counsel relied in particular upon *TV3 Network Services v Waikato District Council* [1997] NZRMA 539, 548-9; and *Te Runanga o Taumarere v Northland Regional Council* [1996] NZRMA 77, 91. The latter was put, indeed, as requiring Maori values to be unaffected unless there was no practicable alternative. At an arguably higher level, counsel quoted from the Waitangi Tribunal Manukau Report (1985) to the effect the Treaty "gives Maori values an equal place with British values, and a priority when the Maori interest in their Taonga is adversely affected" (ibid, 57).

[43] Turning to Bleakley paragraph 12, counsel submitted the Authority erred through considering Maori concerns solely in terms of "spiritual beliefs", rather than considering the adverse *effects* on cultural values, when balancing benefits against effects under s45(1)(a)(ii). It identified an aspect of the taonga at issue (although ignoring the land) but failed to evaluate and assess effects.

[44] Turning to Bleakley paragraph 17, counsel submitted the principles and purposes set out in ss4, 5, and 6 of the Act "do not establish any hierarchy of interest", although observing at the same time that if there was to be a hierarchy the s8 Treaty reference and numerous other references to Maori interests point to primacy for Maori. Accordingly, the Authority was wrong to determine Maori spiritual values cannot prevail where other requirements of the Act are met.

Ms Greensill's position

[45] I use the word "position" rather than "submission" advisedly, as Ms Greensill did not seek to advance a separate written submission, endorsing instead that advanced by counsel for the principal Appellants. I note however two things. In a brief but emphatic oral reply Ms Greensill stressed that Maori viewed taonga holistically as carrying both physical and spiritual dimensions. Second, Ms Greensill's evidence as placed on record has been read. It is supportive as far as it goes, of the principal Appellant's submissions, particularly on the "Maori world view" involved.

Ag Research Submissions

[46] As to Bleakley paragraph 1, counsel for Ag Research submitted the Authority did *not* limit taonga to the physical or tangible. The Authority (p14) stated "...the Authority is required to assess the weight to be given to taonga which are spiritual beliefs in themselves...". Subsequent references to differences in "protectability" of spiritual and tangible taonga do not suggest limitation to the tangible.

[47] Counsel proceeded nevertheless to submit there is no authority binding on this Court that taonga *do* include spiritual beliefs in themselves. The Te Reo cases proceeded on the basis of agreement. Waitangi Tribunal cases relate to taonga in terms of the Treaty, not in terms of s6(d). Other cases are not in terms of s6(d) or the Treaty. On a plain reading, it was submitted, the s6(d) feature to be considered is the relationship between two things (i) Maori, their culture and traditions, and (ii) a non exhaustive list of taonga (including but not limited to those mentioned). Spiritual beliefs, it was submitted, fall within "culture" (or even "tradition"). Section 6(d) thus sees spiritual beliefs as *other than* taonga. Counsel also added, perhaps prompted by the Bench, a passing reference to the *eiusdem generis* rule.

[48] As to Bleakley paragraph 2, counsel for Ag Research first analysed the s6(d) duty to "take into account". The ultimate submission was that "take into account" (and indeed "have regard to") "simply require a Court to give genuine consideration to a matter". That requirement in s6(d) is to be distinguished from the higher obligation in s5 to "recognise and provide for".

[49] Counsel submitted the Authority did not fail to "take into account" the relationship of Maori their culture and traditions with their spiritual taonga. Counsel pointed to a range of matters external to the decision such as the character of the submitters and submissions, the seeking of further information on affront to Maori health, the adjournment for further information and consultations, and documentation received in consequence. Counsel referred also to passages in the decision recognising taonga consisting of spiritual beliefs, albeit with doubts expressed that Maori would feel affront to the point of adverse consequences.

[50] As to Bleakley paragraph 3, counsel submitted the Authority did not self direct that spiritual beliefs (taonga) are not amenable to Treaty protection, while physical taonga are. It directed itself they are not amenable to protection "in the same way". In other cases, for example relating to a specific site, options to "take into account" Treaty principles have tended to be manageable. They have been one off and site-specific, or capable of modification. Here, there is no room for such compromise. Declining the application would have wide implications, applicable elsewhere. The options were "limited and clumsy". The decision to allow the application did not mean Ngati Wairere beliefs were not "taken into account". They were—but did not prevail, and the application was declined. Had the obligation been to "recognise and provide for", the argument may have been more tenable. The Maori aspect does not have that primacy.

[51] As to Bleakley paragraph 12, counsel submitted the Authority took Ngati Wairere's spiritual beliefs into account as taonga: implicitly, within that, the Authority considered the possibility of degradation of beliefs themselves and "all/any adverse effects".

[52] As to Bleakley paragraph 17, counsel for Ag Research put the Appellant's submission as one claiming primacy. Counsel for Ag Research submits Maori spiritual values do not have primacy. Section 8 does not give the right of veto: *Watercare Services Ltd v Minhinnick* [1998] 1 NZLR 294 CA. There is a hierarchy of interests as between s5 on the one hand and ss6 through 8 on the other, but no further hierarchy within s6. The number of times Maori interests are mentioned is a

"dubious guide" to intention; and indeed that approach would place environmental and health interests first.

Authority's Submissions

[53] Counsel for the Authority took Bleakley paragraphs 1, 2 and 3 together. Counsel submitted the Authority did not make the decision alleged. It did not determine a higher threshold was required when effects are spiritual and unconnected to any physical taonga. What the Authority did, it was submitted, is take account of the affront to Ngati Wairere spiritual beliefs as part of taking into account the adverse effects to New Zealand of the approval being granted, in the end making a value judgment balancing metaphysical values against scientific values. The Authority had noted that that, in this case, mauri was not associated with a tangible taonga in relation to which more assistance could be obtained from the Resource Management Act cases. That tangible/intangible distinction was simply a tool to assist reasoning, and the Appellant had given it a significance it did not have. The Authority had decided there was no scope for compromise or mitigating affront to those spiritual values, and that to decline the application on the basis of such affront would create a precedent. The Authority considered the duty of active protection could not be applied in the same way here, in relation to beliefs of general application, as it could to values attached to some tangible object: the active protection of Ngati Wairere beliefs seemed to require decision according to those beliefs alone, overriding all other considerations. The Authority did take account of the importance of protecting Maori spiritual taonga from harm, but that (and other matters) did not outweigh the positives.

[54] As to Bleakley paragraph 12, counsel submitted the Authority *did* consider adverse effects of field testing taking into account *effects* arising from Ngati Wairere beliefs. It recognised those beliefs and recognised these could lead to adverse effects. However, it questioned whether the interpretation of traditional beliefs so advanced in fact was widely held, and experienced "difficulty in understanding" how the proposed research through interference with whakapapa or mauri would lead to the adverse consequences claimed.

[55] As to Bleakley paragraph 17, counsel submitted the Authority did not determine that where other requirements are met, Maori spiritual values cannot prevail. It decided Treaty principles did not require acceptance Maori spiritual beliefs were determinative under the Act where other requirements had been met; i.e. the Authority was not required to give overriding weight to Maori spiritual values.

Decision : Bleakley paragraph 1 : Erroneous decision "taonga" in s6(d) limited to physical/tangible taonga

[56] Does the reference in s6(d) to "...other taonga" include intangible, spiritual and cultural values such as whakapapa and mauri? If so, did the Authority err by directing itself otherwise?

[57] The task is to determine the meaning of "taonga" as it appears in s6(d), and not in the abstract. However, as often is the case, it will be helpful to determine meaning in general as a first step.

[58] It is a specialised term, on which evidence as to meaning was and is admissible. The evidence before the Authority, albeit more dogmatic than authenticated, was all one way. The same view has been taken in decisions of the Waitangi Tribunal, e.g. the Manukau Report (1985) which while not binding on this Court are highly persuasive. In addition, and importantly, there is no obvious reason for taking a different view. Beliefs which are central to a culture can be taken as treasured by that culture, even if given human failings they are imperfectly actioned. Concepts such as freedom, honesty, and motherhood are prized within Western culture along with more tangible cultural icons. There is no necessary or rational distinction between the tangible and the intangible so far as cultural and societal values are concerned, and that observation is as applicable to Maori as to any other.

[59] I accordingly accept that generalised references to "taonga" include intangible spiritual and cultural aspects, both as related to tangible taonga, and in their own right. There is no reason to believe the term was used in any other sense when employed in the Treaty. It was, after all, a document intending in that particular area to be reassuring to Maori.

[60] When we come to the meaning intended in s6(d), with its reference to "other taonga", the task is not quite so simple. This is not now a question of what "taonga" generally means, but a question as to the meaning which Parliament intended for the purposes of s6(d). That meaning is to be gathered according to accepted principles of statutory interpretation, with the word considered in its statutory context.

[61] It is appropriate to start with the general meaning—"plain meaning"—determined as above, which includes intangible concepts within taonga, but there are then at least two contextual considerations.

[62] The first, advanced by Ag Research, derives from the s6(d) requirement to consider the relationship "of Maori *and their culture and traditions*" (italics added) with ancestral lands, water et al "and other taonga". If matters of culture (and tradition) such as belief in whakapapa and mauri are considered to be in a relationship to "taonga", how can they be regarded as taonga in themselves? Arguably there is a deliberate differentiation.

[63] Semantically and logically that argument has some strength. Realistically however, and as a matter of probable Parliamentary intention, it does not. I think it is highly unlikely that Parliament deliberately would direct the Authority to ignore relationships with intangible taonga. Not only would the distinction have no rational basis, but it would be inconsistent with the Treaty. A suggestion in debate that the Authority should take account of how Maori felt about a particular hill, but should ignore central concepts such as whakapapa would have caused a debating riot. The greater likelihood is that Parliament simply adopted the otherwise identical provisions contained in s6(e) of the Resource Management Act, adding in "valued flora and fauna" for certainty, without appreciating the semantic argument opened up. It was an uneasy transplant. The Resource Management Act does for the most part deal with physical objects, although on occasion needing to consider Maori cultural and spiritual beliefs associated with those physical objects. It is not an area where intangible cultural and spiritual beliefs often fall for consideration in their own right.

[64] In that light, the Court's duty is to make the legislation work as Parliament intended so far as that can be achieved. It is possible. The submission advanced, while attractive, is not necessarily conclusive. First, if focus is confined to the opening term "Maori", there is no illogicality in considering the relationship of "Maori"—as a people—to taonga which include cultural and spiritual beliefs. The additional requirement to compare "culture and traditions" with taonga constituted by culture and tradition fairly can be disregarded as a drafting accident. Second, it is not necessarily illogical to view the reference to "culture and tradition" as including taonga. The intention could have been to allow comparison between taonga on the one hand with taonga on the other hand.

[65] Overall, I am satisfied the Parliamentary intention was that the reference in s6(d) to "other taonga" was to include intangible cultural and spiritual taonga in accordance with usual concepts and in accordance with the Treaty.

[66] Did the Authority direct itself otherwise as submitted? The Authority's words are to be read as a whole, without narrow focus on isolated passages. They are also to be read objectively, and not with a slant designed to create a basis for challenge. The operative decision is that of the majority, and I so confine myself.

[67] The Authority (pages 14-15) opened by observing the s6(d) relationship raised different issues to those which had arisen in cases under the RMA. The RMA cases had involved physical features, with spiritual values attached. Here, the Authority was required to assess weight to be given to "taonga which are spiritual in themselves". (I pause there. The Authority's view hardly could be clearer. It accepted, in those words, that spiritual values "in themselves" were or could be taonga. The question is whether further context shows a change of mind, or shows that precept was not applied).

[68] The Authority continued by observation that the RMA cases nevertheless were instructive, and that as a generality the Courts appear to have been "reasonably pragmatic" in their decisions. After various citations and quotations, the Authority went on to observe the courts had been more prepared to protect the spiritual significance of a site where *other options were open* to the applicant, but also had

moved to protect waahi tapu where the value of the relationship (with land) and its traditional and cultural significance was strong.

[69] The Authority then distinguished the present case as being one where no alternatives avoiding affront were available:

> "In the present instance however, we are dealing with the spiritual beliefs of whakapapa and mauri themselves, which Ngati Wairere claim govern behaviour in an absolute way, and simply preclude genetic research of the kind proposed by the applicant. There is no alternative course by which the applicant might avoid the claimed affront to these beliefs, except to conduct the research elsewhere and, as we have learned, there are no steps the applicant can take to ameliorate the affront or the consequences claimed. The fact that others in society may attach higher weight to the knowledge to be gained from the proposed research will not change the significance of the beliefs to the group of persons who hold them."

[70] That view lead the Authority to consider just how extensive the unavoidable affront and consequences would be. Politely but firmly it expressed doubt as to the extent to which the traditional views in fact were held, and as to how the activity proposed could cause the adverse consequences claimed.

> "The Majority accepts that the spiritual beliefs as expressed by Ngati Wairere are deeply held, as are the concerns regarding the consequences of the proposed research proceeding. However, the Majority have questions as to whether the interpretation of their traditional beliefs advanced by Ngati Wairere is widely held, given that those beliefs would have been developed well before human-kind had any appreciation of the evolution of species by genetic mutation and selection, or of the role, function and separability of genes, and the proteins they code for, or of the scientific possibility of transposing gene sequences between species. Matters of belief of course, can only be determined by the people who hold them.
>
> And the Majority have difficulty in appreciating how the insertion of the synthesised genetic sequence coding for a protein present in humans, should through interference with the whakapapa or mauri of the cattle to be produced, lead to the claimed adverse consequences to Ngati Wairere."

That was not a denial that spiritual beliefs were included within taonga. It was a questioning as to the extent to which, in fact and on a head count basis, genetic modification was regarded as contrary to those beliefs, given advances in knowledge, and a stronger questioning as to whether affront could lead to harm claimed, which went as far as damage to health or even death. Those questions relate to different matters. At no stage did the Authority recant, or cease to apply, its

earlier and correct acceptance that matters of spiritual and cultural belief were taonga.

[71] There was no error of law as alleged.

Decision : Bleakley paragraph 2 : Erroneous decision by failing to take into account s6(d) relationship of Maori and their culture and traditions with their spiritual taonga

[72] The first question is what is required in law by the s6(d) requirement to "take into account"? I do not propose to dwell on other judicial interpretations related to other statutes. Some do not easily reconcile. On occasions the phrase has been held to require some actual provision to be made for the factor concerned, but all depends upon context. In this case context is clear and decisive. There is a deliberate legislative contrast between s5 "recognise and provide for" and s6 "take into account". When Parliament intended that actual *provision* be made for a factor, Parliament said so. One does not "provide for" a factor by considering and then discarding it. In that light, the obligation "to take into account" in s6 was not intended to be higher than an obligation to consider the factor concerned in the course of making a decision—to weigh it up along with other factors—with the ability to give it, considerable, moderate, little, or no weight at all as in the end in all the circumstances seemed appropriate.

[73] I am satisfied, given the reasoning process which the Authority followed as already outlined in decision upon Bleakley paragraph 1 supra, that was exactly the course which the Authority took. It noted and considered the relationship of Maori (and culture and traditions) to the taonga constituted by the spiritual beliefs concerned. It recognised there was no room for compromise. The taonga must either be accommodated, or not. The Authority made a further quantitative evaluation, and did not give it weight. The process is confirmed by the first sentence in the concluding passage

> "In brief, the Majority considers that the beliefs at issue relative to the benefits of the research proceeding are not such as to justify declining the application. In this regard the Majority is of the view that while there is some prospect that the knowledge to be gained from the proposed research may eventually be applied in medical research which may lead to tangible

> benefits for human-kind, such potential benefits should not be taken into account. Rather the Majority considers the knowledge to be generated by the project is a sufficient benefit in its own right to justify the approval being given."

[74] The Authority did not fail to take the relationship into account. It took it into account. In the end, and in the uncompromising circumstances which prevailed, the relationship was outweighed.

[75] There was no error of law

Decision : Bleakley paragraph 3 : Error in determining under s8 that spiritual taonga are not amenable to Treaty active protection in the same way as tangible taonga

[76] The Authority accepted, correctly, that Treaty obligations included a duty of active protection of taonga. It noted that Ngati Wairere contended that duty of active participation required the Authority to decline the application:

> "Ngati Wairere submitted that whakapapa and mauri, as central elements of their tikanga, are taonga requiring active protection by the Authority, and that to provide this protection, the Authority should decline the application, and thereby disallow the mixing of human and cattle genes, and the corresponding interference with the whakapapa and mauri of the cattle.

[77] The Authority then traversed various consultations and unrelated matters and resumed (pp16-17):

> "In taking into account the need for active protection of whakapapa and mauri as taonga, the Majority notes that spiritual beliefs are different from taonga as they have come to be understood in the cases which have come before the Courts and the Waitangi Tribunal, and are not amenable to active protection in the same way as more tangible taonga."

(I will return to that phrase "in the same way").

[78] After an analysis of cases concerned with active protection in relation to tangible taonga (albeit with spiritual significance) the Authority saw giving effect to Treaty protection as tantamount to accepting Maori beliefs as a determinant of the application. The Authority concluded Treaty principles—with the Crown's obligation confined to action reasonable in the circumstances—did not go so far:

"In considering the present application, the Majority concluded that active protection as sought by Ngati Wairere and Nga Kaihautu Tikanga Taiao would mean that the evaluation of and decisions on applications under the HSNO Act should be made according to the tenets of Maori spiritual beliefs, as these may be defined variously and from time to time.

The Majority concluded that the requirement to take into account the principles of Treaty under *section 8* does not extend this far. It is one thing to take (sic) every effort to respect Maori spiritual beliefs, it is another to ask the whole community to accept them as arbiters of whether genetic research should proceed under the HSNO Act.

This would seem to be consistent with the decisions in the major Treaty cases.

The Privy Council in the Broadcasting Assets case held:

> 'Foremost amongst those 'principles' are the obligations which the Crown undertook of protecting and preserving Maori property, including the Maori language as part of taonga, in return for being recognised as the legitimate government of the whole nation by Maori. The Treaty refers to this obligation in the English text as amounting to a guarantee by the Crown. This emphasises the solemn nature of the Crown's obligation. It does not mean however that the obligation is absolute and unqualified. This would be inconsistent with the Crown's other responsibilities as the government of New Zealand and the relationship between Maori and the Crown. This relationship the Treaty envisages should be founded on reasonableness, mutual co-operation and trust. It is therefore accepted by both parties that the Crown in carrying out its obligations is not required in protecting taonga to go beyond taking such action as is reasonable in the prevailing circumstances.'

In summary therefore the Majority has concluded that taking into account the need to provide active protection for Maori spiritual beliefs does not extend to accepting those beliefs as the determinant of whether the research proposed by the applicant should be approved."

[79] This approach, and the expression of it, requires some care in analysis. To some extent, there has been a merging of consideration of obligations and discretions.

[80] At the threshold, there is an ambiguity in the Authority's finding that intangible taonga are not amenable to Treaty protection "in the same way" as the tangible. In the abstract, that expression could mean that intangible taonga are not entitled to Treaty protection at all, in contrast to tangible taonga which are; or could mean intangible taonga are to be protected, but by different means. I am satisfied the latter was the meaning intended. The former would be inherently unlikely, and does

not fit with the final sentence in which the Authority expressly takes into account "the need to provide active protection for Maori spiritual beliefs". The existence of a duty of active protection under the Treaty was recognised.

[81] The decision which the Authority in fact made was that spiritual beliefs are not amenable to protection in the same way—by the same methods—as tangible taonga. On the surface, that is true. One protects a faith by suppressing activity which debases it, often an ongoing and difficult process as the Spanish Inquisition found out. One protects a cathedral by building a wall around it. However, at a deeper level there is less validity in this statement: in both cases one meets an activity by adopting a means which prevents that activity from succeeding. The Authority was not, however, philosophising. The concern which it felt, and which it soon afterwards made explicit, was that in the circumstances which it faced there was no way in which these intangible beliefs could be protected except by refusing to allow the proposed activity. The Authority did not find that intangible beliefs were not owed a duty of active protection owed to tangible items, but was concerned at the consequences which the extension of protection inevitably would entail.

[82] With that in mind, the Authority and on good judicial Authority noted that the duty of active protection did not require Crown action beyond that which was reasonable in the prevailing circumstances. In the Authority's view, treating the duty of active protection as a "determinant"—i.e. as prevailing over all other considerations—was unreasonable.

[83] There was no error in law in that approach. The Authority did not say spiritual beliefs were not covered by the Treaty duty of active protection. The Authority, to the contrary, recognised the duty applied, to an extent reasonable in the prevailing circumstances. The Authority then, as a separate assessment, considered it would be unreasonable to give that duty a "determinant" weight, and that it was outweighed by other s6 factors. That was a weighing process open to the Authority in law.

Bleakley paragraph 12 : Error in considering beliefs as opposed to adverse effects taking into account those beliefs

[84] I do not accept the Authority considered only *beliefs* of Ngati Wairere, as opposed to the adverse *effects* of field testing given those beliefs, relative to benefits.

[85] The Authority had the benefit of evidence of affront to cultural values. That carried with it an inference that damage of some sort would result. The Authority had evidence of interference with the future use of the land concerned. It also had evidence of risks to health. The Authority endeavoured to measure the damage which would follow. It questioned the extent to which the beliefs (whakapapa and mauri) actually were held with such conviction that there would be damage to health. That questioning might well be regarded as offensive at a cultural level, but it was an entirely valid scientific inquiry. Indeed, it was inevitable. The Authority also questioned the basis upon which it was said metaphysical damage could cause problems, most obviously health problems. The same comments apply. The Authority is not to be expected to proceed on an unsubstantiated basis if substantiation is available. Through this overall process the Authority identified beliefs concerned, challenged the extent to which such actually were held, and doubted the assertions of effects which affront to those beliefs allegedly would cause. Within that, while perhaps not clearly articulated, there was an undoubted weighing by the Authority of adverse effects or possible adverse effects of the activity proposed given the beliefs concerned. It is not for this Court to say whether the Authority's assessment of effects given the existence, to whatever degree, of beliefs was correct. There was no error of law as to process as alleged.

Decision : Bleakley paragraph 17 : Error in determining that where other requirements of the Act are met Maori spiritual matters and beliefs cannot prevail

[86] The Authority did not determine, in the terms alleged, that where other requirements of the Act are met Maori spiritual values and beliefs "cannot" prevail. Such a determination if made would have been wrong, but it was not made. The Authority's decision is specific to this matter. It took a view that the adverse effects

on Maori, the extent of which it questioned, were not such as to outweigh benefits. Those adverse effects could only be catered for by refusing to permit the activity concerned. Those effects, doubted as noted, in the Authority's view were not such as to warrant that step.

[87] Obviously, as an outcome, that could occur again if Maori are no more successful in persuading the Authority as to the damage, of whatever kind, which actually is in prospect. However, no principle of law that where other requirements of the Act are met Maori spiritual beliefs cannot prevail was laid down. Different outcomes remain open, according to their facts. An application which involved less potential benefit for New Zealand, perhaps by an overseas company unwilling to share the information gleaned, or by a company unable to offer comparable containment, in relation to which Maori were able to advance better substantiated evidence of potential injury to health, could still be weighed and decided the other way.

[88] The decision is not one implying an inevitable primacy at law for other considerations over and above the Maori dimension. There was no error of law as alleged.

DISPOSAL OF SURROGATE COWS AND MILK

Bleakley Appeal Paragraph 4

> "4. The Authority erred in law and misdirected itself in limiting its consideration of the disposal of surrogate cows who have failed to become pregnant to consideration of whether any threat would be posed to "the environment or public health", and in failing to have regard to the particular principles and matters specified in sections 5, 6 and 8 of the Act."

Principal Appellants' Submissions

[89] Appellants note that consideration by the Authority (p8) of problems arising from disposal of surrogate cows which have failed to become pregnant was limited

to questions of threats to the environment or to public health. In that respect it was said not to comply with directions contained in s45(1)(a)(ii) to take into account "all effects"; which in turn required consideration of all matters set out in ss4, 5, 6 and 8. Submissions particularly note effects—which could be intangible or cultural effects—on Maori arising not only in terms of s6(d) and s8 but also under s5(b). The Authority, it is said, erroneously ring fenced consideration of effects on Maori into s6(d) and s8, and erroneously regarded Maori concerns as limited to an adverse view of genetic modification per se. The Authority had not considered Maori concerns in terms of the land involved being Ngati Wairere ancestral lands.

[90] Appellants interweave complaints that the Authority concentrated on probability of adverse events occurring, rather than the effects of events if they did occur; and that the perceived flaw in the Authority's decision-making is amplified by the staged requirements for evaluation and assessment laid down by the methodology.

[91] I do not regard those latter two complaints as within the grounds of appeal as worded.

Ag Research Submissions

[92] Ag Research submissions do not address the full width of the complaint; i.e. that s45(1)(a)(ii) required consideration of effects on all matters set out in ss4, 5, 6 and 8. The submissions confine it to a complaint of failure to take into account the effects on Maori. In relation to Maori, Ag Research submits the Authority well understood the affront to Maori values which arises not merely from the fact of genetic modification in itself, but from "all that went with it", exemplifying the fact of escapes or ground water contamination and effects of such on Maori beliefs. Ag Research does not quote from the decision. It refers generally to "the material available". The consideration of escape and disposal issues in relation to Maori is illustrated by Control 1.13 (and also 1.14). Further, Ag Research protests, Ngati Wairere in fact encouraged concentration upon the unacceptability of genetic modification per se, as opposed to effects: the response to the question of "amelioration" of risks was that genetic modification "should not be done".

[93] I record the Ag Research submission that the Authority did consider effects. The consequences of modified cells in surrogate cows would equate the consequences of cows escaping. Ag Research pointed to Authority findings on the consequences to MBP of cooking and digestion; and the Authority's acceptance that on current knowledge if MBP were not degraded and was absorbed "no adverse effect is anticipated".

Authority's Submissions

[94] The Authority submissions likewise do not address the full width of the complaint; confining it to a complaint of failure to take into account the effect on Maori. The submission concentrated upon the assertion that the Authority had viewed effects on Maori too narrowly. That was denied. The Authority, it was said, had accepted issues of particular significance to Maori could arise under other provisions, e.g. s5(b), with their significance emphasised by special obligations placed on the Authority under s6(d) and s8. The Authority's submissions did not quote in support from the decision itself. Reference was made to the E&R Report p32 paragraphs 5.10.5 to 5.10.8. Submissions put that consideration of Maori concerns as reflected in Controls 1.13 and 6.5. There were no identified matters of concern which had been overlooked.

[95] I record the Authority's additional submission that the Authority did consider "effects" of any meat or milk escaping and entering the food chain. The MBP was highly likely to be inactivated by cooking or digestion, and if not, on current knowledge no adverse effect was anticipated.

Decision : Bleakly paragraph 4 : Disposal of surrogate cows

[96] I rule out the submission the Authority considered risks, not effects. It is not within the ground of appeal as worded. Further, in relation to public health and the environment, it clearly did consider potential effects.

[97] I agree that s45(1)(a)(ii) requires the Authority to take into account "all the effects of the organism", including (as it is clumsily put) "the effects on" the ability

of the organism to escape from containment and to establish an undesirable self supporting population, and the ease with which the organism could be eradicated if it became so established.

[98] I have no doubt the Authority considered these last three specifics, but its duties were not limited to that. It was required to consider "all effects".

[99] The principal Appellants submissions invoked effects upon matters covered by ss4, 5, 6 and 8. I do not see a generalised reference to effects covered by s4 as open. Section 4 is not cited in the ground of appeal. In any event, I do not see references to ss4 and 8 as meaningful in this present context. They are generalised statements of purpose, and of the need to take into account the principles of the Treaty. There is point, however, in the reference to effects on matters within ss5 and 6, which indeed tend to re-involve s4 and s8 requirements to some extent.

[100] While the Authority's decision does not spell such out in cross-referenced terms, I consider its conclusions as to effects on the environment and on public health demonstrate it had regard to effects on matters of interest in ss5(a) and 6(a)(b) and (c). Section 6(e) which goes to benefits to be derived, and s6(f) going to international obligations were not relevant. The remaining items requiring consideration of effects were s5(b) and s6(d).

[101] Section 5(b) requires recognition and provision for—carrying, in present context, a requirement for consideration of adverse effects upon—the maintenance and enhancement of the capacity of people and communities to provide for their own economic social and cultural wellbeing and for the reasonably foreseeable needs of future generations. It is a highly generalised requirement. It is not instantly obvious how the question of disposal of a surrogate cow which has failed to become pregnant could bear upon such a vast vista. I am not surprised it was not the subject of specific discussion in the Authority's decision in those precise terms.

[102] I am satisfied, however, that the Authority has covered questions as to effects at the micro level of risks of and following escape, and also the macro level which weighs present and future social needs. Matters such as this were part of the picture

weighed along with the advancement of scientific research. I see no reason to suppose the Authority lost sight of potential effects of this and like matters.

[103] The Maori dimension as acknowledged by s6(d) and s8 was the principal focus of argument on both sides.

[104] I accept the s45(1)(a)(ii) obligation to consider "effects", coupled with s6(d) and s8, required the Authority to consider effects on Maori in a broad way. It was not confined to consideration of some per se belief by Maori that genetic modification was against Maori culture and traditions. It included narrower questions such as whether proposals for disposal of surrogate cows which had not become pregnant were appropriate. There was room for a particular concern in this case over burial or incineration of cattle, including such cows, on Ngati Wairere ancestral lands.

[105] I am satisfied from the controls imposed at the end of the Authority's decision that effects at that level were recognised and catered for. Controls 1.13 and 1.14 state (italics added):

> "1.13 All genetically modified cattle no longer required for breeding and any biological material (including semen and ova) derived from genetically modified cattle no longer required for the purpose of this application shall be disposed of on-site by burial, in such a manner which minimises leaching to defined aquifers, *and following consultation with Ngati Wairere.*
>
> 1.14 In the event that operations involving genetically modified cattle cease, all genetically modified cattle in the containment facility shall be destroyed and disposed of in accordance with the provisions specified in control 1.13 above."

[106] Concerns as to escape of modified cells through undetected pregnancies, or residual cells in cows which had not become pregnant—a matter of wider security concern than Maori cultural considerations—was similarly catered for by Control 1.15:

> "Conventional cattle may be disposed of off-site, but shall not leave the containment facility until 50 days after the third negative pregnancy test, ie performed at approximately 28, 35 and 50 days post-embryo transfer."

[107] Overall, I am satisfied the Authority did not improperly limit its consideration of the disposal of surrogate cows, or fail to have regard to requirements in ss5, 6 and 8.

[108] This ground of appeal cannot succeed.

Bleakley Paragraph 5

> "5. The Authority erred in law and its decision was so unreasonable that no reasonable Authority properly directing itself in law and considering the evidence could have reached such a decision, when it determined that:
>
> (a) the disposal of milk via treatment and spraying onto pasture is not a possible route for the escape of heritable material; and
>
> (b) the issue of the pollution of groundwater as a result of the land disposal of milk is not a matter appropriately addressed under the Act."

Principal Appellants' Submissions

[109] Principal Appellants did not press (a) in submissions. That is not surprising. There was evidence that milk would be appropriately treated.

[110] Submissions focused upon the Authority's decision (pages 8-9) that pollution of ground water or other water as a result of land disposal of milk, when this was not a possible route for escape of heritable material, is a matter managed or "more appropriately dealt with" under the Resource Management Act 1991. It was submitted consideration of the effects of field testing in containment were "not limited" to escape of organisms or heritable material. The disposal of any by-product (containing heritable material or not) from a genetically modified organism gives rise to an effect or effects within the wide range of matters specified in ss4, 5, 6 and 8. The Authority had not evaluated those effects. Submissions also invoked the "significant degree of overlap" between provisions of the Act (s4 of which recognises its purpose as being to protect the environment) and the Resource Management Act. In that light, possible pollution through disposal of milk was a matter which the Authority was obliged to address.

Ag Research Submissions

[111] Ag Research submitted the Authority was correct in finding the issue of contamination from milk disposal (in absence of escape of heritable material) was more appropriately dealt with under the Resource Management Act. The Act, and the Resource Management Act, are complementary statutes, but with different subject matter. The Act deals with management of hazardous substances and new organisms. The Authority members are expert in that field. They are not expert in land and water management. Even if the Authority did consider this aspect Ag Research would still be required to obtain a resource consent (s15).

Authority Submissions

[112] The Authority's submissions did not touch on the questions whether the Authority was obliged to consider pollution effects as opposed to leaving that matter to Resource Management Act processes.

Decision : Bleakley paragraph 5 : Disposal of Milk

[113] There was evidence that heritable material would not escape through spraying of treated milk on to pasture.

[114] Given that the Authority found there was no such danger of escape, there was no obligation in law—and it certainly was not appropriate—for the Authority to venture into more orthodox pollution issues. It is true that the Act has an environmental protection purpose, as does the Resource Management Act, however, that prima facie wide purpose is to be read in the context of its subject matter and specifics. It is to protect the environment against hazardous substances and organisms, and not on a wider scale. The wider scale is the role of others under general legislation in the RMA. Thus, if spraying milk on pastures were to raise a concern that heritable material might escape, that would be a concern for the Authority. If after Authority action, there was no risk of escape of heritable material but there remained a risk of another environmental character—e.g. destruction of aquatic life in streams—that would be a concern to be dealt with under the Resource Management Act. It would not be an Authority matter, despite the breadth of the

opening sections of the Act. It is a not unfamiliar judicial problem to reconcile legislation relating to specific activities, and a general legislation in the Resource Management field.

[115] This ground of appeal cannot succeed.

Bleakley paragraph 6

> "6. The Authority erred in law in failing to take into account the principles and matters in sections 5, 6 and 8 in considering the disposal of milk via treatment and spraying onto pasture and the possibility of the escape of heritable material into groundwater."

Principal Appellants' Submissions

[116] Submissions for the principal Appellants invoked, once again, grounds raised under appeal ground 4 relating to disposal of surrogate cows.

[117] Submissions then raised a so-called "additional point", said to arise even if the Authority's consideration of s6(d) and s8 comprised a de facto consideration of s5 and s6 factors. The issues of spraying on to pasture and pollution of groundwater were put as raising direct concerns on the part of Ngati Wairere, given their relationship with the area as ancestral land. This, it is said, goes past cultural concerns in relation to genetic modification per se.

Ag Research Submissions

[118] Ag Research brings this issue within its submissions as to s6(d) above; adding that in absence of risk of escape of heritable material this is not an issue under the Act. Ngati Wairere's concerns can be dealt with under standard Resource Management Act procedures. Ag Research emphasises this land does not have special sanctity, as would be the case for example with urupa, and protests there was no great focus on this "land issue" in proceedings before the Authority.

Authority's Submissions

[119] The Authority made no pertinent submissions.

Decision : Bleakley paragraph 6 : Disposal of Milk

[120] The issues raised have been dealt with already under Bleakley 4 (disposal of surrogate cows which have failed to become pregnant and Bleakley 5 (disposal of milk). The Authority found, on evidence, there was no danger of escape of heritable material. Contamination questions (if any such arise) not involving heritable material are for the Resource Management Act. The Authority was not blind to the relationship between Ngati Wairere and its ancestral land. Control 1.13 relating to disposal of carcasses, requiring consultation with Ngati Wairere, illustrates. There was, however, no genetically modified contamination issue arising in relation to milk. Other concerns are appropriately dealt with under Resource Management Act procedures. There was no error of law.

[121] This ground of appeal cannot succeed.

EFFECT ON PEOPLE AND COMMUNITIES

Bleakley paragraphs 7 and 8 :

> "7. The Authority erred in law and misdirected itself when it determined that any escaped organism or heritable material must either form a self-sustaining population or enter the national herd undetected for "any effects on the wider environment to be realised", and it thereby failed to take into account the adverse effects (other than the risk to public health) of the potential escape of the organism and/or heritable material on people and communities (including the Maori community) and the social, economic, aesthetic and cultural conditions which affect people and communities.
>
> 8. The Authority erred in law and misdirected itself in failing to take into account the effect (other than the risk to public health), on people and communities and the social, economic, aesthetic and cultural conditions which affect people and communities and, in particular, the Maori community when determining that the risks posed to the environment were negligible, and its decision thereon was so unreasonable that no reasonable Authority properly directing itself in law and considering the evidence could have made such a decision."

[122] While there are some differences in the issues raised by these two grounds they can conveniently be taken together. There are considerable overlaps with issues previously discussed in relation to Maori matters and under grounds 4, 5 and 6.

Principal Appellants' Submissions

[123] The Principal Appellants identify the Authority's concern over effects on the "wider environment" as limited to the physical environment. Submissions point to the Authority's view that for effects to be realised the organism must escape and form a self-sustaining population or enter the national herd. While accepting the latter were valid concerns under s37, they were not the sole issues. Section 45(1)(a)(ii) requires consideration of *all* effects. That, submissions at least implicitly assume, includes effects on an "environment" taken in terms of the definition in s2 of the Act. That goes wider than s5 and s6 matters. It includes the effect on people, communities, and the social, economic, aesthetic and cultural concerns which affect people in communities—particularly Maori. The Authority erred by not identifying or considering those other effects.

[124] Principal Appellants also note the Authority's subsequent view that effects of any escape are not considered significant; and within the containment regime risks posed are negligible. This is put as infected by the same error as to the scope of "environment", and (given the wider approach to environment required) as being in conflict with the Authority's recognition of more than negligible effects on Maori spiritual values. The finding of negligible risk was unsustainable.

Ag Research Submissions

[125] Ag Research submits Principal Appellants misconstrue the Authority's decision. The Authority's decision, as a whole, does not limit consideration of effects on the "wider environment" to situations where organisms escape and become self-sustaining or enter the national herd. The Authority considered the effects of the organism on a wider scale, as demonstrated by its treatment under five separate subheadings. (Animal welfare, risks to environment, risks to public health, Maori, and maintenance and enhancement of capacity to provide for wellbeing).

Within that, the Authority recognised there could be effects beyond those caused by a self-sustaining population or entry into the national herd. Moreover, it was submitted, there is no evidence adverse effects outside those referred to or otherwise taken into account by the Authority actually existed.

[126] Ag Research rejects Appellants argument that risks to the "wider environment" include risks to Maori and therefore are not negligible. This is put as a misinterpretation of the word "environment", which was used in the "negligible" context in a way confined to the physical environment, not in a wider s2 and s4 sense.

[127] Ag Research submits that the legislation requires the Authority to take into account "all of the effects which may impact on the matters in Part II" (ss4-9). The decision, taken as a whole, is said to cover effects on all matters in Part II. Indeed, it is said to cover effects on the "environment" as defined in s2.

Authority's Submissions

[128] The Authority put its assessment of "negligible" risk as related to effects on the wider physical environment. The Authority did not confine itself to adverse effects on peoples and communities arising from escape of the organism: its consideration of the effect of the field testing in containment on spiritual concerns exemplifies. It did not reject those latter as negligible. It was because of concern at affront to Maori spiritual values that the application was determined under methodology clause 27. The Authority invoked the E&R Report as considering social and community issues (moral and ethical objections, non Maori cultural objections, risks to agriculture, New Zealand's 'clean green' image etc.).

Decision : Bleakley paragraph 7, 8 : Effect on people and communities

[129] I accept these grounds, as developed in argument, misinterpret the scope of the Authority's decision on negligible risk. The Authority considered the risks of cattle (or modified cells) escaping and forming self-sustaining populations or entering the national herd were very low. When the Authority said, in that context,

that risks of adverse effects on what was termed the "wider environment" were "negligible", the reference clearly was to the wider (ex-containment) physical environment. The Authority did not have a wide vista in s2 terms in mind: it was not talking of effects on intangibles such as cultural values. It did not inconsistently label effects on Maori cultural values as "negligible".

[130] I do not accept the Authority omitted to look at the wider "environment" going beyond the purely physical. One should not be mislead by the fact the Authority did not talk of wider considerations, going beyond the merely physical, as an "environment". It chose to use a more traditional ecological meaning for the term. The Authority did look at wider considerations it saw as relevant—matters as diverse (and ultimately conflicting) as the advancement of scientific knowledge, Maori cultural values, and even commercial aspects. Whether it looked at that diversity in sufficient breadth and depth is another matter. For the purposes of the point presently taken on appeal, it cannot be said the Authority took an unduly narrow meaning. It did not err.

[131] It does not much matter for present purposes whether s45(1)(a)(ii) "effects" are upon an environment as wide as that envisaged in the s2 definition, or are to be read as effects on matters listed within ss5 and 6. Particularly given s5(b), the latter are of great width in their own right. The phrase "economic social and cultural wellbeing" must cover most of the human condition. I am not at all sure Parliament envisaged any real difference. I leave the question open. It may well never need to be answered.

Wills 1

> "1. ERMA erred in law and misdirected itself in failing to recognise and provide for the capacity of people and communities to provide for their own social and cultural wellbeing when giving approval for genetically modified embryos of the species *Bos taurus* to be allowed to develop, be born and mature to adulthood and its decision was so unreasonable that no reasonable Authority properly directing itself in law and considering the evidence could have reached such a decision."

Wills' Submissions

[132] The submissions (which I take as presented through counsel although they were not orally developed) begin with a complaint that there was no room for the expression of opposition to the initial (delegated) decision by the IBSC to approve the initial creation and storage of the relevant genetically modified embryos. Issues covering the safety and ethics of creation of a transgenic species were considered, without such input, and only to that creation and storage stage. Questions under s5 were not considered at all in that process, since the IBSC delegated powers related only to biological safety.

[133] Within the present application the Authority did receive submissions which related to further development of the embryos (which at a certain point fell within the Animal Welfare legislation), birth, growth to adulthood, and use by humans. The Authority was obliged to have regard to s5(b) factors. However, it is submitted, the Authority had created a fait accompli for itself through the initial creation and morphogenesis of the embryos. This had "disenfranchised" those opposed who wished "to provide for their wellbeing" by opposition to the creation of the modified embryos.

[134] The submission concludes by assertion the Authority misdirected itself in respect of evidence pertaining to the "compounding damage which the consequent development, birth and growth to adulthood" would do to "the capacity of peoples and communities to provide for their own social and cultural wellbeing".

Ag Research Submission

[135] Ag Research submitted Professor Wills complaint, in substance, was as to the existence of the rapid approval process by IBSC under delegated authority without requirement for public consultation. That concern, Ag Research submitted, has nothing to do with the correctness in law of the subsequent notified field testing application decision.

Authority's Submissions

[136] The Authority simply submits it did recognise and provide for the capacity of people and communities to provide for their own social and cultural wellbeing.

The Decision : Wills 1 : Effect on people and communities

[137] I do not doubt the sincerity with which the point is taken, but particularly as developed it is largely misplaced.

[138] The inability of those opposed to the creation of genetically modified embryos to be heard within the initial rapid approval procedure is a product of the statutory scheme. That statutory scheme is binding. Issues outside biological safety, and thus issues as to community welfare, are largely irrelevant until matters proceed to the next field testing stage. The earlier procedure cannot be revisited. The embryos are, as Professor Wills says, a fait accompli, and for my own part I can see that may create a certain pragmatic momentum, but that is result of the legislation not the result of error on the part of the Authority.

[139] I said the point taken was "largely" irrelevant, as arguably the fact no consideration was given to s5(b) type issues emphasises the need for a careful approach at the next—albeit different—field testing stage. That, however, is merely a matter of consequence and emphasis.

[140] The submission comes nearer to a relevant matter when it complains the Authority "misdirected itself" in relation to evidence pertaining to damage which ongoing development within containment would do. That, at least, is directed towards the field testing application at issue. However, no substantiating detail is provided of the asserted "misdirection". A misdirection is an error in law. An allegation of factual error, as such, is not open on this appeal. It is not for me to cast about endeavouring to divine this unspecified "misdirection".

[141] Further, no particulars are given of the alleged (extra) damage the field testing does to the relevant capacities. Again, it is not for me to cast about trying to identify the unspecified.

[142] The ground cannot succeed.

SCIENTIFIC UNCERTAINTY AND PRECAUTIONARY PRINCIPLE

Bleakley, 9, 10, 11

> "9. The Authority erred in law and misdirected itself in determining that concerns of scientific uncertainty and potential long term adverse impacts on future generations are more relevant to release applications than to applications to field test in containment.
>
> 10. The Authority erred in law and its decision was so unreasonable that no reasonable Authority properly directing itself in law and considering the evidence could have reached such a decision when it determined, having recognised that there is scientific uncertainty, that such uncertainty will not result in adverse consequences for the environment, human health or future generations while the research is undertaken in containment.
>
> 11. The Authority erred in law and misdirected itself in determining that the requirement in s7 of the Act to take into account the need for caution in the event of scientific uncertainty only relates to the adequacy of containment conditions and the management regime."

Wierzbicki 2 :

> "2. The Authority erred in law in failing to take a precautionary approach pursuant to section 7 of the Hazardous Substances and New Organisms Act 1996 ("the Act")."

Appellants' Submissions

[143] Appellants run the four grounds of appeal together, submitting that each individually and the four cumulatively constitute error of law. The fundamental error advanced is the allegedly decisive role given by the Authority to the present testing being within containment.

[144] Appellants quote the s7 requirement that the Authority "take into account the need for caution in managing adverse effects" where there is "scientific and technical uncertainty about those effects". (Appellants add references to the methodology

para 12(e), 13(6), 25, and 29-33). The "precautionary approach" (words equated to the "precautionary principle" used internationally) is put as an established concept of international law. Submissions cite Principle 15 of the Rio Declaration on Environment and Development, to which New Zealand is a party, and the Authority's obligation under s6(f) to take "international obligations into account". Appellants refer also to ERMA Protocol 1 Series 1 "taking account of international obligations" (July 1998) Appendix AI of which notes the Rio Declaration as relevant or potentially relevant. Section 7 is put as a direct incorporation of the "precautionary principle" into New Zealand domestic law, citing three Hansard references (Hon. Messrs Hodgson, Storey, and Upton, Hansard 23 May 1996 12681-2). While there has been no judicial consideration of s7, the "principle" said to have been so incorporated has been the subject of extensive academic comment internationally. Submissions provide citations from within academic writing supporting the view "that the principle is about effects, not risks per se". It is submitted "this is confirmed by the wording of s7 itself" and methodology clauses 29-33. The contention is that if there is scientific uncertainty as to an *effect*, a precautionary approach must be adopted.

[145] Appellants submit the Authority decision acknowledges "there may be some scientific uncertainty regarding the potential consequences of the genetic modification proposed" (p11), and cite other references to like effect. Those, it is said, are acknowledgements of scientific and/or technical uncertainty in relation to the possible effects of field testing.

[146] Appellants contend that the Authority, nevertheless, did not apply the "precautionary principle in s7", the Authority proceeding on a basis (pp11-12) that such "scientific uncertainty and potential long-term adverse impacts" are "more relevant to release applications than to research in containment. It is submitted the Authority approach was that while there may be uncertainty as to potential consequences, there will not be adverse consequences while the research is undertaken in containment, and the required "caution" relates to the adequacy of that containment.

[147] Appellants then submit

(a) the precautionary approach in s7 is applicable to applications for containment approval, whether importing into, developing in, or field testing in containment. While there may be an increased risk of impacts in case of release applications, as opposed to field testing in containment applications, the precautionary principle "focuses on effects, not risks in the first instance".

(b) While risks may be low, as the Authority decided, the precautionary approach focuses on "effects not risks". A single effect, while rare, may be catastrophic if that rarity occurs.

(c) It is not correct to interpret s7 as confined to "managing" adverse effects in contrast to s4's references to "preventing or managing" adverse effects. Section 7 applies to applications to import to release, or to release from containment, where no (management) controls are possible in light of s38(2). If s7 is confined to "management" S.7 would be nugatory in such circumstances.

(d) The "collective" effect is that the Authority failed to take a precautionary approach under s7. (While the ultimate invocation is of "collective" effect, I will proceed on the basis of earlier submission that there is error both individually and collectively).

Ag Research Submissions

[148] Ag Research rejects the importation of the international "precautionary principle" into s7. The word "principle" is not used. The Rio Declaration does not impose binding obligations on New Zealand. The word used in the legislation is "approach" not "principle", and the Parliamentary debates cited for Principal Appellants make it clear this change in wording was used indeed, to avoid incorporation of the controversial "precautionary principle".

[149] Ag Research submissions interpret s7 as meaning (on a "plain meaning" approach) that when the Authority is determining an application, and there is scientific or technical uncertainty about adverse effects, the Authority is to "take into account the need for caution" in managing those effects. What constitutes "uncertainty" and the "level of caution required" are for the Authority. Ag Research denies the Authority found scientific or technical uncertainty existed, reading down the quotations advanced by Principal Appellants. Ag Research submits that in any event the Authority did take a cautious approach by way of containment controls. There was no evidence it was necessary to decline the application.

Authority's Submission

[150] The Authority does not accept s7 incorporates the asserted international "precautionary principle", but dismisses that question as irrelevant. Section 7, in its plain words, requires the Authority to take the need for caution into account in managing adverse effects where there is scientific or technical uncertainty about those effects. The Authority, it is said, did so. It noted that while there may be scientific uncertainty over potential consequences of genetic modification, this was a contained field trial and potential adverse consequences could be managed. If caution was required ("and there were some grounds to say it was") in the first instance it could be exercised by controls. It was not necessary to decline the application. Protocol 1 Series 1 was withdrawn by the Authority in May 1999.

[151] The Authority, it is said, did not determine the need for caution relates only to adequacy of containment conditions and management.

Decision : Bleakley 9, 10, 11; Wierzbicki 2 : Scientific uncertainty and the precautionary principle

[152] I consider submissions have concentrated too narrowly upon s7 in isolation. Section 7, for purposes of the present case, is to be considered in context of an application made under s45.

[153] Adopting, however, for the moment the more isolated approach taken in submissions, I accept the s7 direction is to take into account the need for caution in

"managing" adverse "effects". (The obligation arises, of course, only where there is scientific and technical uncertainty as to those effects; not where there is for example ethical or social uncertainty).

[154] I do not gain assistance from the suggested importation of the (somewhat uncertain) international concept of a "precautionary principle" whether such is expressed in terms of the Rio Declaration or otherwise. Hansard references cited tend to prove Parliament deliberately avoided that concept, even to the point of adopting the word "approach" rather than "principle". The section should be construed in its own language and in light of s4 purposes, one of which is declared to be "preventing or managing the adverse effects of...new organisms".

[155] I accept that there is, in the abstract, a conceptual difference between "risks" and "effects". The *risk* of something happening is different from the *effect* of its happening. The risk of a stored nuclear device exploding may be minimal. The effects of its doing so, if that minimal risk eventuates, will be catastrophic.

[156] However, we are reading a statute, not engaging in philosophy. When there is a reference, as in this statute, to "managing effects" the position becomes more obscure. Whatever the purity of concepts, it is possible within the ordinary use of language to say one can "manage" adverse effects inter alia by preventing those effects. If an official is required by statute to "manage" the effects of tuberculosis in New Zealand one avenue for such "management" of effects—and it might well be thought the prime avenue—is to prevent the disease arising. The official can of course also "manage" by seeing to a stock of vaccines, arranging hospitalisation in isolation, arranging detection screening and the like; but it does not strain language to say one way of managing the adverse effects is to ensure the disease does not arise.

[157] In that light, I construe s7 reference to "managing adverse effects" as including managing by reduction of risk such effects will ever arise. "Management" of effects goes to risk reduction as well as to damage control. I do not see the inclusion of both concepts of management and prevention within s4 purposes as

intended to produce a sharp differentiation. That would not be in accordance with the overall policy of the Act, which aims generally at effective protection.

[158] On that approach, the Authority did not err when it saw the s7 direction to take into account the need for caution in "managing adverse effects" as being effectively discharged by a cautious attitude towards containment involving strict controls. On the words of s7, taken in isolation, that was not a conceptual or legal error. It would not have done, of course, to turn an entirely blind eye to effects if they occurred on the ground notwithstanding the cautious approach to containment. The Authority did not make that mistake. It considered effects—and it is to be remembered the relevant effects are only those carrying scientific or technical uncertainty—which would follow if cattle or cells escaped. Cattle could be caught. The genetically modified protein would be eliminated by cooking or digestion, and if such did survive unaffected would not be adverse to health.

[159] On that approach, there was no error in law.

[160] A difficulty, however, is that s7 is not to be taken in isolation. The application before the Authority was under s45. Section 7 was to be interpreted, so as to make sense if at all possible, in the context of a s45 application.

[161] There are difficulties.

[162] Under s45(1)(a)(ii), the Authority may approve an application if after taking into account "all the effects of the organism" (including effects "on" matters in ss44 and 37) the beneficial effects of having the organism in containment outweigh the adverse effects *should the organism escape* and the Authority is satisfied the organism "can be adequately contained". In carrying out this exercise the Authority is directed to apply s7 by the terms of s7 itself, and accordingly must take account of the need for caution in managing adverse effects where there is scientific and technical uncertainty about those effects. Section 45(1)(a)(ii) predicates that the organism, adverse and beneficial effects of which are to be considered, has already escaped. Effects are to be weighed outside the containment situation. In that light, s7's reference to need for caution when "managing" adverse effects must be read in

this s45 exercise more narrowly. "Management" does not include reduction of risk of escape. It relates to damage control in respect of an already escaped organism.

[163] The phraseology of s7 is a little clumsy. Its reference to "the need for caution in managing adverse effects" can be read along the lines of a need for caution as to "ability to manage" adverse effects, or as demanding a need to assume the worst in relation to such effects.

[164] That semantic problem, however, is unimportant. In my view the command under s7, when operating in context of a s45 application, does require caution in management of effects if they occur, a matter which goes beyond mere caution over risk of occurrence.

[165] That is not the approach to s7 which the Authority, at least primarily, took. Did the Authority, nevertheless, ultimately discharge the s7 obligation to take into account the need for caution in managing adverse effects where there is scientific and technical uncertainty about those effects?

[166] As matters turned out, I consider it did. The obligation to take caution into account applied, of course, only where there was "scientific and technical uncertainty about" effects. It did not, for example, require caution where there was ethical debate about effects. The Authority did consider effects upon public health if cows or modified cells escaped from containment. It concluded, at worst, there would not be a significant risk to public health.

[167] There was error in law in the approach taken to s7, but in the end the error concerned was not material. The Authority's decision did extend to include the required approach.

FAILURE TO APPLY THE METHODOLOGY

[168] Bleakley paragraphs 13, 14, 16, 18

"13. The Authority erred in law and misdirected itself in failing to weigh collectively the adverse effects of the organism against the beneficial effects.

14. The Authority erred in law in failing, in terms of section 9(1) of the Act, to apply the methodology contained in the Hazardous Substances and New Organisms (Methodology) Order 1998 ("the Methodology Order") and, more particularly, in failing:

(a) to evaluate and take into account the risks, costs and benefits in accordance with paragraph s9, 12-16, 22, 24-27, 30 and 34 of the Schedule to the Methodology Order;

(b) to determine the materiality and significance of the scientific uncertainty relating to potential adverse effects in accordance with paragraph 29 of the Schedule to the Methodology Order;

(c) to attempt to establish the range of uncertainty of costs, benefits and risks and take into account the probability of those costs, benefits and risks being more or less than the levels given in evidence in accordance with paragraph 32 of the Schedule of the Methodology Order;

(d) to have regard to the extent to which the risk characteristics set out in paragraph 33 of the Methodology Order exist;

(e) to state the criteria in the Methodology Order relied upon when giving its decision in accordance with paragraph 36 of the Schedule to the Methodology Order.

16. The Authority erred in law and took into account irrelevant considerations in determining that research in itself is a legitimate and valuable scientific endeavour and that New Zealand and its research institutions should be at the leading edge of research into the genetic factors which control and regulate milk production and of associated biotechnological innovation.

18. The Authority erred in law and took into account irrelevant considerations in having regard to benefits other than the economic and related benefits of the use of the new organism."

Wills 2

"2. ERMA erred in law in failing, in terms of Section 9(1) of the Act, to apply the methodology contained in the Hazardous Substances and

New Organisms (Methodology) Order 1998 and, more particularly, in failing:

(a) to take into account the distributional effects of the costs and benefits over time, space and groups in the community;

(b) to combine groups of risks, costs and benefits using common units of measurement."

A Preliminary Note

[169] The Act empowers, as an adjunct, an unusual piece of delegated legislation in the form of the Methodology Order. As promulgated (SR 1998/217) essentially by the Authority after consultation and public input, it lays down compulsory procedures governing the exercise by the Authority of its approval functions. To some extent the directions given repeat provisions contained in the Act, and to that extent are superfluous.

[170] In many respects, the Order is said to reflect what have come to be known as risk management techniques—the identification and evaluation of risks, adverse effects, and beneficial effects in an objective manner so as to enable informed responses. So far as counsel's researches go it is unique. There are prescribed methodologies in relation to certain utility and transport pricing exercises, and a power to prescribe valuation methods for rating purposes, but there is no equivalent in a more general risk area such as the development testing and release of genetically modified organisms.

[171] This is a Select Committee's brainchild. The Bill, as introduced, proposed a test of "net national benefit". That was removed as a result of Select Committee processes in favour of a methodology, unspecified but intended to be both rigorous and consistent. The Select Committee did not give guidance on the level of risk aversion proposed. During the Committee stages in the House, the decision was made that the levels of protection and risk aversion to be applied should not be left to the Authority but should be specified through delegated legislation with public input (Minister, Third Reading, Hansard 23 May 1996 12690-1). The Order took some time to emerge. It is to be approached on the basis it is intended to be applied rigorously and consistently, and as determining the level of risk aversion. It is not

easy for the uninitiated to understand and apply. It demands a level of specificity in evaluations which can be difficult in areas of value judgment.

[172] The actual terms of the Methodology Order are of some importance. I set out some relevant definitions and then the clauses referred to in course of submissions.

> "**2. Interpretation**—In this order, unless the context otherwise requires,—
>
> "Assessment" means a process of identifying and assessing risks, costs, and benefits associated with the introduction of hazardous substances or new organisms in the context of applications made under Part V of the Act:
>
> "Benefit" means the value of a particular positive effect expressed in monetary or non-monetary terms:
>
> "Cost" means the value of a particular adverse effect expressed in monetary or non-monetary terms:
>
> "Evaluation" means the evaluation by the Authority of the combined assessments of risks, costs, and benefits associated with applications made under Part V of the Act for the purposes of deciding whether the application should be approved, approved with conditions, or declined:
>
> "Risk" means the combination of the magnitude of an adverse effect and the probability of its occurrence.
>
> ...
>
> [Schedule]
>
> *Information Used by Authority—continued*
>
> 9. When evaluating the information provided by an applicant (including prescribed information and any additional information) so as to achieve the purpose of the Act, the Authority must—
>
> (a) Recognise risks, costs, benefits, and other impacts associated with the substance or organism in an application which relate to the safeguarding of the life-supporting capacity of air, water, soil, and ecosystems, and provide for this principle; and
>
> (b) Recognise and provide for the principle of maintenance and enhancement of the capacity of people and communities to provide for—
>
> (i) Their own economic, social, and cultural wellbeing; and

(ii) The reasonably foreseeable needs of future generations; and

(c) Take into account risks, costs, benefits, and other impacts associated with the substance or organism in an application which relate to—

(i) The sustainability of all native and valued introduced flora and fauna; and
(ii) The intrinsic value of ecosystems; and
(iii) Public health; and
(iv) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, wahi tapu, valued flora and fauna, and other taonga; and
(v) The economic and related benefits to be derived from the use of a particular hazardous substance or new organism; and
(vi) New Zealand's international obligations.

...

Evaluation of Risks Costs and Benefits

12. When evaluating assessment of risks associated with the substance or organism in an application, the Authority must take into account--
(a) The nature of the adverse effects; and
(b) The probability of occurrence and the magnitude of each adverse effect; and
(c) The risk assessed as a combination of the magnitude of the adverse effect and the probability of its occurrence; and
(d) The options and proposals for managing the risks identified; and
(e) The uncertainty bounds on the information contained in the assessment expressed quantitatively where possible, but otherwise through narrative statements.

13. When evaluating the assessments of costs and benefits associated with the substance or organism in an application, the Authority must take into account--

(a) The costs and benefits associated with the application and whether the costs and benefits are monetary or non-monetary; and
(b) The magnitude or expected value of the costs and benefits and the uncertainty bounds on the expected value; and
(c) The distributional effects of the costs and benefits over time, space, and groups in the community.

14. The costs and benefits are those that relate to New Zealand and that would arise as a consequence of approving the application.

Submissions

15. When considering submissions made on publicly notified applications in accordance with section 54 of the Act, the Authority must have regard to any evidence in those submissions that is relevant to the assessment of the risks, costs, and benefits of introducing the substance or organism.

16. When considering submissions addressing scientific evidence or uncertainty, the Authority must take account of the scientific basis or authority for the information contained in the submission.

...

Decision-Making

22. (1) The Authority must evaluate risks, costs, and, where applicable, benefits taking into account--

(a) The nature and characteristics of the substance or organism; and
(b) The applicant's assessments and, where applicable, proposals for the management of the risks concerned; and
(c) Any submissions received; and
(d) The reviews prepared by the chief executive or any expert appointed by the Authority or the chief executive.

(2) Subclause (1) does not limit any discretion that the Authority may have under the Act.

23. The Authority may, in accordance with section 58 of the Act, obtain further information in order to gain a sufficient understanding of the actual or potential effects caused by the substance or organism and the means of managing those effects.

24. The Authority, its chief executive, its staff, and any appointed expert must use recognised risk identification, assessment, evaluation, and management techniques.

25. (1) When evaluating risks, the Authority must begin with a consideration of the scientific evidence relating to the application and take into account the degree of uncertainty attaching to that evidence.

(2) Where evidence relating to an application refers to other values and matters relevant to Part II of the Act, including the relationship of Maori culture and traditions with their ancestral lands and taonga, the Authority must also consider the values and other matters in that evidence.

26. Taking into account the measures available (if any) for risk management, the Authority may approve an application where a substance or organism poses negligible risks to the environment and human health and safety if it is evident that the benefits associated with that substance or organism outweigh the costs.

27. (1) Where clause 26 does not apply, the Authority must take into account the extent to which the risks and any costs associated with that substance or organism may be outweighed by benefits.

(2) Where an application is for a new organism and that organism causes any of the effects in section 36 of the Act, clause 26 and subclause (1) do not apply and the Authority must decline the application.

...

Uncertainty

29. Where the Authority encounters scientific and technical uncertainty relating to the potential adverse effects of a substance or organism, or where there is disputed scientific or technical information, the Authority--

(a) Must determine the materiality and significance to the application of the uncertainty or dispute taking into account the extent of agreement on the scope and meaning of the scientific evidence; and

(b) May, where the uncertainty or dispute is material or significant, facilitate discussion between the parties concerned to clarify the uncertainty or dispute.

...

32. Where the Authority considers there is uncertainty in relation to costs, benefits, and risks (including, where applicable, the scope for managing those risks), the Authority must attempt to establish the range of uncertainty and must take into account the probability of the costs, benefits, and risks being either more or less than the levels given in evidence.

Approach to Risk

33. When considering applications, the Authority must have regard to the extent to which the following risk characteristics exist:

(a) Exposure to the risk is involuntary:
(b) The risk will persist over time:
(c) The risk is subject to uncontrollable spread and is likely to extend its effects beyond the immediate location of incidence:
(d) The potential adverse effects are irreversible:
(e) The risk is not known or understood by the general public and there is little experience or understanding of possible measures for managing the potential adverse effects.

Aggregation and Comparison of Risks Costs and Benefits

34. When evaluating the combined impact of risks, costs, and benefits the Authority must, as far as possible,--

(a) Combine groups of risks, costs, and benefits using common units of measurement, including, where applicable, monetary valuations; and

(b) Use other techniques where common units are not possible, including, the identification of dominant risks (being risks that may have a deciding influence), and the ranking of risks in order of significance.

...

Presentation of Decisions

36. (1) The Authority must publicly notify its decision.

(2) When giving its decision to the applicant and to those persons who have made submissions, the Authority must--

(a) State whether the application is approved, with or without controls, or declined; and

(b) State the criteria in the Act and in this methodology relied on by the Authority in reaching its decision; and

(c) Where the application relates to a hazardous substance and is approved, state the classification of the substance and—

(i) Whether the controls specified in the regulations for that classification have been attached to the substance; or

(ii) Whether those controls have been varied by the Authority and attached to the substance; and

(d) Where the application is approved and relates to a new organism or hazardous substance in containment, state the controls attached to that approval in accordance with the Third Schedule of the Act; and

(e) State the reasons for the Authority's decision."

Bleakley 13 : Failure to weigh adverse effects and benefits collectively and cumulatively

[173] Submissions for the principal Appellants invoke s45(1)(a) plus clause 34 of the methodology. Submissions acknowledge the Authority's "overall evaluation of risks, costs and benefits and conclusions" (quoted para 30 supra) and in particular paragraph 5 reading:

> "5. Having considered all the possible effects of the organism, in accordance with sections 45(1)(a)(ii) and (iii) of the Act, the Majority is thus of the view based on consideration and analysis of the information provided and taking into account the application of risk management controls specified in this decision, that the risks of adverse effects associated with the field testing of genetically modified cattle containing this modification, are outweighed by the benefits of conducting the research in containment."

The submission is that this statement alone, unsupported by evidence of evaluation by the Authority of the combined impact of risks, costs and benefits is self-condemnatory: it "can only lead to the conclusion that [the Authority] has not applied clause 34 of the methodology". Further, it is said, the decision as a whole while identifying adverse effects, and benefits, does not evidence any cumulative evaluation.

[174] Counsel for Ag Research puts that argument as without foundation. The Authority's statement in paragraph 5 supra is put as sufficient. Further, it is said to be clear from the decision that the Authority did not consider risks were amenable to common units of measurement, and that was a decision open to it. Likewise, the Authority considered long-term benefits from research were difficult to quantify. Applying clause 34(b) the Authority had identified key risks and evaluated materiality in a narrative manner. In that process it had found all but one were negligible, on which basis they did not even cumulatively impact upon balancing. The decision turned upon balancing one significant adverse effect (on Maori) against benefits (principally scientific knowledge). Counsel also invoked the "Evaluation and Review Report" prepared by Authority staff said to include a specific overall evaluation. The Authority was required by clause 22(d) to take that report into account, and there is no evidence it did otherwise.

[175] Counsel for the Authority submitted the Authority did not consider costs and benefits as amenable to numeric expression in common units. Evaluation was by value judgment after consultation and consideration, a judgment expressed in narrative form. The decision identifies the significant issues, and while not explicitly ranking such by significance does describe the significance of each and its influence on the decision. Counsel similarly relied upon paragraph 5, and upon the Evaluation and Review Report.

Decision : CB13 : Failing to weigh adverse effects against beneficial effects collectively and cumulatively

[176] This ground goes to the substance of what occurred (or did not occur) rather than to forms of expression. On that level of substance, I am satisfied the Authority has not been shown to have erred. The starting point is, of course, its declaration in paragraph 5 that risks of adverse effects are "outweighed" by benefits. It speaks generally by class in relation to both adverse effects, and benefits, and that points strongly to cumulative treatment. The reference to "outweighed" clearly implies accumulation on both sides followed by a balancing. I do not regard this statement as much assisted by hopeful submissions that the Authority would have taken the Evaluation and Review Report into account. The Authority does not specifically refer to it. Equally, however, I am not persuaded the Authority's words show—let alone clearly show—that the substance of the s45(1)(a) process was not followed.

[177] I do not see cl. 34 as more than marginally relevant to this ground of appeal. The obligation to weigh collectively and cumulatively is implicit in and stems from s45(1)(a)(ii). It is merely assumed in clause 34, which goes on to direct use of common units in the exercise where possible. Any non-compliance with cl. 34 would be no more than potential evidence that the s45(1)(a)(ii) exercise had not been carried out. If there was non-compliance here, it would not persuade me the Authority's otherwise clear statement that s45 process had been observed was incorrect. It is borne out by the Authority's general approach. Error of law is not shown.

Bleakley 14(a)—(d) : Failure to apply methodology in relation to (a) risks, costs and benefits (b) uncertainty regarding adverse effects (c) range of uncertainty regarding costs, benefits and risks (d) extent of existence of risk characteristics

[178] Submissions for the principal Appellants are at two levels (i) an allegation relating to 14(a)-(d) that the Authority did not apply the criteria prescribed by the methodology (ii) a further allegation, relating to 14(e) and cumulative or alternative, that the Authority did not, in any event, state "with adequate clarity and precision" criteria in the methodology which it did apply. I deal only with (i) at this stage.

[179] Concern is expressed at the absence of evidence on the "face of the Record" that the Authority carried out evaluations and assessments required by clauses 9, 12-16, 22, 24-27, 30, 33 and 34.

[180] Submissions for Ag Research identify the two underlying questions as (a) what is required of the Authority under the methodology? (b) were those requirements met?

[181] Requirements then are analysed into two categories, (i) considerations to be taken into account and (ii) form of expression. I deal only with (i) at this stage.

[182] The methodology sets out mandatory considerations, but given the range of decisions to be made under Part V, not all considerations will be relevant to every decision. Determination which considerations are relevant is said to be for the Authority itself.

[183] Requirements as to form of decision are put as contained in s45 and in clause 36(2)(b). The methodology does not require the decision to be in a form neatly referenced to methodology criteria, let alone in the order appearing in the methodology.

[184] Turning to Bleakley 14(a) and 14(d), counsel submits the Authority did in fact apply the identified methodology clauses, or at least there is no evidence it did not. Counsel submitted in support "notes on compliance". Counsel also invoked the Evaluation and Review Report which the Authority is required to take into account under clause 22, put as presenting the relevant information in a format and sequence consistent with the methodology.

[185] Turning to Bleakley 14(b) and (c) (uncertainty matters), it was submitted the issue of scientific uncertainty was not clearly put before the Authority, dismissing statements as to uncertainty by Wierzbicki, Jones, Wills, and McGuiness as without evidential basis or expertise. The Authority, nevertheless, did address uncertainty on "some aspects", for example long-term unanticipated health effects. It decided scientific uncertainty regarding potential consequences would not result in adverse

consequences while research was conducted within containment. It took into account submissions, and the need for caution under s7 and clause 30. It decided the caution requirement related to containment, and risks were negligible.

[186] Submissions for the Authority begin by assertion, in a general way, the Authority did apply the methodology. In support, submissions refer not only to the text of the Authority's decision, but frequently to the Evaluation and Review Report and to other documentary materials which came before the Authority.

[187] For convenience, I will approach the Authority's submissions under the same groupings as adopted in submissions for Ag Research.

[188] First, Bleakley 14(a) and (d).

[189] On clause 9, submissions referred to passages in the decision, and other materials held by the Authority which referred to clause 9(b), 9(c)(i), 9(c)(iii), 9(c)(iv), 9(c)(v), and 9(c)(vi).

[190] On clauses 12, 13 and 14, submissions referred to the Preliminary Comments and clause 5 in the Evaluation and Review Report. Clause 12 did not require each risk and potential adverse effect associated with each "key issue" identified by the Authority to be individually identified and assessed in shopping list fashion by reference to the five factors in clause 12. The processes said to have been followed, and put as adequate, were put as illustrated by consideration of adverse effects through affront to Maori spiritual values. These were referred to in the Evaluation and Review Report and Nga Kaihautu report. The issue was then given "much consideration". Each of the five requirements of clause 12 was then dealt with in an identified portion of the decision (I defer further references). Clause 13, on assessing costs and benefits, required a similar exercise. Costs (i.e. effects, expressed in monetary or non monetary terms) are addressed as each issue/effect is discussed, and weighed in narrative terms. Benefits (first discussed in the Evaluation and Review Report) are discussed primarily at page 26. Many benefits asserted in the Evaluation and Review Report are not accepted by the Authority as relevant to the containment situation at issue. Longer term benefits are put to one side as too

uncertain and not necessarily relevant. Clause 14 was recognised in the decision's references to economic benefits and encouragement of research in New Zealand.

[191] On clauses 15 and 16, the Authority did not overlook evidence in submissions relevant to assessment of risks, costs and benefits, and did take into account scientific basis or authority for information in submissions addressing scientific basis or uncertainty.

[192] On clause 22, the Authority considered the matter stated, as is "evident throughout the decision".

[193] On clause 24, use of risk management techniques is "particularly reflected in the Evaluation and Review Report" (no other documentation is cited).

[194] On clause 25, the Authority did begin by considering the scientific evidence and the degree of uncertainty attached. That was done in the Evaluation and Review Report, the Authority's consideration of which is said to be reflected in the decision (no examples being quoted). Other values and matters were also considered as required by clause 25(2).

[195] Clause 26 is said to be not applicable, clause 27 having been followed instead.

[196] On clause 27, the Authority did take into account the extent to which risks and costs maybe outweighed by benefits. It notes some conclusions in relation to specific issues (e.g. environment, public health, and Maori beliefs as against benefits of research) and carried out a substantial and combined balancing (p27).

[197] On clause 30, the Authority did take into account the need for caution in managing the adverse effects of any unresolved scientific or technical uncertainties. This is reflected in the conditions imposed upon containment.

[198] On clause 33, the Authority did have regard to the extent of the stated risk characteristics. The Evaluation and Review Report analysed risks in four groups, with the elements of clause 33 addressed in relation to each. Further, to the extent

risk characteristics were relevant, they are reflected in or can be inferred from those parts of the decision discussing those effects or risks.

[199] On clause 34, the Authority did not consider risks, costs and benefits were amenable to numeric expression in common units. Value judgments were used, expressed in narrative form. Issues and risks, while not ranked, were given identified significance. Submissions point to the "overall evaluation", which followed discussion of adverse and beneficial effects, and also to the overall evaluation in the Evaluation and Review Report which demonstrates balancing in combined terms.

[200] Second, Bleakley 14(b) and (c) relating to uncertainty matters.

[201] Submissions baldly state the Authority complied. Submissions point to adverse effects on Maori from affront to spiritual beliefs as an example of considering the range of uncertainty, and possibility of variation.

Wills 2 : Failure to apply methodology through failing (a) to take into account distributional effects (b) to combine groups using common units of measurement

[202] Counsel for principal Appellants saw this ground of appeal as related to Bleakley grounds 13 and 14, with principal Appellant's submissions applicable accordingly. Professor Wills filed his own written submission, which I will take as presented through counsel. It argues that the Authority did not take account of the "true distribution of effects" of the field trial. It took into account indirect future benefits (research knowledge) of present field trial activity, but dismissed for later consideration indirect costs as more relevant to subsequent release applications. Further, distributional effects as between research institutions and communities were not considered. That was a failure, also, to use common units of measurement.

[203] Submissions for Ag Research put the Authority's decision as one where the possibility of "long-term adverse effects" (seemingly equated to Professor Wills "long-term costs") were considered by the Authority, but found to be negligible in a field testing within containment. That, it is said, demonstrates that the Authority

took into account distributional effects within clause 13(c). There was no failure to use common units of measurement. The Authority decided long-term indirect costs were essentially non existent. The Authority considered the research could lead to long-term benefits, but did not factor these into the balance, concentrating instead on advancement of knowledge. (By implication, it seems, there was nothing on either side to measure by common units or otherwise).

[204] Submissions for the Authority respond largely in terms of previous submissions on Bleakley 13 and 14. Submissions added that distributional effects over time are considered in relation to long-term unanticipated health effects, and health effects for Ngati Wairere. Distinctions are drawn between the effects of this field trial, and of outcomes of the field trial. Distributional effects over space are constrained by the containment. Distributional effects over groups are discussed in the context of general research benefits, and adverse effects upon Maori.

Decision : Methodology : Bleakley 14(a)—(d); Wills 2

[205] The onus of proving non compliance rests on Appellants. Appellants assert: Appellants must prove. That elementary point gains added force in this case through applicability of the presumption *omnia praesumuntur rite esse acta*. The Authority is a public body discharging a public function and obliged by law to follow prescribed procedures. There is a presumption of law it has done so, rebuttable by evidence to the contrary (Phipson on Evidence, 15th Edition, 2000, para 4-28). In addition to the presumption, the text of the decision makes a generalised claim of compliance with statute and methodology:

> **"Relevant Legislative Criteria**
>
> The application was lodged pursuant to *section 40* of the Hazardous Substances and New Organisms (HSNO) Act 1996, and determined in accordance with *section 45*, the additional matters contained in *sections 37* and *44*, and the matters set out in Part II of the Act.
>
> Consideration of the application followed the relevant provisions of the Hazardous Substances and New Organisms (Methodology) Order 1998 (the Methodology)."

It is not for the Authority to prove it complied with the methodology. It is for Appellants to show on balance of probability it did not.

[206] The obvious starting point in attempting that exercise lies in the text of the Authority's decision. One looks for some mis-statement or misapplication of the requirements of the methodology. One also looks for any omission to apply the methodology. However, and particularly in relation to omissions, some care is necessary. There is no statutory requirement that the Authority expressly cross-reference to identified paragraphs in the methodology, however desirable such a practice might be. An omission to refer to a requirement of the methodology is of course a promising start towards proof of non compliance, but is not necessarily conclusive. The question is not one of form, but of substance. As Jeffries J colourfully illustrates in the *NZ Vegetable Growers Federation* case infra, silence can be significant but is not necessarily so in the case of statutory tribunal decisions. (I believe the reference to be to the dog which did not bark, as noted by Sherlock Holmes in "Silver Blaze", Memoirs of Sherlock Holmes, Sir Arthur Conan Doyle). An omission to refer is to be weighed against such matters as the Tribunal's expertise, care and time taken, and indirect evidence from overall content of the decision.

[207] Appellants' submissions start by criticising the above-quoted extract from the decision, which asserts compliance, as a "bare statement, lacking precision that would have indicated [the Authority] had made a reasoned appraisal" of criteria on which it based its decision. It was, it was said, not evident from the text of the decision that it "adverted to and applied" the methodology criteria required.

[208] It is perhaps ironic in that light that (apart from some further more detailed analysis of requirements regarding "uncertainty") Principal Appellants' submissions did not themselves proceed much beyond a bare statement there was "no evidence on the face of the Record" that the Authority "...carried out the [requirements of] clauses 9, 12–16, 22, 24-27, 30, 33 and 34 of the methodology". Appellants' submissions did not undertake further close analysis, point by point; but proceeded to concentrate upon clause 36 and asserted failures in expression more than substance.

[209] Submissions for Ag Research and the Authority did not take matters much further.

[210] Counsel for Ag Research submitted a note headed "methodology—notes on compliance", said to have been prepared only belatedly. This is noted as being by way of example only, it being said any complete analysis would exceed in length the decision itself. Counsel for the Authority adopted this study (subject only to any submissions to the contrary).

[211] The notes set alongside methodology paragraphs 9-34, as summarised, passages from the decision, or references to portions of the decision, said to demonstrate observance of the requirements concerned. In some places, and to varying degrees, the material so offered up is consistent with some of the requirements of the methodology. However, the methodology is not the only approach which the Authority was required to keep in mind. There are signs its primary attention was directed towards the Act, provisions of which are referred to from time to time, rather than to provisions of the methodology.

[212] There is a complete absence of reference to the methodology, generally or by specific clauses, following and supporting the initial generalised claim of compliance. (The one exception may be a reference in the minority maori values section, page 21, to there not being "a methodology followed by the Authority" in weighing up "cultural and spiritual rules" to Maori "against the costs and benefits". If that is a reference to the methodology, which is not at all clear, it is a – minority – assertion the methodology was not followed at least in that area). In particular, there is no reference to the methodology in the final "Overall Evaluation of Risks Costs and Benefits and Conclusions" (contrasting in that respect with references to certain provisions of the Act). It is very difficult amidst such silence to feel any confidence the Authority did in fact apply the methodology itself.

[213] Concerns in that respect are not eased by the fact the Evaluation and Review Report supplied by Authority staff did attempt some analysis by reference to methodology requirements. I refer in particular to s5 : "Identification, Assessment and Evaluation of Risks, Costs and Benefits". If the Authority had operated with

conscious regard to the E&R Report and to the methodology, something similar might have been expected. There was nothing similar. Indeed, as noted, and in spite of cl. 22(1)(d), there is only a somewhat shadowy and indirect cross-reference in the decision to the E&R Report at all. It is not at all clear it influenced the eventual decision.

[214] Nor are concerns eased by the novelty of the methodology decision-making process, and the difficulties which its application, and the explanation of its application, may have seemed to present. It must have been very tempting to write an orthodox narrative without entering into the complications of this formulaic approach to matters which at many points essentially are value judgments. This is not a case like the *NZ Vegetable Growers Federation Inc v Commerce Commission* (1998) 2 TCLR 582, 588-9 where surrounding circumstances provide reassurance. They point, if anything, in a contrary direction.

[215] The onus of proof of non utilisation of the methodology lies, of course, on the Appellants. Whether it has been discharged comes down in the end to this comparison. On the one hand there is the presumption of action in accordance with law in the absence of evidence otherwise, plus the generalised statement in the decision of compliance with "relevant" (but unspecified) methodology. On the other hand, there is a total lack of reference to particular provisions of the methodology, and for the most part only rather unsatisfactory indications from content. It is not an easy assessment. Indeed it is a fine balance. However, while recognising there is no requirement at law for express reference to methodology clauses, and acknowledging that silence is not conclusive, I have come in the end to the view that the total absence of any express or clear reference to the provisions of the methodology which were applicable as the decision progressed must weigh the scales against finding general compliance. I place little weight on the generalised claim of compliance with "relevant" but unspecified clauses at commencement of the decision when no more is said. Such generalised claims have only limited reliability when their substance is not further demonstrated. Inference from content is too uncertain to engender confidence. The absence of clear cross-reference to the methodology, as need arose, is very surprising if the methodology was consciously

and properly applied. The surrounding circumstances are not such as to allow that gap in expression safely to be filled.

[216] I am driven to find error of law through non application or insufficient application of the methodology. This is subject to a particular finding in relation to cl. 13(c) infra. I come to the additional question of materiality of error at a later point.

Bleakley 14(e): Failure to apply methodology in relation to statement of criteria relied upon in decision

[217] I turn now to alleged failure to state criteria relied upon. Bleakley 14(e) alleges failure to apply the methodology by failing to state the criteria in the Methodology Order relied upon when giving its decision so breaching paragraph 36 of the Methodology Order. At risk of being pedantic, I read the appeal ground reference to "when giving its decision" as equating the actual clause 36(2)(b) phrase "in reaching its decision". The ground does not refer to criteria under the Act, but only under the methodology.

[218] Submissions for principal Appellants assert the Authority erred through failing to "state, with adequate clarity and precision in its decision, the criteria in the Methodology Order which it did apply". The submission appears to accept that not all criteria stated in the methodology necessarily apply to all applications. The range of methodology criteria is put as diverse, in view of different circumstances of different applications, with a corresponding need for critical appraisal as to which criteria are to be relied upon. The 36(2)(b) requirement to "state" involves particularisation of criteria, not merely the bare assertion that "relevant" provisions of the methodology have been "followed". The Authority did not embellish sufficiently to indicate a reasoned appraisal. The decision is prejudicial through not being readily intelligible, with appellate function correspondingly impeded. There has been material non compliance within the approach in *Save Britain's Heritage v No.1 Poultry Ltd* (1991) 2 All ER 10, 21 et seq. The Authority is put as having ignored a critical decision-making requirement. The importance of the requirement is backed by Hansard references to the importance of the methodology in itself as

providing "a rigorous and consistent approach" and as governing the "weighting" to be given to principles and purposes of the Act and the "actual level of risk aversion". The implicit argument appears to be that statement of methodology criteria applied as required by clause 36(2)(b), is correspondingly important.

[219] The submission instances a particular concern at the absence of a clearly stated reference to methodology requirements in relation to scientific and technical uncertainty in terms of clauses 29 and 32. It is not however limited to that example.

[220] Submissions for Ag Research trace the legislative background to the methodology. The Bill as introduced turned on a concept of "net national benefit", defined as the sum of all costs and benefits both monetary and non monetary. At the Select Committee state that was considered too indeterminate: weighting to be given to particular costs and benefits was too uncertain to provide consistency. The Select Committee proposed, instead, that this be dealt with by a methodology which would include costs and benefits concepts. Section 9 and eventually the methodology followed. The Parliamentary aim, it was said backed by Hansard, was to have rigour and consistency in assessments.

[221] Ag Research submitted there is no clear direction as to how s45, Part II and the methodology interrelate, but accepts the methodology sets out mandatory considerations as to how the Authority is to take into account all the effects of the organism and balance beneficial and adverse effects under s45(1)(a)(ii). The methodology relates to all decisions under Part V. It is "one size fits all"; and accordingly "not all considerations will be relevant to every decision".

[222] Ag Research submits the requirement to state "the criteria" is not a requirement to state exhaustively every step in the decision-making process. Counsel cited *NZ Vegetable Growers Federation Inc v Commerce Commission* (1998) 2 TCLR 582, 588-9 in which a requirement under s61(4) Commerce Act 1986 to state "reasons" was not breached by absence of reference to factors by an expert body which had considered the matter thoroughly and the decision of which contained ample evidence the necessary factors had indeed been taken into account. That situation was said to apply in the present case. The dictionary meaning of

"criteria" is stated as "means or standards of judgment". Clause 36(2)(b) does not require reference in the decision to clause numbers in the methodology, or to adopt the order in the methodology.

[223] Ag Research analyses the extent of clause 36(2)(b) requirements on a so-called "purposive" approach. Three reasons are seen for its existence (a) it is a convenient mechanism to evidence consistent application of the methodology (b) it allows comparison between decisions (c) it provides transparency. The first—consistent application of the methodology—is put as the "key requirement".

[224] Against that background Ag Research submits that although there was no reference to specific clause numbers in the methodology, the Authority's decision stated the criteria sufficiently to meet clause 36(2)(b) requirements. If, it was added orally, there was non compliance with clause 36, the Court could not be satisfied compliance would have made a difference to the Authority's decision.

[225] Submissions for the Authority were economical. The decision, it was noted, referred to the relevant sections of the Act. Legislative criteria in s45(1)(a) were met. Clause 27 of the methodology "which might be said to comprise the criteria which was (sic) applied by the Authority" added nothing to the requirements of the Act. "It is difficult", the submission says plaintively, "to know what more could be said" by the Authority.

Decision : Methodology : Bleakley 14(e)

[226] The Authority is accused of failing to state "criteria". Clarity in definition is desirable. I prefer the expanded primary meaning in 1 New Shorter Oxford Dictionary (1993) 550 under which a "criterion" is "a principle, standard, or test by which a thing is judged, assessed, or identified". Clause 36, consistently with strict usage, distinguishes between "criteria" in 36(2)(b) and "reasons" in 36(2)(e). Criteria are the test to be applied. Reasons commence with that test, but extend to further reasoning processes leading from it to an ultimate result.

[227] Clause 36(2)(b) requires the Authority to state criteria relied upon in both the Act and the methodology. The present ground of appeal does not allege failure to state criteria in the Act. The only complaint is as to criteria in the methodology.

[228] Criteria in the Act—not directly relevant—are laid down by ss5, 6, 7, 8, 36 and s45 and through that ss44 and 37.

[229] Criteria in the methodology, some of which partly overlap or partly equate criteria in the Act, can be identified through requirements made by the following methodology clauses (abbreviated headings given):

9(a)(b)(c)	:	Equivalent to ss5 and 6
10(a)-(g)	:	Equivalent to ss36 and 37
12	:	Evaluation of assessment of risks
13	:	Evaluation of assessment of costs and benefits
21	:	Decision to accord with Act and regulations
22(1)	:	Evaluation of risks, costs and benefits
24	:	Use of recognised risk identification assessment evaluation and management techniques
25	:	Evaluation of risks
26	:	Negligible risks with evident benefits
27	:	Risks and costs outweighed by benefits
29(a)	:	Scientific uncertainty : determination of materiality and significance
30	:	Need for caution (equivalent to s7)
32	:	Range of uncertainty

33 : Approach to risk

34 : Aggregation and comparison of risks, costs and benefits

[230] I regard the requirement in clause 36(2)(b) to state methodology criteria relied upon as an important component within the methodology. This is not some mere matter of format. The policy behind the Parliamentary decision to provide for the methodology, an unusual approach, was to promote rigour in decision-making, consistency between decisions, and transparency. Hansard quotations supplied by both sides from the third reading debate on 23 May 1996 (Hon Mr Smith, Chairman of the Select Committee, 555 NZPD 12683; Hon Mr Upton 555 NZPD 12690-1) demonstrate the point. Independently of such extrinsic materials, it is implicit. There is, with a "one size fits all" methodology, a distinct possibility not all criteria in the methodology will be relevant or be utilised in reaching a particular decision. It is important, if rigour consistency and transparency are to be achieved, for the particular criteria in fact relied upon to be clearly identifiable. While the requirement is to state "criteria" rather than "reasons", much which is said by Lord Bridge in *Save Britain's Heritage v Secretary of State* supra 24-25, 27, as to underlying policy and substantial prejudice can find application.

[231] The clause 36(2)(b) requirement to "state" criteria relied upon does not require inflexibly that such methodology criteria be identified by their clause numbers, although such obviously is desirable. Nor does it require they be identified by similarly worded headings. However, for criteria relied upon to be "stated", they must at a minimum be clearly identifiable as such from the text of the decision. Generalisations with uncertain limits such as "relevant criteria" do not meet that test. The ultimate result must be one where an analyst or critic can extract a clear and reliable list of criteria utilised, or not utilised, furnishing a sound basis for comparison with other decisions, or for criticism or challenge. There is no room for vagueness or obfuscation.

[232] I turn to the decision itself. Whether the Authority did in fact rely upon all relevant criteria in the decision which it reached is not the present issue. The present issue is one of expression: did the Authority "state" the criteria so relied upon?

[233] I am driven to a finding the Authority did not. Indeed, although deserving some sympathy over the difficulties of pioneering a novel form of decision, it fell woefully short of meeting this requirement.

[234] I accept that arguably some points of compliance can be identified. I dismiss the generalisations at p4 that consideration "followed the relevant provisions of" the methodology, and at p5 that consideration "encompassed those matters relevant to the application". Those generalisations are not a statement identifying with sufficient clarity criteria concerned in a relatively complex application such as the present. (It is a sad commonplace to lawyers that relevance can be in the eye of the beholder). The statement of "key issues" at p5 does however go some distance towards identifying criteria utilised, particularly under its headings (2) and (4) which can be related to aspects of clause 9. (I am prepared in that regard to accept the (2)(ii) reference to "environment" as a shorthand for more widely stated clause 9 environmental aspects). Likewise, although less obviously, statements commencing at p9 under the heading "Effects of the organism (risks to the environment and human health and safety)"—and in particular under subheadings "risk to the environment", "risk to public health", and "risk to the relationship of Maori...with taonga" can be seen as raising aspects of clause 9 criteria. Likewise the discussion at p26 of "beneficial effects" can be seen as raising "benefits criteria" involved within wider criteria in clauses 9, 10, 13, 22, 26, 27, 32, and 34. Further, the p27 "overall evaluation of risks, costs and benefits", and perhaps even the p5 cross-reference to s45, can be seen not only as re-emphasising the environmental and human health and Maori relationship criteria, but also as invoking aspects of risk management controls (seemingly through the Controls imposed) and the weighing of benefits against adverse effects. These latter two can be seen as consistent with parts of methodology clauses 24, 27, and 34. Last, statements as to compliance with legislation and methodology could be taken as a reference to the clause 21 criterion (although there is no mention made of compliance with regulations).

[235] However, this leaves as many questions unanswered. The relationships noted between the decision text and various methodology criteria are incomplete and in some cases haphazard. It is quite possible the Authority had the Act in mind rather than requirements of the methodology itself There are no references at all to the methodology criteria contained in clauses 12, 25, 29(a), 30 and 33 all of which bear upon matters of risk. There are both incomplete references, and total silence. Some indeed might begin to wonder whether the Authority recognised certain clauses or parts of clauses in the methodology as constituting "criteria" at all. There is, in terms recognised by Lord Bridge, room for "substantial prejudice" through criteria being "so inadequately or obscurely expressed as to raise a substantial doubt whether the decision was taken within the powers of the [Act]" (ibid, 24).

[236] As I have said, the clause 36(2)(b) requirement to "state the criteria...in this methodology relied on by the Authority in reaching its decision" is important. The Authority has failed to do so in significant degree. There is corresponding error of law.

[237] I turn to Wills 2. It has two legs. (i) methodology clause 13(c) distributional effects (ii) methodology clause 34(a) common units of measurement. I take these in turn.

[238] Methodology clause 13(c) requirements are to be read in context. Clause 12, preceding, provides that when evaluating "risks" the Authority must take various factors into account. Clause 12 then deals with related "costs and benefits", directing in similar fashion that other factors be taken into account. These latter comprise (a) the costs and benefits, monetary or non monetary (an otiose requirement) (b) magnitude or expected value of costs and benefits with allowance for uncertainties, and then (presently relevant) (c) "the distributional effects of the costs and benefits over time, space, and groups in the community". There is no suggestion "distributional effects" is a term of art. I take the phrase as referring to the manner in which effects are distributed, relevantly over time space and groups.

[239] There is then an important qualification. Consistently with references to "in an application" in clauses 12 and 13, clause 14 provides that the costs and benefits

are those "that would arise as a consequence of approving *the application*" (italics added). They are the costs and benefits of this application; meaning in the present case an application to field test in containment. They are not the costs or benefits which would arise from an application (which could yet come) to approve release.

[240] Professor Wills quotes two extracts from the Authority's decision. The first comprises the four paragraphs concluding the Authority's discussion under the heading "beneficial effects" (pages 26-27). Again, it needs to be read in context. It follows observation that the "principal" benefit expected to be gained will be scientific knowledge, related immediately to "the production and field testing" of the GM cattle concerned. It follows also a reference to additional "indirect benefits" said to be "likely to occur as a result of this trial", identified in terms of research capacity and encouragement. There is no doubt the Authority was thinking in terms of *present* benefit, and present benefit arising from this field testing trial. It was not thinking of future benefits. The Authority then turned to the paragraphs relied on by Professor Wills, prefaced with "For the longer-term...". It is only at this point the Authority looks at future benefits (direct or indirect). Importantly, it looks at these future prospects simply to dismiss them. Future commercial applications are classed as premature speculation. Long-term benefit ("as with all fundamental research") was said to be "difficult to quantify", beyond recognition of a pool of knowledge from which other benefits flow. The Authority then crystallises its thinking (page 27):

> "immediately, and for the purposes of most containment applications therefore, the issue is not so much whether the longer-term benefits obtained will be achieved, but whether research leading to those potential benefits is a legitimate and valuable scientific endeavour".

The Authority added that it accepted, given the significance of the dairy industry in New Zealand, that its research institutions "had to be at the leading edge" of such GM research.

[241] Professor Wills submits the Authority "gave consideration to the current relevance of indirect future benefits but dismissed for later consideration the relevance of indirect costs". I do not accept the first analysis of the Authority's approach. The Authority gave consideration to current relevance of indirect future

benefits only to dismiss them. The Authority gave no weight to future benefits, direct or indirect. In this containment application its eye was on the present position of the ball, not where it might favourably bounce.

[242] In that light, there is no logical inconsistency in the approach which the Authority adopted as between indirect future benefits of a containment trial, and indirect costs. Professor Wills goes on to quote the Authority's observations at the foot of page 11 as dismissing future costs as adverse consequences, putting that as relevant to release applications but not relevant to present containment applications. That may be so; but when the Authority's observations as to future benefits are properly evaluated, there is no inconsistency in this benefit/cost approach.

[243] Professor Wills submits further that the distributional effects of the costs and benefits between "research institutions of the pastoral industries in New Zealand" (presumably AgResearch) and "peoples and communities" concern for their capacity to provide for their social and cultural wellbeing were not considered as required within clause 13(c). I presume this is a clause 13(c) "groups in the community", and perhaps "space", contention. The submission is not elaborated.

[244] I do not accept that submission. The Authority clearly considered the distributional effects of costs (adverse events) in relation to space and groups in the community. This being a trial in containment with negligible risks of exposure, the Authority considered there were no significant effects outside the area except in relation to Ngati Wairere as holding mana whenua and in respect of their culture and traditions. The Authority would have been very aware there were "groups of the community", at least in the sense of schools of thought, who were opposed to all aspects of GMOs and within that to the proposed field testing. It had heard from a number. I do not accept those "groups" were not considered. It is plain from the thrust of the Authority's decision, with its focus upon the limited nature of the field trial in containment, that it did not regard those views as to costs as well founded.

[245] I have doubts whether the Authority in the approaches just reviewed consciously thought in terms of cl. 13(c) at all. There is no reference to it, or to its terms. However, with the benefit of the closer analysis which submissions

precipitated, I am satisfied the Authority in this special area in fact paid sufficient attention to relevant factors. Its approach to the matter of future benefits, and its emphasis upon containment, were determinative. If there was a failure to apply the methodology it did not have material effects.

[246] I turn to the clause 34(a) common units point. It is to be read against surrounding obligations to assess risks, assess costs, and assess benefits, the assessment of costs and benefits being on a monetary or non monetary basis. Clause 34(a) speaks of the ultimate requirement to "combine" risks, costs and benefits (the "combine", with better intentions than Latin, refers to more than two). It is hard to "combine" effectively without using common units. There is an understandable direction to use common units "so far as possible".

[247] Professor Wills submits that although the Authority grouped risks, costs and benefits into categories "direct" and "indirect" it failed to use common units of measurement in assessing indirect costs and benefits. (There is no further criticism directed at measurement of *risks*, or of *direct* costs and benefits). The basis for this submission is the same as that advanced above in relation to clause 13(c). The Authority, it is said, took into account effects that may arise subsequent to field trials (if successful) but limited consideration of indirect costs to those from effects of the field trials, not subsequent effects.

[248] As noted above, I do not accept that dichotomy. The Authority placed no weight at all on future benefits, as opposed to present benefits, arising from this containment trial. The factual premise on which the submission is advanced has not been established.

[249] I do not think this is really a "common units of measurement" problem at all, as opposed to a "relevant factors" problem. The submission perhaps pushes clause 34(a) beyond its intended limits. The notion underlying clause 34(a) is reduction to a common currency to assist weighing off of risks and effects against benefits. Professor Wills' real complaint is not so much that a common currency was not used over a number of factors, but that one factor—future indirect costs—was not deployed at all.

[250] I do not find material error of law.

Bleakley 16 : Value of research in itself, and GMO dairy research in New Zealand, is an irrelevant consideration

Bleakley 18 : Benefits other than economic (and related) benefits of use of the new organism are an irrelevant consideration

[251] The principal Appellants put these two grounds as relating to "the benefits identified and taken into account" by the Authority. The submission quotes extracts from pages 15 (the conclusions of the majority in relation to Maori matters), p18 (so-called "practical considerations") and pp26-27 ("beneficial effects"). I summarise the thrust of those pages as being that tangible benefits were not more than a future possibility, but there was benefit—the "principal benefit"—in the scientific knowledge gained, which added to a pool of knowledge from which other benefits flow. (There was an associated statement that given the significance of the diary and pastoral industries to New Zealand, it should be at the leading edge of research in the field).

[252] The submission accepts that s6(e) allows the Authority to take into account "economic and related benefits", and that as a generality research in itself may be positive, but puts those aspects as being subject to the "overarching" s4 purpose of environmental and health protection.

[253] The submission complains of an apparent inherent bias in the Authority's decision in favour of genetic research. There is no such presumption in the Act. It was removed along with the previously proposed test of "net national benefit". If there is a presumption in the Act, it is said, it is in favour of environmental protection at the expense of economic and social development, and the Authority operated upon an erroneous onus.

[254] Ag Research bases its submission not upon s6(e), but upon s5(b). Section 5 requires the Authority to "recognise and provide for" the maintenance and enhancement of the capacity of people in communities to provide for their own economic, social and cultural wellbeing and for the reasonably foreseeable needs of

future generations. The research involved and knowledge provided is put as serving that purpose. The Authority was entitled to take into account the desirability of carrying out such research as a relevant factor. Sections 6 and 7 on which the principal Appellants relied merely direct the Authority to "have regard" to the factors stated, and are subject to the stronger obligation in s5.

[255] The Authority submits that the potential benefits of research, and the need for New Zealand research institutions to be at the leading edge of research in this field, were relevant factors. Orally, it was accepted that would not necessarily apply to all research.

Decision : Bleakley 16, 18

[256] There is merit in submissions on both sides, but there is also overstatement. All of ss4, 5, 6 and 7 and indeed 8, have relevance, with balancing required.

[257] I accept research of this character falls within s5(b). It is research which adds to a pool of knowledge which is capable of leading to downstream economic and health advantages. As such it can be said to promote maintenance and enhancement of capacities to provide for economic and social wellbeing, and for the reasonably foreseeable needs of future generations. As with much research, it may be future generations who reap the greater benefit. It may also fall within s6(e) as potentially conferring economic and related benefits. In terms of s5, it is activity which is to be recognised and provided for. The Authority did not err in law in doing so.

[258] However, at the same time, due regard must be paid to s4 purposes and s7 precautionary approaches. I accept that there is not a bias in favour of scientific research per se which somehow downgrades environmental protection and health and safety, or the need for caution. The Authority must have due regard to such matters. The s5 recognition and provision based on potential benefits of the research must at a minimum be subject to appropriate controls, and they may be stern controls. The assessment of the beneficial value of the research, its potential adverse effects, and the need at least for controls is the function for which the Authority is constituted. The Authority placed a value on the research involved. Within that, it

considered along with the desirability of pure knowledge the more practical consideration of developing capacity in vital dairy and pastoral industries. It had due regard to the need for controls. There was no error in law in its approach to research benefits.

EXTERNAL SCIENTIFIC ADVISOR

Wierzbicki 4:

> "The Authority erred in law in failing, having engaged an External Scientific Advisor to advise it on the application, to provide that External Scientific Advisor with all submissions and further information provided to the Authority and in failing to ensure that the External Scientific Advisor was present at the hearing on 25 August 1999."

Appellants' Submission

[259] The submission, as developed by counsel, was that s58(1)(a) of the Act and clauses 17-19 methodology entitled the Authority to appoint experts to review information provided by Ag Research; clause 24 of the methodology required the expert to use recognised risk techniques; and clause 19 methodology entitled the Authority to require the expert to appear at the hearing, present material, and be questioned. ERMA had established an E&R team to evaluate the Ag Research application, and had appointed an external scientific expert Professor Blair. The E&R team produced the E&R Review, with a Report by Professor Blair annexed. The Review and Report raised important issues. The Blair report, specifically, raised "a number of important questions". However, it does not appear on the face of the record that Professor Blair was invited to review any information provided subsequent to May 1999. Further, while the project team leader (Ms Beale) appeared at the hearing on 25 August 1999, Professor Blair was not requested or required to attend.

[260] The submission recognises clause 19 provides the Authority with a discretion whether to require an expert to appear at the public hearing, but submits that in the

circumstances there was "a positive duty to continue to involve Professor Blair or a suitable alternative external expert in the ongoing consideration...". Further, Professor Blair having raised a number of pertinent issues, "there is effectively a legitimate expectation on the part of submitters that as a matter of natural justice and fairness "Professor Blair would be made available at the public hearing to be questioned and to review additional information.

Other submissions

[261] We did not call for opposing argument. The ground, as developed in submissions, plainly cannot succeed.

Decision : Wierzbicki 4 : External Scientific Advisor

[262] First, the ground advanced essentially is an argument as to process, not as to error of law in the decision itself. It is a matter which, if it has merit, should be raised within judicial review proceedings rather than an appeal against the decision on a question of law.

[263] Second, and more substantively, the Authority has a complete discretion under s58(1)(a) and under clause 17 whether or not to appoint an external expert to assist it. A discretion whether to appoint at all contains within it a discretion to appoint to only a limited extent, or for limited duration. The greater includes the lesser. Having appointed Professor Blair, the Authority was not required to carry on his appointment and function indefinitely.

[264] Third, it does not suffice to say there is no evidence "on the face of the record" that Professor Blair was not supplied with further information. The allegation he was not so supplied is made by the appellant. It is for the appellant to prove. The "face of the record" cannot be conclusive as to matters which transpired between the Authority and Professor Blair. There may or may not have been further information provided. The burden of proof is not discharged.

[265] Fourth, there cannot have been a "legitimate expectation", as recognised by law, that the Authority would require Professor Blair to be present. That was a

matter of discretion for the Authority. There was no established practice to that effect. Professor Blair, on Appellants' own case, had not been fully briefed to the point of hearing. It is possible indeed that Professor Blair might have attended at the request of the Appellant or other objectors, although such no doubt would have been at their expense rather than that of the Authority. Whether that would have been possible is not known. This is not a legitimate expectations or natural justice situation.

[266] There was no error of law.

PRECEDENT EFFECT

Bleakley 15 :

> "15. The Authority erred in law and took into account irrelevant considerations in having regard to the precedent effect of declining the application for all other transgenic modification experiments."

Wierzbicki 1:

> "1. The Environmental Risk Management Authority ("the Authority) erred in law and fettered its discretion in a manner amounting to predetermination in having regard to the precedent effect of approving or declining the application."

Appellants' Submissions

[267] Appellants submit the "precedent effect" of any given decision ought not to be "over stressed": *Save Britain's Heritage v Secretary of State* (1991) 2 All ER 10. There is need for a "careful, precautionary and precisely pursued approach", with the Authority responding to applications "with a fresh stance", not fettering itself "with predetermined concerns". As an asserted illustration, adverse effects may differ from application to application, even though such applications may generally be concerned with transgenic modification. For so long as transgenic modification is accompanied by uncertainty, a quality shared by all transgenic modification

applications, it is "crucial" the Authority does not bind itself to the "predetermined effect" of one decision.

[268] Appellants submit the Authority erred in that "its reliance on the precedential effect of declining Ag Research's application was such that it arguably weighed more in [the Authority's] mind than the alleged inherent benefits of the field test". Appellants submit this is clear from the Authority's decision, citing in particular remarks under the heading "practical considerations" p18. This approach, said not to be supported in the statute or methodology, constituted both a "fetter" on the Authority's decision-making discretion under the Act and "consideration of an irrelevant factor". Submissions add, in an ironic note, that instead of avoiding creation of a precedent the Authority has created a precedent; one which favours approval of all applications for transgenic field tests regardless of the specific facts of each case.

Ag Research Submissions

[269] Ag Research divided its responses between segregated "irrelevant considerations" and "fetter of discretion/predetermination" categories.

[270] As to "irrelevant considerations", Ag Research accepts the Authority "expressed a concern" that declining the application on grounds of Ngati Wairere concerns would effectively be a precedent for all other transgenic modification applications to be declined. Ag Research submits the Authority then concluded that the benefits of allowing responsible research into genetic modification to continue outweighed Ngati Wairere concerns. This decision was put as undoubtedly based on the benefits of the particular research proposed. That was part of the Authority's function in analysing the risks and benefits involved.

[271] As to fetters and predeterminations, Ag Research saw those concepts as requiring preconceptions. The Authority's decision does not indicate such prior judgment, but to the contrary indicates an examination of all factors. The Authority, with its expertise, can be expected to consider and recognise the practical implications of its decisions. There was no evidence of predetermination. Similarly,

there is no indication the decision was made on the basis of a fixed rule of policy rather than on a basis benefits outweighed risks. Submissions added that "in many ways" the Authority's reference to precedential effect merely reflected the "extravagance" of Appellants' contentions, which conflicted with key tenets of the Act that approvals will be decided by the evaluation and balancing of issues which include, but go beyond, Maori issues.

Authority's Submissions

[272] The Authority acknowledged it "had regard to the precedent effect of declining the application on all other transgenic modification experiments. This, however, was not an irrelevant consideration. The Authority was said to be required to act consistently, given s9 and clause 1 methodology. Submissions invoked the E&R Report para 5.7.4 and 5.10.3 which referred to the Authority's views expressed on an earlier application concerning sheep, and under heading 9 which advised that the Authority must consider each application "on its merits" but "may wish to reflect on statements it has made in previous decisions".

[273] Orally, counsel added the present decision was not a binding precedent that benefits outweigh the Maori values concerned: that will always depend on all circumstances. Counsel submitted there could "in theory" be cases where affront to Maori outweighed scientific research benefits.

Decision : Bleakley 15, Wierzbicki 1 : Precedent effect

[274] The Authority's decision needs to be read as a whole.

[275] The Authority was left in no doubt Ngati Wairere's opposition to the opposition was an opposition to genetic modification (and particularly transgenic modification) per se, and was uncompromising. In Ngati Wairere's view this field testing application, involving transgenic mutation, was contrary to its culture and traditions, and on that account could not be allowed.

[276] The Authority did not accept its obligations under s6(d), even read with Treaty clause s8, were absolute in that way, making Maori beliefs the "arbiter" of

decisions. The Authority considered it was to have regard to Maori matters specified in s6(d), but they were only one factor amongst others. In this particular case, as already discussed, the Authority politely doubted the extent to which the beliefs at issue were held, and doubted ("difficulty in appreciating") how adverse consequences claimed for Ngati Wairere could arise. It considered the knowledge to be generated by the project was sufficient benefit to outweigh such factors.

[277] There can be no criticism at law of the approach taken to that point. (The correctness of the balancing is not for the Court).

[278] It is then, however, that the Authority saw fit to turn to precedent considerations, and potential problems arise. Under the heading "practical considerations" the Authority states:

> "**Practical Considerations**
>
> In reaching its conclusion, the Majority was influenced by the fact that genetic research, including transgenic research, is widely pursued throughout the world and is well established in New Zealand. For example, it is a standard part of the New Zealand tertiary education scientific course work, and the theory is taught in many secondary schools. Genetic modification is still surrounded by scientific and philosophical uncertainty, and the full potential for tangible benefits remains to be established. Nonetheless, there are already proven benefits in a number of areas, and it would be unusual for New Zealand not to participate in this area of scientific endeavour, particularly in agriculture research."

[279] The Authority says, point-blank, that in reaching its conclusions it "was influenced by" four basic propositions:

[i] Genetic research, including transgenic research, is widely pursued world-wide and in New Zealand.

[ii] There are surrounding uncertainties in genetic modification but there are already proven benefits.

[iii] "In practical terms" if the Authority declined the present application because of Ngati Wairere concerns "all transgenic research, in whatever institutions and whether in the laboratory or under field tests—"might have to be terminated".

[iv] While the Authority is required to deal with applications case by case, Ngati Wairere's concerns would be shared by other iwi, "so that in practical terms a decision to decline in this instance would have become a precedent for all other transgenic modification applications".

[280] While this record of influence is not carried forward into the final abbreviated "Overall Evaluation", there is no reason to doubt such influence occurred as stated. Knowing New Zealanders' love of any so-called "practical approach" ahead of theoretical or conceptual considerations there is reason to believe it may have had considerable influence.

[281] The Authority's concerns, expressed as arising "in practical terms", in law were misplaced.

[282] It is true that if the Authority declined the present application because of "Ngati Wairere concerns"—a shorthand for the Ngati Wairere position that transgenic modification was so offensive to Maori culture and traditions it could not be allowed under any circumstances whatsoever—that might require a termination of all scientific research of that character. If such Maori concerns were to prevail over the pursuit of scientific knowledge, in principle, there would be no basis to differentiate between different lines of scientific research. The only surprise is the Authority's use of the word "might". The Authority is obliged to act consistently.

[283] However, that "practical" approach introduces an irrelevant consideration. The Authority is under a duty to proceed case by case, as it recognised. It must evaluate factors both ways as seen in the particular case before it. If the conclusion is reached in a particular case that affront to Maori culture and tradition by transgenic activity is such that the pursuit of knowledge involved should not be permitted, then that the Authority's decision, and any precedent consequences must follow. If the decision was right for one, and there is no distinction available for others, then it will be right again however inconvenient. Legal duties—the manner in which applications are considered and decisions reached—cannot be disregarded simply because the consequences are seen as unacceptable. If legal duties produce

unacceptable results, then those duties are to be altered by Parliament, not ignored. The correct course was for the Authority to adhere to the law by which it was bound, not to recoil from its legal obligations on account of perceived practical consequences. It should not have embarked upon this additional exercise, however satisfying the addendum may have felt.

[284] The irony, however, is that the Authority had already recognised and discharged its legal obligations in the process and conclusions earlier reached, with precisely the same effect. The Authority had recognised Ngati Wairere concerns (despite their absolute character) were to be dealt with under s6(d) and s8 not as an absolute barrier but as one factor to be weighed with others. The Authority reached a balanced conclusion in favour of the advancement of scientific knowledge on that approach. It did not need to go on and look at the perceived dire consequences for science which would follow if an absolute barrier, which it had not recognised, were in fact recognised. What the Authority has done is reach a certain conclusion by correct process; then unnecessarily reinforce that conclusion by a wrong process, taking into account an irrelevant consideration.

[285] There was error of law. However, while "influenced" (and I believe significantly) by this error, the Authority was influenced towards an ultimate conclusion which was correct in law, and which had also been reached in correct fashion earlier. In that light, I do not see this error as material.

[286] It is however a lesson to the Authority. It must proceed case by case, with each taken separately on its merits. Decisions are not to be dictated by the desirability or undesirability of outcomes perceived exclusively from the viewpoint of advancement of science. Nor, despite New Zealanders' love of so-called "practical" considerations, do those prevail ahead of legal requirements.

[287] This ground, perhaps somewhat fortunately for the Authority, does not succeed.

THE "ADDITIONAL ARGUMENT" : s45(1)(a)(ii) : REGARD TO CONTAINMENT

Introductory

[288] In the course of submissions principal Appellants sought to introduce a so-called "additional argument".

[289] There are procedural complications arising under High Court Rule 706(2) as to whether the additional argument constitutes an impermissible new ground. Objection was taken by Ag Research. Principal Appellants' submissions, as eventually crystallised, sought to bring the additional argument under the umbrella of Bleakley 14, most notably 14(a). I do not accept that is open. Bleakley 14 asserts failure to apply the methodology in various respects. The "additional argument", as presented, does divert at certain points to touch upon aspects of the methodology, but that really is incidental. The main thrust of the additional argument relates to the interpretation of s45(1)(a)(ii) itself, a quite distinct matter. This is not a situation which can be cured by amendment. However, particularly given the test case character of this proceeding and the Authority's indicated desire for a ruling in any event, I will express my views.

Principal Appellants' Submissions

[290] Appellants argument, in essence, is that the Authority was wrong to take adequacy of containment into account in striking the balance of beneficial effects over adverse effects under s45(1)(a)(ii). In striking that balance, it was submitted, the Authority is required to assess adverse effects of the organism when the organism is at large. The question of adequacy of containment can only come into account under s45(1)(a)(iii) "after" that balance has been struck.

[291] Appellants develop the argument along the following lines, interweaving points said to arise under the methodology and under the overall s45(1) discretion.

[292] Section 45(1) requires the Authority to take the specific steps laid down by its terms. The provision which follows in s45(2) stating an application "may" be

approved subject to controls means the Authority "must" impose controls. The "may" is put as referring to the overall discretion which the Authority has in relation to approval in s45(1).

[293] Those s45(2) controls address both the risk of escaping, and the management of risks in the event of escaping.

[294] The methodology requires risk management approaches. These require identification and assessment of the "worst case" effects. It was added orally that the Authority erroneously dealt with s45(1)(a)(iii) containment adequacy first, but never turned its mind to a s45(1)(a)(ii) requirement to consider the worst case.

[295] The initial requirement upon the Authority under s45(1)(a)(ii) is to take account of "all the effects of the organism". This, it is said, means the effects of the organism "per se", without regard to whether it is to be field tested or "released".

[296] The submission then diverts into methodology considerations. The effects, it is said, must be considered having regard to methodology criteria regarding identification assessment and evaluation of "risks". "Where the effects are adverse effects (i.e. risks) the level of such risks must be assessed without regard to intended organism containment". I note in passing that the submission equates effects and risks.

[297] It follows, it is said, that in the subsequent balancing exercise under s45(1)(a)(ii) the Authority must weigh beneficial effects against adverse effects "on the presumption that the organism has escaped". The Authority cannot take into account the possibility of an escape: the balancing is predicated on an assumption the organism has actually escaped.

[298] It is only at the next stage, it is said, if the Authority has considered benefits outweigh adverse effects, that the Authority directs its attention to adequacy of containment. Developing this point further in reply, counsel explained this was not a submission which demanded rigorous sequencing: the order in which matters were

taken, including s45(1)(a)(iii), did not matter provided the s45(1)(a)(ii) consideration of adverse effects was on the basis of an organism "at large".

[299] Submissions then diverted again into methodology considerations, invoking clauses 26 and 27 in particular. Those clauses are put as applicable to the balancing required of the Authority under s45(1)(a)(ii). The submission notes clause 26 directs that "taking into account measures available for risk management" the Authority may approve where certain risks are "negligible" and benefits outweigh costs, but clause 27 otherwise requires a differently stated balancing. It is submitted the "measures available for risk management" are not containment controls, but are the controls which deal with effects following escape.

[300] The submission then broadens to encompass the s45(1) general discretion ("...the Authority...may, in its discretion,..."). While s45(1)(a)(ii) requires the Authority to weigh adverse effects if the organism escapes, some adverse effects exist whether the organism escapes or remains in containment. Those latter "must" still be considered under the opening discretion in s45(1), a discretion which is to be exercised in accordance with Part II purposes. Even though criteria in s45(1) may be met, there may be considerations (e.g. ethical considerations) which mean approval would be inconsistent with the Act. The argument appears to be that such would warrant exercise of the s45(1) discretion against granting the application.

Ag Research

[301] Ag Research's primary response to Appellants' essential point is that Parliament would not have intended that the beneficial effects of the organism must necessarily outweigh the worst case scenario for adverse effects notwithstanding that such adverse effects could be adequately contained. It would not make sense so to require. It would be absurd, it was said, to not take into account the reduced risk of effects occurring on a containment application. It was not necessary to meet criteria applicable to a release application. Such, indeed, would make containment applications pointless.

[302] As to the wording of s45(1)(a)(ii), and in particular its requirement for balancing benefits against adverse effects should the organism *escape*, Appellants protest this disregarded the s45(1)(a)(ii) requirement to take into account all effects of the organism including effects "on the matters in s44". Section 44 required the Authority to have regard to matters in s37 and "(b) the ability of the organism to escape from containment". The Authority must, therefore, take into account on the s45(1)(a)(ii) balance both ability to escape given adequate controls, and effects if the organism does escape. The Authority is to weigh "the lot".

Authority's Response

[303] The Authority put Appellants submission as contrary to the plain words of s45(1)(a)(ii) which require the Authority to take into account "matters in s44" before its balancing process.

[304] The Authority also pointed out that the balance is of beneficial effects against adverse effects should the organism "escape"; drawing a possible distinction between "escape" and "release" (to which I add "at large"). It was submitted it would be against the scheme of Part V for the threshold test for containment to be the same as for release.

Additional Argument : Main Point : Decision

[305] I start with the words of s45(1)(a)(ii), but ignoring for the moment the internal cross-reference to s44.

[306] On this restricted basis, s45(1)(a) presents a sensible scheme. It applies, of course, only to s40 *containment* applications. The Authority may approve such applications if satisfied (i) the application is of that character (ii) if after taking into account *all the effects* of the organism the beneficial effects of having it in containment outweigh the adverse effects if it should escape (iii) the organism can be *adequately contained*. Under (ii) the Authority is to take account of all effects of the organism; beneficial, adverse, or neutral. So equipped, it can and must weigh up the beneficial effects of having the organism in containment as proposed under the

application against the adverse effects of the organism should it escape. Put in those simple terms, there is no need or room under (ii) to consider the adequacy of the containment proposed or the corresponding risks if any of escape. There is a "worst case" assumption of escape. It does not necessarily follow that the consequences of escape also are to be put on a "worst case" basis, although that will be a factor to be considered. I see no reason why the consequences should not be put on a "most likely" basis, which might be less serious. Having weighed up the beneficial effects in containment against the adverse effects in event of escape, and satisfied itself the balance favours the former, the Authority is then understandably directed to satisfy itself the organism can be adequately contained. It is of course all very well to say there is a balance in favour of the application even if the organism escapes: that is no reason to allow leeway for an escape and to run the risk of such adverse consequences.

[307] I turn my attention to the cross-reference to s44.

[308] Literally, the cross-reference does not make sense. It directs the Authority to take into account "all effects of the organism", including the effects [of the organism] on...the matters in s44", which means "the effects of the organism on "(a) the matters in s37" i.e. on (i) "the ability of the organism to establish an undesirable self-sustaining population" (ii) "the ease with which the organism could be eradicated if it established an undesirable self-sustaining population" and "(b) the ability of the organism to escape from containment". It does not make sense to speak in this fashion of "the effects of the organism on the ability of the organism..." or of "the effects of the organism on the ease with which the organism...".

[309] I do not ignore the express cross-reference to s44 (and through that to s37) on account of this obscurity. The references are not a mere oversight. Something else is intended. That intention is to be ascertained in the light of the purpose of the provision, not subverted by incidentals of wording and grammar.

[310] I am satisfied Parliament's intention was that the Authority was to have regard to the matters in s44 and s37, and notably for present purposes the s44 matter of "the ability of the organism to escape from containment", *along with* the required

balancing of effects under s45(1)(ii)(a). The Authority would take into account all effects of the organism and while doing so would look at the ability of the organism to escape from containment, its ability to establish an undesirable self-sustaining population, and the ease with which it could be eradicated if an undesirable self-sustaining population did become established. While these matters are not literally "effects" of the organism, they are factors which definitely bear on (adverse) effects, and such concurrent consideration is logical.

[311] What appears to have happened is that the draftsman, recognising that the Authority must have regard to these s44 and s37 matters on a s45 consideration, and wishing to collate all such matters within s45 itself, forced into s45(1)(a)(ii) matters which are not truly "effects" in themselves. That drafting mishap is to be overcome, and Parliament's intentions are to be effected.

[312] It follows that the Authority was authorised, indeed required, to consider the ability of the organism to escape from containment within the full s45(1)(a)(ii) exercise.

[313] I do not see this approach as rendering s45(1)(a)(iii) suspiciously redundant, although there is some overlap. The s44(1)(a)(ii) ability of the organism to escape from containment includes innate ability, which can vary widely amongst organisms. A microscopic bacterium which can be spread by the wind may have an innate ability to escape more easily than a visible and vulnerable animal. The s45(1)(a)(iii) question, in some contrast, is one of the practical adequacy of containment, in context of the particular application concerned. Is what is proposed good enough in the particular circumstances? It may be, for example, that a bacterium with high innate ability to escape from containment and corresponding ability to form undesirable self-sustaining populations might nevertheless be regarded as "adequately contained" on an offshore island. Obviously the two approaches interrelate, but they are not necessarily identical. Even if they were, however, I would prefer duplication to elimination as a matter of probable intention given the clear reference in s45(1)(a)(ii) to s44.

[314] I am satisfied this approach to the section avoids the potential absurdity of balancing benefits of field testing in containment against adverse consequences in event of escape with no regard at all to likelihood in fact of escape. I am satisfied likewise that this approach avoids the absurdity of imposing "release" criteria upon an earlier and safer containment application. The latter point may, however, be something of a red herring. The comparison under s45(1)(a)(ii) is between beneficial effects in containment and adverse consequences in event of "escape". The situation postulated is one where an unwanted "escape" has occurred, for which there may have been no or little advance preparation, not a "release" of which there is advance warning with corresponding possibility of precautions.

[315] I turn to the facts of the present case.

[316] Did the Authority err as alleged; i.e. by taking the probability or improbability of escape into account within s45(1)(a)(ii)?

[317] The Authority clearly enough started with an awareness of the need to have regard to s44 (and thus s37) factors in the decision to be made. "Key Issue" number 1, in its three items, effectively so states.

[318] When the Authority confronted these issues it was not dealing with some bacterium or novel organism which might move in mysterious ways. It was dealing with cattle with genetically modified cells. The innate ability of cattle to escape, and the adequacy of means of containment of cattle, are no mystery at all, and the interrelationship between the two is obvious.

[319] Unsurprisingly, the Authority merged the two considerations. It looked at both the s44 ability of the organism to escape from containment, and the s45(1)(a)(iii) adequacy of containment, as one. That was not conceptually pure but it did no harm. The Authority was obliged to consider ability to escape under s45(1)(a)(ii). The Authority did not err, as alleged, by the very fact of doing so.

[320] I consider the Authority did not err in law in the manner alleged.

Additional Argument : Connected Matters

[321] In course of this submission Principal Appellants raised various other matters. Their connection to the main point advanced varied in degree, but in view of that asserted connection I rule them out on the same procedural ground. Such indeed would probably be necessary even if taken separately.

[322] For the reasons previously outlined, however, two matters do warrant further comment.

[323] First, I do not accept provision in s45(2) that the Authority "may" impose controls means the Authority "must" impose controls. The s45(2) discretion follows on from s45(1) discretion to approve. The Authority "may" approve, and if so it "may" impose controls. It would be very usual to do so, but there is room for the exceptional case where such is not thought warranted. (The position will differ under s17 of the Hazardous Substances and New Organisms Amendment Act 2000).

[324] Second, I leave open in this case the difficult question of residual discretion to decline an application even if s45 criteria are satisfied. The focus on this application has been upon contentions s45 criteria have not been satisfied. The question of an overriding discretion has not arisen in submissions until this additional argument, and certainly is a new ground which cannot be allowed. I merely say that on the wording of s45(1) it is at least clearly arguable a residual discretion not to approve does exist. The ramifications of that possibility can be left for a case where it is squarely raised and essential.

CONCLUSIONS

[325] (1) I consider there was error of law in failure to apply the methodology; and that such error was material except in relation to non-application of clauses 9 and 10 (which equate provisions of the Act which the

Authority did apply) and clause 13(c) the provisions of which are shown to have been observed in fact

(2) I consider there was error of law in failure to state the criteria in the methodology relied upon in the decision, and that such error was material.

[326] The materiality of non observance of the methodology is self-evident. I have not regarded that as material, however, where the consideration of particular factors is required both under the methodology and by the Act. If those factors were considered, labelling does not matter. The same applies in relation to methodology clause 13(c), the requirements of which are shown to have been met whether consciously or otherwise. It would be formalistic to ascribe consequences in those situations. The materiality of the failure to state the methodology criteria concerned is less immediately obvious. However, there is a clear legislative design that such criteria be stated, and are good underlying policy reasons. Not least amongst those reasons is to facilitate determination whether the Authority has proceeded as required by law. It could not be right to downgrade the omission to state criteria, in those circumstances, to a merely immaterial category.

[327] As to relief, the latter error arguably is less significant, although not unimportant. If the only failure had been to state the criteria relied upon, I would have considered remitting the decision simply for correction in that respect. However, in light of a finding of failure to apply the methodology as alleged in Bleakley ground 14(a)-(d), the decision must be set aside and reconsidered. It is not for this Court to substitute a decision of its own in an area calling for such expertise. The correct course is for the Authority to reconsider, in accordance with the Act but also with the methodology, and identify in its further decision the criteria in both the Act and in the methodology relied upon. It is a matter for the Authority whether to receive further submissions or hold further hearings dealing with (for example) any updating material. I do not see that as inevitably necessary. Nor, of course, does this setting aside necessarily imply that the further decision, when correctly reached, must be different.

ORDER

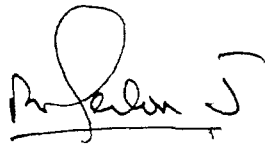
[328] The Court being unanimous:

(1) The appeal is allowed.

(2) The decision dated 21 July 2000 is set aside.

(3) The Authority is directed to consider and decide the application applying so far as relevant the Methodology Order and stating the methodology criteria upon which it relies.

(4) Costs are reserved.



.....

R A McGechan J

Signed at 2.30pm this 2nd day of May 2001

IN THE HIGH COURT OF NEW ZEALAND **AP 177/00**
WELLINGTON REGISTRY

[redacted]

IN THE MATTER of the Hazardous Substances and New Organisms Act 1996

AND

IN THE MATTER of an appeal pursuant to s126 of the Act against decision GMF98009 of the Environmental Risk Management Authority

BETWEEN CLAIRE BLEAKLEY

Appellant

AND ENVIRONMENTAL RISK MANAGEMENT AUTHORITY

Respondent

Coram: McGechan and Goddard JJ

Hearing: 7, 8 and 9 February 2001

Counsel:
J P Ferguson, S M Sharpe and MCW Hickford for Appellants Bleakley, Wierzbicki, Webster (Ngati Wairere) and McGuiness
M T Scholtens and H A Sharpe for Respondent Environmental Risk Management Authority
JBM Smith and K B Marshall for New Zealand Pastoral Agriculture Research Institute Limited ("AgResearch") and Multiple Sclerosis Society of New Zealand Inc.
A D McMecham for New Zealand Dairy Board (leave to withdraw)
A E N Greensill in person

Decision: 02 MAY 2001

RESERVED DECISION OF GODDARD J

Solicitors:
Walters William & Co, Wellington, for Appellants Bleakley, Wierzbicki, Webster (Ngati Wairere) and McGuiness
Office Solicitor, Environmental Risk Management Authority
Russell McVeagh McKenzie Bartleet & Co, Wellington for New Zealand Pastoral Agriculture Research Institute Limited ("Ag Research") and Multiple Sclerosis Society of New Zealand Inc.
Rudd Watts & Stone, Wellington, for New Zealand Dairy Board

[1] As emphasised during the hearing of this case, genetic modification is an important and controversial issue, not only for New Zealand but throughout the world. The attendant controversy is heightened in this case because the research in question involves implanting a genetic construct coding for a human protein into animal genetic material. The expectation is that the animals concerned, bos taurus, will produce that human protein in their milk. The hope is that information gained from the research will provide technological and economic advantages to the dairy industry and also assist in research for multiple sclerosis. Reactions to the proposal range from deeply felt spiritual and cultural affront to enthusiastic support. That range of feeling has been given clear voice by various submitters and interested parties who have appeared before the Authority and the Court.

[2] I have had the advantage of reading the judgment of McGechan J in draft. I concur fully with his reasoning and conclusions in all respects but wish to make some additional observations in relation to the Authority's assessment of and the correct interpretation of the relevant provisions of the Hazardous Substances and New Organisms Act 1996 ("the Act") and possible adverse effects on Maori.

[3] Five questions have been posed by the appellants in relation to assessment of adverse effects on Maori. The first three are interrelated and are directed at the Authority's interpretation of "taonga" in s 6(d) of the Act and under the Treaty. The argument was advanced that notwithstanding apparent references in the decision of the majority to a consideration of spiritual beliefs in the context of "taonga", that consideration was so tainted as to amount to a material misdirection. The misdirection was alleged to be manifest in repeated references to a dichotomy between "spiritual/tangible" taonga and "physical/tangible" taonga. It was further submitted that the majority also misdirected itself by applying the wrong test in effectively determining that a higher threshold was required when alleged adverse "effects" were of a purely spiritual nature and unconnected to physical taonga.

[4] The fourth and fifth questions relate to the manner in which the majority exercised its discretion when reaching its decision to grant AgResearch's application.

[5] Before responding to each of the five questions I give brief consideration to the purpose of the Act and its relevant provisions. The emphasis of the Act is to protect the environment, the health and safety of people and communities by preventing and managing adverse effects of new organisms. That purpose is clearly stated in Part II under the general heading *Purpose of Act*. Various matters and principles, relevant to that overarching purpose, are then specified in Part II. These are fully set out in McGechan J's judgment (at pp 6 and 7) and do not need to be requoted. The principles and matters which are relevant to the five questions posed can be conveniently summarised for the purposes of this supplementary judgment as follows.

[6] Section 5 requires the maintenance and enhancement of cultural wellbeing to be recognised and provided for by those exercising functions, powers and duties under the Act.

[7] Section 6 requires certain specified matters "to achieve the purpose" of the Act to be taken into account in the exercise of statutory functions, powers and duties under the Act. In particular, s 6(d) provides for:

> The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, valued flora and fauna, and other taonga.

[8] Section 8 requires those exercising powers and functions under the Act to take into account the principles of the Treaty of Waitangi.

[9] Of the remaining sections, s 7 provides for a precautionary approach and s 9 provides for a decision making methodology to be established.

[10] In proceeding to comment on the Authority's interpretation and application of the Act in relation to Maori and Treaty issues it is convenient to adopt the same judgment format as McGechan J. Thus I address the pertinent issues under similar subheadings to those employed by him.

Decision : Bleakley paragraph 1 : Did the Authority err in law and misdirect itself in determining that the term "taonga" in section 6(d) of the Act is limited in its meaning to physical and/or tangible taonga?

[11] This ground of appeal questions whether the reference in s 6(d) to "... other taonga" includes intangible, spiritual and cultural values such as whakapapa and mauri. If so, whether the majority of the Authority has erred by directing itself otherwise.

[12] McGechan J approaches the task as requiring determination of the meaning of "taonga" as it appears in s 6(d) and not in the abstract. He neverthless finds it helpful to first determine the generally understood meaning of the phrase, and in doing so accepts that generalised references to "taonga" include intangible, spiritual and cultural aspects, with no reason to believe that the term is used otherwise in the Treaty. Turning however to an analysis of the subsection itself, McGechan J finds the meaning which Parliament intended for "other taonga" to be more complex. Interpretation of parliamentary intention requires consideration of the subject word in its statutory context, according to accepted principles of statutory interpretation - not necessarily according to the generally accepted meaning of the word. In his judgment McGechan J considers first the argument advanced by AgResearch: that s 6(d) envisages spiritual beliefs being other than taonga. This argument was advanced on the premise that s 6(d) is to be read as requiring consideration of the relationship between two things: first Maori, their culture and traditions; secondly a non-exhaustive list of taonga, including but not limited to those listed in the section. On the basis of that premise, AgResearch submitted that spiritual beliefs fall within the meaning of culture (or even traditions) in s 6(d), and cannot be "at once Maori culture **and** taonga", since the Act requires consideration of the relationship between the two. Thus it was further submitted that "if culture may comprise spiritual belief and spiritual belief may also comprise taonga, s 6(d) is necessarily tautologous".

[13] McGechan J finds that argument to have some attraction and strength, but overall is satisfied that Parliament intended the reference in s 6(d) to "other taonga" to include intangible, cultural and spiritual taonga "in accordance with usual

concepts and in accordance with the Treaty". I agree with McGechan J's conclusion in this regard, but for rather different reasoning which I set out as follows.

[14] Two semantic issues are discernible in AgResearch's argument and require to be addressed. The first is whether s 6(d) is to be regarded as tautologous, unless AgResearch's interpretative analysis is accepted. The second is whether the Act "sees spiritual beliefs as other than taonga".

[15] As to the first, I interpret s 6(d) as follows. I find the addition of the words "and their culture and traditions" to the word "Maori", is designed to deliberately emphasise and underscore the special nature of the relationship of Maori (as opposed to any other group) with the relevant matters listed in the subsection. Although the words could possibly be regarded as redundant or otiose, that could only be in relation to the word "Maori", not in relation to the matters listed thereafter as relevant to that relationship. As McGechan J observes, if the opening reference in s 6(d) had simply been confined to "Maori", in terms of relationship with taonga, that would, by definition, have included culture and traditions. McGechan J thinks the additional requirement to compare "culture and traditions" with taonga a drafting accident. I see it differently, preferring to interpret the words as deliberately added - there to ensure that the relationship of Maori with taonga is not read-down, dissipated or minimised by those charged with exercising functions, powers and duties under the Act. In my view, this relationship is to be interpreted holistically, in light of the purpose of the Act (to protect from and prevent and manage adverse affects) and in recognition of and with provision for all the relevant principles.

[16] As to the second issue, I do not find the Act to envisage spiritual beliefs as "other than taonga". Such an interpretation would fly in the face of the meaning of (for instance) "waahi tapu" or "valued flora and fauna". The express inclusion of "waahi tapu" exemplifies the requirement to take into account both the spiritual and the physical. A waahi tapu has a spirituality which is inseparable from its physical properties. Likewise, the addition of the adjective "valued" to flora and fauna is designed to reflect the intrinsic value to Maori of certain flora and fauna - it is not the mere physical properties of that flora and fauna which render them important, it

is their intrinsic value to Maori, flowing from the attitude of Maori towards them, which transforms them into taonga.

[17] The expansive concluding reference in s 6(d) to "other taonga" does no more than confirm the wide embrace Parliament intended for the subsection. This concluding phrase can only be construed as encompassing all that is valuable to Maori. It includes spiritual taonga, such as whakapapa and mauri - as well as other intangible treasures, such as the language. I am satisfied that even if the matters specified in s 6(d) were somehow semantically capable of separation from the requirement to take into account "Maori and their culture and traditions", they are not amenable to classification as purely physical entities, in the manner for which AgResearch contends. Some of those matters are essentially spiritual; some are also intangible; all have intrinsic value to Maori.

[18] To conclude, I agree with McGechan J that Parliament intended the reference in s 6(d) to "other taonga" to include intangible cultural and spiritual taonga, in accordance with usual concepts and with the Treaty. That conclusion leads to the question of whether the majority of the Authority in fact misdirected themselves in interpreting the meaning and application of "taonga" in s 6(d) as not including the spiritual. McGechan J finds the majority did not deny that spiritual beliefs are included within the phrase "other taonga": rather, he found, the majority correctly accepted that matters of spiritual and cultural belief were taonga. In support he quoted passages from the majority's decision (at pp 24 and 25). I concur with McGechan J's analysis of that aspect of the majority's decision and with his conclusion that the Authority did not limit the term "other taonga" in s 6(d) to the merely physical or tangible. I would simply add that, contrary to AgResearch's submission, other matters listed in s 6(d) also have spiritual or intrinsic value beyond their physical properties.

Decision : Bleakley paragraph 2 : Did the Authority err in law in failing to take into account in terms of section 6(d) of the Act the relationship of Maori and their culture and traditions with their spiritual taonga?

[19] McGechan J approaches this point by questioning what is required in law by the s 6(d) requirement to "take into account". He finds that to be no higher than an obligation to "consider" the factor concerned in the course of making a decision – that is, to weigh it up along with other factors – and to accord it such weight as in the circumstances seems appropriate. In light of the reasoning process the Authority followed, McGechan J finds himself satisfied that the majority did follow such a course. Quoting from the decision (at p 26), he finds no failure to take into account the relationship of Maori, their culture and traditions with their spiritual taonga, and finds no error of law. I agree with that analysis. I nevertheless regard it as important to address the further issue of whether, in considering the weight to be accorded to the relationship of Maori, their culture and traditions with the whakapapa and mauri of humankind, bos taurus and ancestral lands, the majority clearly understood the true nature of the philosophical task confronting them. The apellants' submission was that the majority had failed to understand those beliefs, and thus were unable to properly consider the effects the proposed research would have on Maori spiritual values and health. That submission arose from the majority's comment that spiritual beliefs are "different" from "more tangible taonga", and from their references to "tangible or physically distinguishable taonga", in contradistinction to "taonga which are spiritual beliefs themselves".

[20] The minority view of the majority's grasp of the philosophical task was expressed as follows:

> There is no criteria established to assess the cultural and spiritual risks to Maori, nor was there a methodology followed by the authority in weighing up these risks against the costs and benefits. Ngati Wairere are entitled to see that the Authority has made a genuine attempt to inform itself of their concerns, and to assess the risks to them in making its decision. The Minority does not consider that these risks have been adequately understood or assessed.

[21] The majority however considered themselves to be well informed on the "matters at issue with Ngati Wairere". In this regard, it must be conceded that a great deal of consultation by the Authority had taken place and that every effort had been made by it to identify (for instance) any adverse health effects. The decision of the majority records as follows:

> As regards the requirements to consult, to be appropriately informed, and to act in good faith, the Majority believes the Authority has taken considerable care to ensure that these principles have been taken into account. As a general matter the Authority pointed Nga Kaihautu Tikanga Taiao to advise it on the provisions of the Act affecting Maori, and although in this instance the Majority has not followed the advice given by Nga Kaihautu Tikanga Taiao, the process of interaction with Nga Kaihautu has resulted in the Committee being well informed on the matters at issue with Ngati Wairere.
>
> ... prior to lodging their applications ... initial consultations between AgResearch and Ngati Wairere took place over a period of 5 months before the application was lodged. Furthermore, the Authority took the step of inviting Te Kotuku Whenua, who submitted as Ngati Wairere, to appear at the public hearing on the application and personally present their views to the hearing Committee.
>
> In addition the Committee adjourned its consideration of the application after the hearing for a further period of 6 months, in order to allow further consultations between the applicant and Ngati Wairere.
>
> The Committee arranged for members of ERMA New Zealand and Nga Kaihautu Tikanga Taiao to assist in the consultative process, and this has contributed to the Committee's information on the issues.

[22] In the end, the issue of whether the majority did properly understand Ngati Wairere's spiritual beliefs verges on the imponderable. What is clear, is that they applied their best endeavours in attempting to understand those issues. They accepted that s 6(d) required them to take spiritual matters into account. They were unable however to assess or give weight to purely spiritual matters in the same way as they felt able to assess and give weight to purely physical matters. They acknowledged that Ngati Wairere's spiritual beliefs were deeply held and acknowledged Ngati Wairere's concerns about the consequences of the proposed research. They were, however, unable to assess any adverse effects on those spiritual beliefs in the absence of empirical evidence of (for example) likely health consequences. In similar vein they were unable to form any clear view as to the measure of tangible benefits which might flow for medical knowledge from the

proposed research. They did, however, feel confident that the knowledge generated by the research would, of itself, be of sufficient benefit to justify the research.

[23] In the end no compromise presented whereby spiritual affront to Maori could be avoided, except by blanket refusal of AgResearch's application. The desire to opt for discernible information benefits led to a total impasse, reflecting the collision between spiritual belief and scientific understanding. In the end I can only agree with McGechan J, that there was no failure on the part of the Authority to take into account the relationship of Maori, their culture and traditions with their spiritual taonga as required under the Act, and thus no error of law. The question of any weight to be attributed to those matters was for the Authority.

Decision : Bleakley paragraph 3 : Did the Authority err in law and misdirect itself in determining that in terms of section 8 of the Act spiritual taonga are not amenable to the Treaty principle of active protection in the same way as "tangible taonga"?

[24] McGechan J concludes that the majority did not err in this regard. He is satisfied that the Authority did recognise the existence of a duty to actively protect Maori spiritual beliefs under the Treaty but concluded that such beliefs required a different type of protection from tangible taonga. I accept McGechan J's interpretation of this aspect of the majority's finding but question whether such a conclusion is capable of absolute application. It may be that, on occasions, a different approach will be merited.

[25] In her submissions Ms Scholtens advised the Court that the Authority would appreciate guidance from the Court on two issues: first whether Maori spiritual values are a relevant consideration by virtue of ss 6(d) and 8; secondly, if spiritual values are relevant, how they can be measured, quantified, weighed and balanced in accordance with the requirements of the methodology and the Act.

[26] The answer to the first question has already been given in the affirmative. So far as the second question is concerned, the situation must be assessed on a case by case basis. Each application under the Act will have to be determined in context of

the issues arising and in light of the purpose of the Act. No blueprint for spiritual values can be developed for slavish application in every case.

[27] In this regard, two overstatements appear in the majority's decision. The first is the expressed view that spiritual beliefs "are different" from taonga as understood in previous cases and "are not amenable to active protection in the same way as more tangible taonga". The second is the statement that "active protection as sought by Ngati Wairere would mean decisions under the Act should be made according to tenets of Maori spiritual beliefs, as defined from time to time, and the principles of the Treaty do not go so far".

[28] I cannot agree with either statement as correctly interpreting either the Act or Treaty principles. Active protection under the Act may, in some cases, require decisions to be made according to tenets of Maori spiritual belief, where those are significant. As I have said, whether they are significant in any particular case will depend on all the circumstances and the issues arising.

Bleakley paragraph 12 : Did the majority err in considering beliefs as opposed to adverse effects taking into account those beliefs.

[29] I concur with McGechan J's findings under this subheading. I am satisfied the Authority did endeavour to measure damage, including risk to Maori health notwithstanding they found the latter impossible to measure in any tangible way. The process was however appropriately undertaken with best endeavours applied.

Bleakley paragraph 17 : Did the majority err in determining that where other requirements of the Act are met Maori spiritual matters and beliefs cannot prevail.

[30] I have already expressed the view that whether Maori spiritual beliefs are significant in any particular case will depend on the circumstances and issues arising. The majority's decision in this case was however specific to the circumstances and issues arising, as the Authority discerned them. I therefore must agree with McGechan J's conclusion, that the majority's decision does not, on analysis, imply

"an inevitable primacy at law for other considerations over and above the Maori dimension".

Delivered at 2.30 ~~am~~ / pm on 2 May 2001.