



Australian Capital Territory

# Gene Technology Regulations 2004

## Subordinate Law SL2004-17

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The Australian Capital Territory Executive makes the following regulations under the *Gene Technology Act 2003*.

Dated 3 June 2004.

SIMON CORBELL  
Minister

BILL WOOD  
Minister

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# Gene Technology Regulations 2004

Subordinate Law SL2004-17

made under the

Gene Technology Act 2003

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## Part 1 Preliminary

### 1 Name of regulations

These regulations are the *Gene Technology Regulations 2004*.

### 2 Commencement

These regulations commence on the day after their notification day.

*Note* The naming and commencement provisions automatically commence on the notification day (see Legislation Act, s 75 (1)).

### 3 Dictionary

The dictionary at the end of these regulations is part of these regulations.

*Note 1* The dictionary at the end of these regulations defines certain terms used in these regulations.

*Note 2* A definition in the dictionary applies to the entire regulations unless the definition, or another provision of the regulations, provides otherwise or the contrary intention otherwise appears (see Legislation Act, s 155 and s 156 (1)).

### 3A Numbering

- (1) To maintain consistent regulation numbering between these regulations and the Commonwealth regulations—
  - (a) if the Commonwealth regulations contain a regulation that is not needed in these regulations—the provision number and heading to the regulation appearing in the Commonwealth regulations are included in these regulations despite the omission of the body of the regulation; and

- (b) if these regulations contain a regulation that is not included in the Commonwealth regulations—the regulation is numbered so as to maintain consistency in numbering between regulations common to both.
- (2) A provision number and heading mentioned in subregulation (1) (a) form part of these regulations.
- (3) If a provision of these regulations (other than a regulation) is numbered differently from the equivalent provision of the Commonwealth regulations, the provision of these regulations may be referred to using the number of the equivalent provision of the Commonwealth regulations.

*Note 1* A note appears under each heading of a kind mentioned in reg (1) (a) describing the omitted regulation of the Commonwealth regulations.

*Note 2* A note appears under each regulation of a kind mentioned in reg (1) (b) highlighting the non-appearance of an equivalent regulation in the Commonwealth regulations.

*Note 3* This regulation does not appear in the Commonwealth regulations.

### **3B Notes**

A note included in these regulations is explanatory and is not part of these regulations.

*Note 1* See Legislation Act, s 127 (1), (4) and (5) for the legal status of notes.

*Note 2* This regulation does not appear in the Commonwealth regulations.



### 3C Offences against regulations—application of Criminal Code etc

Other legislation applies in relation to offences against these regulations.

*Note 1 Criminal Code*

The Criminal Code, ch 2 applies to all offences against these regulations (see Code, pt 2.1).

The chapter sets out the general principles of criminal responsibility (including burdens of proof and general defences), and defines terms used for offences to which the Code applies (eg *conduct*, *intention*, *recklessness* and *strict liability*).

*Note 2 Penalty units*

The Legislation Act, s 133 deals with the meaning of offence penalties that are expressed in penalty units.

*Note 3* This regulation does not appear in the Commonwealth regulations.

## **Part 2 Interpretation and general operation**

### **4 Techniques not constituting gene technology**

For the Act, dictionary, definition of *gene technology*, paragraph (c), gene technology does not include somatic cell nuclear transfer if the transfer does not involve genetically modified material.

### **5 Organisms that are not genetically modified organisms**

For the Act, dictionary, definition of *genetically modified organism*, paragraph (e), an organism mentioned in schedule 1 is not a genetically modified organism.

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## **Part 3 Dealings with GMOs**

### **Division 3.1 Licensing system**

#### **6 Dealings exempt from licensing**

- (1) For the Act, dictionary, definition of *exempt dealing*, a dealing with a GMO is an exempt dealing if—
  - (a) it is a dealing of a kind mentioned in schedule 2, part 2.1; and
  - (b) it does not involve a genetic modification other than a modification described in schedule 2, part 2.1; and
  - (c) it is conducted in accordance with Australian/New Zealand Standard AS/NZS 2243.3:1995 (Safety in laboratories: microbiology) for physical containment level 1; and
  - (d) it does not involve an intentional release of the GMO into the environment.

- (2) To remove any doubt, an exemption under subregulation (1) does not apply to a dealing that does not comply with subregulation (1), whether or not that dealing is related to a dealing that does comply.

*Note 1* A dealing affected by this regulation could be any of the forms of dealing mentioned in the Act, dict, def *deal with*.

*Note 2* Exemption from provisions of the Act does not preclude the application of other Commonwealth and State laws.

- (3) The Legislation Act, section 47 (6) does not apply to the Australian/New Zealand Standard mentioned in subregulation (1) (c).

**7 Application for licence—prescribed information—Act, s 40 (2) (a)**

- (1) The following information must be contained in an application for a licence:
  - (a) for an application to which the Act, division 5.3 applies—the information stated in schedule 4, part 4.1;
  - (b) for an application to which the Act, division 5.4 applies—the information stated in schedule 4, part 4.2.
- (2) In preparing the information, an applicant must take account of risks that the proposed dealing, or dealings, with a GMO may incur in relation to the health and safety of people and the environment.
- (3) The information to be given in the application must be—
  - (a) as comprehensive as existing scientific knowledge, when the application is made, permits; and
  - (b) supported by whatever relevant data and references are available to the applicant.
- (4) To the extent that compliance with subregulation (3) (b) does not provide relevant data and references, the applicant must include in the application—
  - (a) a statement that specified information is incomplete or unavailable; and
  - (b) an indication of the significance of the incomplete or unavailable information to the evaluation of the possible risks of the proposal in relation to the health and safety of people and the environment; and
  - (c) a summary of known existing scientific evidence relevant to the evaluation; and

- (d) applying that summary, an evaluation of the possible risks based on theoretical approaches, and research methods, generally accepted in the scientific community.

*Note* Additional information, specified in writing by the regulator, may also be required.

## **8 Time limit for deciding an application—Act, s 43 (3)**

- (1) The period within which the regulator must issue, or refuse to issue, a licence is—
  - (a) for an application to which the Act, division 5.3 applies—90 days after the day the application is received by the regulator; or
  - (b) for an application to which the Act, division 5.4 applies—170 days after the day the application is received by the regulator.
- (2) In working out the end of a period mentioned in subregulation (1), the following days are not counted:
  - (a) a Saturday, a Sunday or a public holiday in the ACT;
  - (b) a day when the regulator cannot proceed with the decision-making process, or a related function, because the regulator is awaiting information that the applicant has been asked, in writing, to give;
  - (c) if, in relation to the application, the regulator publishes notice of a public hearing under the Act, section 53—a day in the period that—
    - (i) begins on the day of publication; and
    - (ii) ends on the day when the public hearing ends;

- (d) a day when the regulator cannot proceed with the decision-making process, or a related function, because—
  - (i) the applicant has applied under the Act, section 184 for information given in relation to the application to be declared confidential commercial information for the Act; and
  - (ii) the regulator is—
    - (A) considering the application; or
    - (B) waiting until any review rights under the Act, section 181 or section 183 in relation to the application are exhausted;
- (e) if, in relation to the application, the regulator requests the gene technology ethics committee to provide advice on an ethical issue, a day in the period that—
  - (i) begins on the day the request is made; and
  - (ii) subject to subregulation (3), ends on the day the advice is given or, if the advice is not given within the period (if any) specified under subregulation (3), on the last day of that period.
- (3) The regulator, when seeking advice under the Act, section 50 (3) or section 52 (5) or from the gene technology ethics committee, may specify a reasonable period within which the advice must be received, and, if the advice is not received within the period, must proceed without regard to the advice.

**9 Prescribed authorities—Act, s 50 (3) (c) and s 52 (5) (c)**

The following Commonwealth authorities and agencies are prescribed:

- (a) Food Standards Australia New Zealand;
- (b) Australian Quarantine and Inspection Service;
- (c) National Health and Medical Research Council;
- (d) National Industrial Chemical Notification and Assessment Scheme, National Occupational Health and Safety Commission;
- (e) National Registration Authority for Agricultural and Veterinary Chemicals;
- (f) Therapeutic Goods Administration, Commonwealth Department of Health and Ageing.

**10 Risk assessment—matters to be taken into account—Act, s 51 (1) (d) and (2) (d)**

- (1) Other matters to be taken into account in relation to dealings proposed to be authorised by a licence include—
  - (a) any previous assessment, in Australia or overseas, in relation to allowing or approving dealings with the GMO; and
  - (b) the potential of the GMO concerned to—
    - (i) be harmful to other organisms; and
    - (ii) adversely affect any ecosystems; and
    - (iii) transfer genetic material to another organism; and
    - (iv) spread, or persist, in the environment; and
    - (v) have selective advantage in the environment in comparison to related organisms; and

- (vi) be toxic, allergenic or pathogenic to other organisms.
- (2) In taking into account a risk mentioned in the Act, section 51 (1), or a potential capacity mentioned in subregulation (1), the regulator must consider both the short term and the long term.

## 11 Prescribed conditions of licence

*Note* At the commencement of these regulations, no conditions are prescribed under the Act, s 61 (b).

## Division 3.2 Notifiable low risk dealings

### 12 Notifiable low risk dealings—Act, s 74 (1)

- (1) A dealing with a GMO is a notifiable low risk dealing if—
  - (a) it is a dealing of a kind mentioned in schedule 3, part 3.1 (other than a dealing also mentioned in schedule 3, part 3.2); and
  - (b) it does not involve an intentional release of the GMO into the environment.
- (2) To remove any doubt, subregulation (1) does not apply to a dealing that does not comply with subregulation (1), whether or not that dealing is related to a dealing that does comply.

*Note* A dealing affected by this regulation could be any of the forms of dealing mentioned in the Act, dict, def *deal with*.

### 13 Requirements in relation to notifiable low risk dealings

- (1) A person must not undertake a notifiable low risk dealing unless—
  - (a) the proposed dealing has been assessed, by an institutional biosafety committee, to be a dealing of a kind mentioned in schedule 3, part 3.1; and



- (b) within 14 days after the day of completion of the assessment, the committee has notified the regulator, by giving the regulator, in relation to the proposed notifiable low risk dealing, the information stated in schedule 3, part 3.3; and
  - (c) the person, and the project supervisor for the proposed dealing, have received written notice from the committee that paragraph (b) has been complied with.
- (2) A notifiable low risk dealing, when undertaken, must comply with the following requirements:
- (a) the dealing must be conducted in a facility that—
    - (i) is certified by the regulator to—
      - (A) at least physical containment level 2; or
      - (B) any other containment level that the regulator considers suitable for conducting the dealing; and
    - (ii) is of appropriate design for the kind of dealing being undertaken;
  - (b) the conduct of the dealing must be properly supervised, and a record of details of the dealing kept;
  - (c) if the dealing involves human pathogens—it must be conducted only in accordance with the recommendations for vaccination given in Australian/New Zealand Standard AS/NZS 2243.3:1995 (Safety in laboratories: microbiology);
  - (d) to the extent that the dealing involves transporting a GMO, the transporting must be conducted in accordance with any relevant guidelines, as in force from time to time, issued by the regulator.

- (3) For subregulation (1) (a), a proposed dealing is taken to be assessed if the assessment applies to—
  - (a) for the dealing—the particular GMO concerned, or a class of GMOs that includes that GMO; or
  - (b) for the particular GMO, or class of GMOs—a class of dealings that includes that dealing.
- (4) The Legislation Act, section 47 (6) does not apply to the Australian/New Zealand Standard mentioned in subregulation (2) (c).
- (5) From the commencement of these regulations until 2 years after the commencement, a person who complies with subregulation (2) may undertake a notifiable low risk dealing although any, or all, of the provisions of subregulation (1) have not been complied with if there is in force a notice issued by, or on behalf of, the genetic manipulation advisory committee declaring that the dealing is a notifiable low risk dealing.
- (6) Subregulation (5) is a law to which the Legislation Act, section 88 (Repeal does not end effect of transitional laws etc) applies.
- (7) Subregulations (5) and (6) and this subregulation expire 2 years after the day they commence.

## **Division 3.3 Certification and accreditation**

### **14 Regulator to decide certification application within 90 days**

*Note* The Commonwealth regulations, reg 14 provides the period within which the regulator must consider and decide an application for certification of a facility.

**15 Application for certification—failure to provide Act, s 85 information**

If an applicant for certification of a facility fails to provide information required under the Act, section 85 (1) within the period stated in a notice given under the Act, section 85 (2) and gives no reasonable explanation for the failure, the regulator may refuse to certify the facility.

*Note* A refusal to certify a facility is a reviewable decision (see the Act, div 12.2).

**16 Regulator to decide accreditation application within 90 days**

*Note* The Commonwealth regulations, reg 16 provides the period within which the regulator must consider and decide an application for accreditation of an organisation.

**17 Application for accreditation—failure to provide Act, s 93 information**

If an applicant for accreditation of an organisation fails to provide information required under the Act, section 93 (1) within the period stated in a notice given under the Act, section 93 (2) and gives no reasonable explanation for the failure, the regulator may refuse to accredit the organisation.

*Note* A refusal to accredit an organisation is a reviewable decision (see the Act, div 12.2).

## **Part 4** Gene technology technical advisory committee

### **Division 4.1** Conditions of appointment

#### **18** GTTAC members and advisers—term of appointment

*Note* The Commonwealth regulations, reg 18 provides for the term of appointment of members of the gene technology technical advisory committee and expert advisers to the committee.

#### **19** GTTAC members and advisers—resignation

*Note* The Commonwealth regulations, reg 19 provides for the resignation of members of the gene technology technical advisory committee and expert advisers to the committee.

#### **20** GTTAC members—disclosure of interests

*Note* The Commonwealth regulations, reg 20 provides for disclosure of any interests members of the gene technology technical advisory committee may have in matters likely to be considered at a meeting of the committee.

#### **21** GTTAC members and advisers—termination of appointment

*Note* The Commonwealth regulations, reg 21 provides for termination of the appointment of members of the gene technology technical advisory committee and expert advisers to the committee.

#### **22** GTTAC members—leave of absence

*Note* The Commonwealth regulations, reg 22 provides for the granting of leave to the chairperson and members of the gene technology technical advisory committee.

## **23 Expert advisers—disclosure of interests**

*Note* The Commonwealth regulations, reg 23 provides for disclosure of any interests expert advisers to the gene technology technical advisory committee may have in matters likely to be considered at a meeting of the committee.

## **Division 4.2 Committee procedures**

### **24 Committee procedures generally**

*Note* The Commonwealth regulations, reg 24—

- provides that the gene technology technical advisory committee must act without formality; and
- provides for how the committee may obtain information.

### **25 Committee meetings**

*Note* The Commonwealth regulations, reg 25 provides for when and how the gene technology technical advisory committee may have meetings.

### **26 Presiding member**

*Note* The Commonwealth regulations, reg 26 provides for who is to preside at a meeting of the gene technology technical advisory committee.

### **27 Quorum**

*Note* The Commonwealth regulations, reg 27 provides that there is a quorum at a meeting of the gene technology technical advisory committee if half of the appointed members are present.

### **28 Voting**

*Note* The Commonwealth regulations, reg 28 provides that—

- a decision of the gene technology technical advisory committee is made by half of the members present, and voting for the decision, at a meeting of the committee; and
- the presiding member has a deliberative and casting vote.

## **29 Records and reports**

- Note* The Commonwealth regulations, reg 29 provides for—
- records of proceedings and resolutions of the gene technology technical advisory committee to be kept; and
  - resolutions of the committee to be publicly available; and
  - reports to be prepared about the committee’s activities.

## **Division 4.3 Subcommittees**

### **30 Operation of subcommittees**

- Note* The Commonwealth regulations, reg 30 provides for the matters covered by the Commonwealth regulations, pt 4, div 2 for subcommittees established under the Commonwealth Act, s 105 (1).

## Part 5

# Gene technology community consultative committee

### 31 GTCCC—conditions of appointment

*Note* The Commonwealth regulations, reg 31 provides for the Commonwealth Act, pt 4, div 1 to apply to the conditions of appointment of a member of the gene technology community consultative committee.

### 32 GTCCC—consultative committee procedures

*Note* The Commonwealth regulations, reg 32 provides for the Commonwealth Act, pt 4, div 2 to apply to the procedure of the gene technology community consultative committee.

### 33 GTCCC—operation of subcommittees

*Note* The Commonwealth regulations, reg 33 provides for the matters covered by the Commonwealth regulations, pt 4, div 2 for subcommittees established under the Commonwealth Act, s 110A (1).

## Part 6 Gene technology ethics committee

### 34 GTEC—conditions of appointment

*Note* The Commonwealth regulations, reg 34 provides for the Commonwealth Act, pt 4, div 1 to apply to the conditions of appointment of a member of the gene technology ethics committee.

### 35 GTEC—committee procedures

*Note* The Commonwealth regulations, reg 35 provides for the Commonwealth Act, pt 4, div 2 to apply to the procedure of the gene technology ethics committee.

### 36 GTEC—operation of subcommittees

*Note* The Commonwealth regulations, reg 36 provides for the matters covered by the Commonwealth regulations, pt 4, div 2 for subcommittees established under the Commonwealth Act, s 116 (1).





- (i) whichever of the following Acts is applicable:
  - (A) *Agricultural and Veterinary Chemicals (Administration) Act 1992* (Cwlth);
  - (B) *Food Standards Australia New Zealand Act 1991* (Cwlth);
  - (C) *Industrial Chemicals (Notification and Assessment) Act 1989* (Cwlth);
  - (D) *Therapeutic Goods Act 1989* (Cwlth); and
- (ii) its common name as a product, or type or class of product;

**Examples**

- 1 bread
- 2 insulin

*Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).

- (c) information about the GM product, including—
  - (i) the common name and the scientific name of the parent organism involved; and
  - (ii) details of the introduced trait in the GM product; and
  - (iii) the identity of the introduced gene responsible for conferring the introduced trait;
- (d) the date when a decision under the applicable Act that enables supply of the GM product in Australia takes effect;
- (e) details of any conditions attaching to that permission.

**40**      **Inspector identity card**

*Note*      The Commonwealth regulations, reg 40 prescribes the form of an inspector's identity card. Under the Act, s 151 the card must be in the approved form.

## Part 8 Transitional

### 41 Existing facilities—certification

- (1) If, at the commencement of the Act, part 7 there is in force for an existing facility a notice from the genetic manipulation advisory committee that the facility provides a specified physical containment level, the facility is taken to be certified to that physical containment level under the Act, section 84.
- (2) Subregulation (1) applies—
  - (a) subject to the Act, section 86 (b) and (c), section 87 and section 88; and
  - (b) for a facility in relation to which the notice states that it is a physical containment level 2 facility (other than a PC2 Large Scale facility)—until the end of 2 years after the day the Act, part 7 commences, provided the facility complies with the regulator’s guidelines about the requirements for certification at that level; and
  - (c) for a facility in relation to which the notice states that it is a physical containment level 3 or level 4 facility, a PC2 Large Scale facility or a facility providing appropriate physical containment for a specified purpose—until the end of 1 year after the day the Act, part 7 commences, provided the facility complies with the regulator’s guidelines about the requirements for certification at its stated containment level.
- (3) In this regulation:

***PC2 Large Scale facility*** means a physical containment level 2 facility so described by the notice given in relation to the facility by the genetic manipulation advisory committee.

**42 Existing organisations—accreditation**

- (1) If, at the commencement of the Act, part 7, there is in force for an existing organisation a notice from the genetic manipulation advisory committee that the organisation is an accredited organisation, the organisation is taken to be an accredited organisation under the Act, section 92.
- (2) Subregulation (1) applies—
  - (a) subject to the Act, sections 94 (b) and (c), section 95 and section 96; and
  - (b) until the end of 2 years after the day the Act, part 7 commences, provided the organisation complies with the regulator's guidelines (if any) under the Act, section 98.
- (3) This regulation is a law to which the Legislation Act, section 88 (Repeal does not end effect of transitional laws etc) applies.
- (4) This regulation expires 2 years after the day it commences.

## Schedule 1 Organisms that are not genetically modified organisms

(see reg 5)

### Part 1.1 Organisms

column 1 item	column 2 description of organism
1	a mutant organism in which the mutational event did not involve the introduction of any foreign nucleic acid (that is, non-homologous DNA, usually from another species)
2	a recombinant organism formed through integration into chromosomal or extrachromosomal DNA sequences of a genetic element that— (a) occurs naturally in the species concerned; and (b) moves sporadically between genome sites
3	an organism that— (a) results from the fusion of 2 animal cells; and (b) is unable to form a viable whole animal
	<b>Example</b> organisms of the kind described include hybridomas created to produce monoclonal antibodies
	<i>Note</i> An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).
4	an organism that results from protoplast fusion involving only non-pathogenic bacteria or non-pathogenic yeast

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<b>column 1 item</b>	<b>column 2 description of organism</b>
5	a plant formed by— <ul style="list-style-type: none"><li>(a) embryo rescue; or</li><li>(b) in-vitro fertilisation; or</li><li>(c) zygote implantation; or</li><li>(d) protoplast fusion</li></ul>
6	an organism that results from an exchange of DNA if— <ul style="list-style-type: none"><li>(a) the donor species is also the host species; and</li><li>(b) the vector DNA does not contain any heterologous DNA</li></ul>
7	an organism that results from an exchange of DNA between the donor species and the host species if— <ul style="list-style-type: none"><li>(a) such exchange can occur by naturally occurring processes; and</li><li>(b) the donor species and the host species are both mentioned in the same group in part 1.2; and</li><li>(c) the vector used in the exchange does not contain heterologous DNA from any organism other than an organism that is involved in the exchange</li></ul>

## **Part 1.2**

# **Species known to exchange DNA by a known physiological process**

**1**

### **Group 1**

Alcaligenes

Campylobacter coli

Campylobacter fetus

Campylobacter jejuni

Citrobacter (including levinea)

Enterobacter

Erwinia

Escherichia

Klebsiella

Pseudomonas aeruginosa

Pseudomonas fluorescens

Pseudomonas mendocina

Pseudomonas putida

Rhizobium

Salmonella (including arizona)

Serratia marcescens

Shigella

Yersinia enterocolitica



- 2**      **Group 2**  
Bacillus amyloliquefaciens  
Bacillus atterrimus  
Bacillus globigii  
Bacillus licheniformis  
Bacillus nato  
Bacillus niger  
Bacillus pumilus  
Bacillus subtilis
- 3**      **Group 3**  
Streptomyces aureofaciens  
Streptomyces coelicor  
Streptomyces rimosus
- 4**      **Group 4**  
Streptomyces cyaneus  
Streptomyces griseus  
Streptomyces venezuela
- 5**      **Group 5**  
Streptococcus mutans DNA and Streptococcus lactis DNA—in a  
1-way transfer into Streptococcus sanguis

**Schedule 1**  
**Part 1.2**

Organisms that are not genetically modified organisms  
Species known to exchange DNA by a known physiological process

Clause 6

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**6**

**Group 6**

*Streptococcus faecalis*

*Streptococcus mutans*

*Streptococcus pneumoniae*

*Streptococcus pyogenes*

*Streptococcus sanguis*

**7**

**Group 7**

*Bacillus cereus*

*Bacillus thuringiensis*

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## **Schedule 2 Dealings exempt from licensing**

(see reg 6)

### **Part 2.1 Exempt dealings**

<b>column 1 item</b>	<b>column 2 description of dealing</b>
1	any dealing with gene-knockout mice (that is, mice whose genetic modification involves deletion or inactivation of a specific gene), if no advantage is conferred on the adult animal— <ul style="list-style-type: none"><li>(a) by the deletion or inactivation of the gene concerned; or</li><li>(b) for mice that also carry a selectable marker gene—by the selectable marker gene</li></ul>
2	any dealing with a whole animal, if— <ul style="list-style-type: none"><li>(a) naked recombinant nucleic acid has been introduced into its somatic cells; and</li><li>(b) the introduced nucleic acid is incapable of giving rise to infectious agents</li></ul>
3	any dealing with an animal into which genetically modified somatic cells have been introduced, unless the cells— <ul style="list-style-type: none"><li>(a) are capable of giving rise to recombinant infectious agents; or</li><li>(b) contain viral sequences that could recombine with, or be complemented by, genomes of introduced superinfecting viruses</li></ul>

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column 1 item	column 2 description of dealing
4	<p>any dealing involving a host/vector system mentioned in part 2.2 and producing no more than 10L of GMO culture, if—</p> <ul style="list-style-type: none"><li>(a) the donor DNA—<ul style="list-style-type: none"><li>(i) is not derived from micro-organisms capable of causing disease in human beings, other animals, plants or fungi, or is fully characterised and will not increase the virulence or host range of the host or vector; and</li><li>(ii) is not an oncogene; and</li><li>(iii) does not code for a toxin for vertebrates with an LD50 of less than 100µg/kg; and</li><li>(iv) does not code for a toxin for vertebrates with an LD50 of 100µg/kg or more, if the intention is to express the toxin at high levels; and</li><li>(v) is not uncharacterised DNA from a micro-organism that produces toxins with an LD50 of 100µg/kg or less; or</li></ul></li><li>(b) the donor DNA includes a viral sequence or viral sequences, but—<ul style="list-style-type: none"><li>(i) is missing at least 1 gene essential for viral multiplication that is not available in the cell into which the DNA is introduced and that will not become available through subsequent breeding; and</li><li>(ii) is incapable of complementing a defect in the host/vector system</li></ul></li></ul>

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column 1 item	column 2 description of dealing
5	any dealing involving shotgun cloning of mammalian DNA in a host/vector system mentioned in part 2.2

## Part 2.2 Host/vector systems for exempt dealings

column 1 item	column 2 class	column 3 host	column 4 vector
1	bacteria	<i>Escherichia coli</i> K12 or <i>E. coli</i> B—any derivative that does not contain—  (a) conjugative or generalised transducing phages; or  (b) genes able to complement the conjugation defect in a non-conjugative plasmid	1 non-conjugative plasmids  2 Bacteriophage  (a) lambda  (b) lambdoid  (c) Fd or F1 (eg M13)
2		<i>Bacillus subtilis</i> or <i>B. licheniformis</i> —an asporogenic strain with a reversion frequency of less than $10^{-7}$	plasmids and phages whose host range does not include <i>B. cereus</i> , <i>B. anthracis</i> or any other pathogenic strain of bacillus
3		<i>Pseudomonas putida</i> —strain KT 2440	certified plasmids: pKT 262, pKT 263, pKT 264

**Schedule 2**  
**Part 2.2**

Dealings exempt from licensing  
Host/vector systems for exempt dealings

column 1 item	column 2 class	column 3 host	column 4 vector
4		<i>Streptomyces</i> —specified species: (a) <i>S. coelicolor</i> (b) <i>S. lividans</i> (c) <i>S. parvulus</i> (d) <i>S. griseus</i>	1 certified plasmids: SCP2, SLP1, SLP2, PIJ101 and derivatives 2 Actinophage phi C31 and derivatives
	fungi	<i>Neurospora crassa</i> —laboratory strains <i>Pichia pastoris</i> <i>Saccharomyces cerevisiae</i> <i>Schizosaccharomyces pombe</i> <i>Kluyveromyces lactis</i> <i>Trichoderma reesei</i>	all vectors all vectors all vectors all vectors all vectors all vectors
	slime moulds	<i>Dictyostelium</i> species	<i>Dictyostelium</i> shuttle vectors, including those based on the endogenous plasmids Ddp1 and Ddp2
	tissue culture	mammalian (including human) cells and cells of aquatic organisms	non-viral vectors or defective viral vectors (including retrovirus or retroviral-helper combinations that cannot infect human cells)

<b>column 1 item</b>	<b>column 2 class</b>	<b>column 3 host</b>	<b>column 4 vector</b>
		avian cells	Avipoxvirus vectors (attenuated vaccine strains)
		plant cell cultures	non-tumorigenic disarmed Ti plasmid vectors in <i>Agrobacterium tumefaciens</i> and non- pathogenic viral vectors
		insect cell cultures, such as <i>Spodoptera frugiperda</i> , if the recombinants are also inclusion-negative (eg polyhedrin minus)	Baculovirus ( <i>Autographa californica</i> nuclear polyhedrosis virus), polyhedrin minus
5		any host mentioned, or of a kind mentioned, in any of items 1 to 4	any non-biological vector (for example, electrocorporation or particle bombardment)

## Part 2.3 Definitions for sch 2

In this schedule:

***advantage***, in relation to an adult animal that is genetically modified, means a superior ability in its modified form, relative to the unmodified parent organism, to survive, reproduce or otherwise contribute to the gene pool.

***characterised***, in relation to DNA, means that the DNA has been sequenced and that there is an understanding of potential gene products of the DNA.

***code for***, in relation to a toxin, means to specify the amino acid sequence of the toxin.

***inclusion-negative***, in relation to a recombinant of insect cell cultures, means the vector baculovirus used is in a mutant form that is unable to make polyhedrin (a material surrounding a virus and protecting it from adverse environmental effects such as UV radiation).

***recombinant***, in relation to matter that is a sequence or an organism, means matter of that kind containing recombinant DNA (that is, DNA formed by joining, in vitro, segments of DNA from different organisms).

***shotgun cloning***, in relation to mammalian DNA, means the production of a large random collection of cloned fragments of the DNA from which genes of interest can later be selected.



## **Schedule 3**      **Notifiable low risk dealings in relation to a GMO**

(see reg 12 and reg 13)

### **Part 3.1**      **Dealings that are notifiable low risk dealings**

*Note*      Because of reg 12 (1), a dealing mentioned in this part is not a notifiable low risk dealing if it is also a dealing of a kind mentioned in pt 3.2.

#### **1.1**      **Kinds of dealings**

The following kinds of dealings are notifiable low risk dealings:

- (a) any dealing involving whole animals (including non-vertebrates) that—
  - (i) involves genetic modification of the genome of the oocyte or zygote or early embryo by any means to produce a novel whole organism; and
  - (ii) does not involve gene-knockout mice;
- (b) any dealing involving a genetically modified flowering plant, if—
  - (i) the dealing does not involve the plant being grown to flowering stage; or
  - (ii) for a dealing that involves the plant being grown to flowering stage—
    - (A) the plant is male sterile and is unable to set seed; or
    - (B) if the plant is male sterile and can set seed—all vents and drains in the facility are screened with mesh or filters that block the escape of viable pollen and seed; or

- (C) before flowering, all inflorescences are wholly enclosed in bags designed to prevent escape of viable pollen and seed; or
  - (D) if the plant can be wind-pollinated—all vents and drains in the facility are screened with mesh or filters that block the escape of viable pollen and seed; or
  - (E) if the plant can be vector-pollinated only—all vents and drains in the facility are screened with mesh or filters that block the escape of viable seed and exclude pollen vectors from the facility;
- (c) any dealing involving a host and vector that are not mentioned as a host/vector system in schedule 2, part 2.2 if—
    - (i) the host is incapable of causing disease in human beings, animals, plants or fungi; and
    - (ii) the vector is incapable of causing disease in human beings, animals, plants or fungi;
  - (d) any dealing involving a host and vector that are not mentioned as a host/vector system in schedule 2, part 2.2 if, although the host or vector is capable of causing disease in human beings, animals, plants or fungi, the donor DNA is fully characterised and will not increase the virulence of the host or vector;
  - (e) any dealing involving a host/vector system mentioned in schedule 2, part 2.2 if the gene inserted—
    - (i) is a pathogenic determinant; or
    - (ii) is uncharacterised DNA from a micro-organism that is capable of causing disease in human beings, animals, plants or fungi; or
    - (iii) is an oncogene.

## **1.2 Definitions for pt 3.1**

In this part:

*characterised*, in relation to DNA, means that the DNA has been sequenced and that there is an understanding of potential gene products of the DNA.

*gene-knockout mice*—see schedule 2, part 2.1, item 1.

## **Part 3.2 Dealings (higher risk) that are not notifiable low risk dealings**

*Note 1* The following list qualifies the list in pt 3.1, and is not an exhaustive list of dealings that are not notifiable low risk dealings.

*Note 2* A dealing that is not a notifiable low risk dealing, or an exempt dealing, can be undertaken only by a person who is licensed, under the Act, for the dealing (see Act, s 32).

### **2.1 Kinds of dealings**

A dealing of any of the following kinds, or involving a dealing of the following kinds, is not a notifiable low risk dealing:

- (a) a dealing involving cloning of DNA encoding a toxin for vertebrates having an LD50 of less than 100µg/kg;
- (b) a dealing involving high-level expression of toxin genes, even if the LD50 is greater than 100µg/kg;
- (c) a dealing involving cloning of uncharacterised DNA from toxin-producing micro-organisms;
- (d) a dealing involving a viral vector (except a vector that is used in the dealing as part of a host/vector system mentioned in schedule 2, part 2.2), containing 1 or more inserted sequences, that codes for a product known to play a role in the regulation of cellular growth or to be toxic to mammalian cells;

- (e) a dealing involving, as host or vector, a micro-organism that is capable of causing disease in humans, animals plants or fungi, unless—
  - (i) the host/vector system is a system mentioned in schedule 2, part 2.2; or
  - (ii) the dealing involves only the cloning of DNA that is fully characterised and is known not to increase the virulence of the host and vector;
- (f) a dealing involving the introduction into a micro-organism, other than a host mentioned in schedule 2, part 2.2, of genes that determine pathogenicity;
- (g) a dealing involving the introduction into a micro-organism, other than a host mentioned in schedule 2, part 2.2, of genes whose expressed products have a heightened risk of inducing an autoimmune response;
- (h) a dealing involving cloning or transfer of fragments of a viral or viroid genome that are capable, in the host/vector system to be used, of giving rise to infectious agents that are capable of infecting cells of human, animal, plant or fungal origin;
- (i) a dealing involving recombination between whole viral genomes, viroids or complementing fragments of such genomes (if one or more fragments contain virulence or pathogenic determinants);
- (j) a dealing involving use of a viral vector to produce a transgenic animal, plant or fungus that secretes or produces infectious recombinant viral agents;
- (k) a dealing involving the production of more than 10L of GMO culture;
- (l) a dealing that is inconsistent with a policy principle issued by the Ministerial council.

## **Part 3.3 Prescribed information— notification of proposed notifiable low risk dealing**

### **3.1 Information about proponent and proposed dealing**

For a notification made under regulation 13 (1) (b), the following information must be included:

#### **3.1.1 General information**

- (a) name, address, telephone number and other contact details of the proponent organisation;
- (b) name, position within the organisation and contact details of the proponent's project supervisor for the proposed dealing, or dealings, with the GMO or GMOs involved;
- (c) title of the project involving the proposed dealing or dealings;
- (d) with reference to the kinds of dealings set out in part 3.1, the kind of dealing or dealings proposed;
- (e) description of each GMO involved—
  - (i) the common name of the parent organism; and
  - (ii) the scientific name of the parent organism; and
  - (iii) the modified trait; and
  - (iv) the identity of the gene responsible for the modified trait;
- (f) description of the proposed dealing or dealings;
- (g) description of the purposes and aims of the proposed dealing or dealings;
- (h) address of the premises where the dealing is, or dealings are, proposed to be undertaken;

- (i) proposed date of commencement, and proposed date of completion, of the dealing or dealings;

### 3.1.2 Genetics of GMO

- (a) details of the biological system intended to be used, including—
  - (i) the biological source of the donor DNA; and
  - (ii) the intended host organism or tissue; and
  - (iii) the vector or vectors, or the method, intended to be used for the transfer of DNA; and
  - (iv) whether the intended host/vector system is a system mentioned in schedule 2, part 2.2;

### 3.1.3 Risk assessment information

- (a) details of all risks that could arise from the genetic modification, including occupational health and safety risks for people involved;
- (b) details of all risks that could arise from an unintentional release of the GMO or GMOs into the environment, including—
  - (i) risks to the health and safety of people; and
  - (ii) risks to the environment;

### 3.1.4 Risk management information

- (a) details of the facility in which the proposed dealing or dealings are to be undertaken, and of its physical containment level (as certified under the Act, division 7.2);
- (b) in relation to certification of the facility—
  - (i) the date of certification; and
  - (ii) the certification number allocated to the facility by the regulator; and

- (iii) the date of the most recent inspection of the facility by the regulator or the facility's institutional biosafety committee;
- (c) if the GMO is, or GMOs are, intended to be transported or moved outside the facility—details of the arrangements for that transport or movement;
- (d) details of any arrangements for disposal of the GMO or GMOs;
- (e) details of action proposed to be taken in the case of an unintentional release of the GMO, or GMOs, from containment;
- (f) details of other actions and precautions proposed to be taken by the applicant to minimise any risks posed by the proposed dealing or dealings;
- (g) details of the qualifications and experience of the project supervisor for the proponent organisation.

### **3.2 Additional information if GMO whole plant, or to be used in conjunction with whole plant**

For a notification about a proposed notifiable low risk dealing that will involve a GMO that is a whole plant, or the use of a GMO in conjunction with a whole plant, the following additional information must be included:

- (a) a statement on whether the parent organism is a weed or closely related to plants that are weeds and, if so, identification of the weeds that are closely related;
- (b) details of the stage of development that the plant, or plants, used in the dealing will be allowed to reach;
- (c) details of the method that will be used to dispose of the plant, or plants, used in the dealing;

- (d) a statement on whether soil, or soil substitute, will be used as the growing medium for the plant, or plants, used in the dealing, and, if so, details of how that medium will be subsequently sterilised or disposed of.

### **3.3 Supporting information from IBC for proponent**

The information required for a notification about a proposed notifiable low risk dealing includes the following information to be given in relation to the institutional biosafety committee (the *IBC*) concerned:

- (a) confirmation that the information given to the regulator in relation to the proponent has been checked by the IBC and found to be complete;
- (b) confirmation that the IBC considers that personnel intended to be involved in dealing with the GMO or GMOs have adequate training and experience for the task;
- (c) a statement that the IBC has evaluated the proposed project, and that includes the following details:
  - (i) the date of the evaluation;
  - (ii) the full name of the IBC;
  - (iii) the name and contact details of the chairperson and of the secretary of the IBC;
- (d) a copy of the evaluation report, prepared in accordance with guidelines issued by the regulator;
- (e) a statement that the IBC is established in accordance with the regulator's guidelines under the Act, section 98.

*Note* The IBC giving the information could be an IBC established by the proponent, or by another accredited organisation.



## **Schedule 4      Prescribed information— application for licence**

(see reg 7)

### **Part 4.1                      Dealings not involving intentional release of GMO into environment—Act, div 5.3**

#### **1.1                      Information to be given by all applicants**

For an application to which the Act, division 5.3 applies (a *division 5.3 application*), the following information is required:

##### **1.1.1                      General information**

- (a) name, address, telephone number and other contact details of applicant;
- (b) name, position within the organisation and contact details of applicant's project supervisor in relation to the proposed dealing, or dealings, with the GMO or GMOs involved;
- (c) title of the project involving the proposed dealing or dealings;
- (d) description of the GMO or GMOs involved, including—
  - (i) the common name of the parent organism; and
  - (ii) the scientific name of the parent organism; and
  - (iii) the modified trait; and
  - (iv) the identity of the gene responsible for the modified trait;
- (e) description of the proposed dealing or dealings;
- (f) description of the purposes and aims of the dealing or dealings;

- (g) address of the premises where the dealing is, or dealings are, proposed to be undertaken;
- (h) proposed date of commencement, and proposed date of completion, of the dealing or dealings;

#### 1.1.2 Genetics of GMO

- (a) details of the biological system intended to be used, including—
  - (i) the biological source of the donor DNA; and
  - (ii) the intended host organism, or tissue; and
  - (iii) the vector or vectors, or the method, intended to be used for the transfer of DNA; and
  - (iv) whether the intended host/vector system is a system mentioned in schedule 2, part 2.2;

#### 1.1.3 Risk assessment information

- (a) details of all risks that could arise from the genetic modification, including occupational health and safety risks for people involved;
- (b) details of all risks that could arise from an unintentional release of the GMO or GMOs into the environment, including:
  - (i) risks to the health and safety of people; and
  - (ii) risks to the environment;
- (c) details of all previous applications (whether successful or unsuccessful) made under the Act, or to the genetic manipulation advisory committee, in relation to a proposed dealing with the GMO or GMOs, setting out in relation to each—

- (i) any reference number given to the application by the regulator or the genetic manipulation advisory committee; and
- (ii) the date of the application; and
- (iii) the name of the applicant's project supervisor, or intended supervisor;

#### 1.1.4 Risk management information

- (a) details of the facility in which the dealing or dealings are to be undertaken, and of its physical containment level (as certified under the Act, division 7.2);
- (b) in relation to certification of the facility—
  - (i) the date of certification; and
  - (ii) the certification number allocated to the facility by the regulator; and
  - (iii) the date of the most recent inspection of the facility by the regulator or the facility's institutional biosafety committee;
- (c) if the GMO is, or GMOs are, intended to be transported or moved outside the facility—details of the arrangements for that transport or movement;
- (d) details of any arrangements for disposal of the GMO or GMOs;
- (e) details of action proposed to be taken in the case of an unintentional release of the GMO, or GMOs, from containment;
- (f) details of other actions and precautions proposed to be taken by the applicant to minimise any risks posed by the proposed dealing or dealings;
- (g) details of the qualifications and experience of the project supervisor for the proponent organisation;

**1.1.5 Suitability of applicant**

(if the information is not already provided to the regulator for any other purpose)

- (a) a copy of the applicant's statutory annual report, or other information about the financial viability of the applicant;
- (b) for the Act, section 58, details of any relevant convictions (within the meaning of that section) of the applicant or the project supervisor;
- (c) for the Act, section 58, details of any failure to comply with—
  - (i) a provision of the Act or these regulations; or
  - (ii) a condition of a licence or permit (within the meaning of the Act, section 58 (1) (b) or (2) (c)), particularly if resulting in a revocation or suspension;
- (d) details of any failure to comply with an advice to proceed issued by the genetic manipulation advisory committee;
- (e) details of the applicant's capacity to manage any risks posed by the proposed dealing or dealings.

**1.2 Additional information if volume of GMO culture exceeds 10L**

If a GMO will be produced as a culture of cells exceeding 10L in volume, the following additional information is required for a division 5.3 application:

- (a) details of the size of the proposed project, in terms of the volume of GMO culture to be produced and the area of the facility affected;
- (b) details of the main product, or products, of the intended dealing, or dealings, by-products (if any, including effluents) and the concentrations of those products and by-products at different stages of the production process;

- (c) details of precautions proposed to be taken to prevent any unintended dispersal of the GMO;
- (d) details of how genetic stability of the GMO will be checked, and at what frequency;
- (e) details of the plan, procedures and data collection program to be used to ensure the purity of the main product or products;
- (f) details of the facility to be used for the proposed project, including—
  - (i) the physical arrangements for each working unit involved; and
  - (ii) the operational procedures of each unit; and
  - (iii) how the intended level of physical confinement of GMOs is to be achieved;
- (g) details of arrangements for personnel management, including—
  - (i) supervision; and
  - (ii) training; and
  - (iii) health surveillance; and
  - (iv) emergency care;
- (h) details of the justification for the containment level proposed;
- (i) details of the project designs dealing with the risks mentioned in item 1.1.3 (a) and (b);
- (j) a statement on whether the site, within the host genome, of integration of the resultant transgene is known, and, if so, details of any secondary effects that could result from the integration, or further integration, at the site.

**1.3 Additional information if GMO whole plant, or to be used in conjunction with whole plant**

If a division 5.3 application relates to a GMO that will be a whole plant, or is to be used in conjunction with a whole plant, the following additional information is required for the application:

- (a) a statement on whether the parent organism is a weed or closely related to plants that are weeds and, if so, identification of the weeds that are closely related;
- (b) details of the stage of development that plants used in the proposed dealing, or dealings, will be allowed to reach;
- (c) details of the method that will be used to dispose of plants used in the proposed dealing or dealings;
- (d) a statement on whether soil, or soil substitute, will be used as the growing medium for the plants, and, if so, details of how that medium will be subsequently sterilised or disposed of.

**1.4 Additional information if GMO animal, or to be used in connection with animal**

If a division 5.3 application relates to a GMO that will be an animal, or that is to be used in connection with an animal, the following additional information is required for the application:

- (a) details of the number of—
  - (i) GM animals to be involved in the proposed dealing or dealings; and
  - (ii) other animals to be involved;
- (b) details of proposed arrangements—
  - (i) for breeding the animals; or
  - (ii) for ensuring the animals do not breed;

- (c) details of how the animals will be able to be readily identified (for example, the use of labels on cages or, for larger animals, branding or tattooing).

*Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).

## **1.5 Additional information if GMO for use in clinical trials with human beings**

If a division 5.3 application relates to a GMO that will be used in a clinical trial with a human being (as a vaccine or, in a gene therapy trial, as a vector), the following additional information is required for the application:

### **1.5.1 Information about purpose of trial**

- (a) details of the disease to be treated, or prevented, by use of the GMO;
- (b) details of the host range of the parent organism from which the vaccine or vector is constructed;

### **1.5.2 Information about vaccine or vector**

- (a) details of the potential for the genetic material of the vaccine organism or gene therapy construct to become incorporated in whole, or in part, into the genome of any cells of a treated person;
- (b) details of the factors that prevent multiplication or spread of the vaccine organism or the vector in a treated person;
- (c) details of the period over which the GMO will be detectable in a person, or his or her excretions;
- (d) if the GMO is a defective virus, details of its potential for acquiring the capacity for viral replication by complementation or recombination with intracellular viruses;

- (e) details of any deleterious effects the GMO may have on a pregnant person;
- (f) a statement on whether the GMO has a teratogenic effect on a foetus at any stage of gestation and, if so, details of the effect;
- (g) a statement on whether the use of the GMO is likely to preclude its use for vaccination against other diseases subsequently;
- (h) a statement on whether the GMO produces spores;
- (i) a statement on whether the viability of the GMO is compromised by desiccation;
- (j) a list of sterilising and anti-microbial agents (if any) that are active against the GMO;
- (k) a statement on whether the GMO is susceptible to ultraviolet or ionising radiation;

### 1.5.3 Information about effect of GMO on environment

- (a) details of—
  - (i) the potential for the GMO to spread from people to whom the GMO has been administered to other people or to other species; and
  - (ii) if the potential exists—the likely mechanism and frequency of such spread;
- (b) a statement on whether a person who undergoes the treatment could be more susceptible to an adverse outcome because of—
  - (i) the state of health of the person at the time of treatment (for example, the person presents with immunosuppression or superimposition of disease); or

*Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).



- (ii) other treatments, such as drugs;
- (c) details of the potential for the GMO to be disseminated into the environment through human waste during or after the trial;
- (d) details of proposed methods for disposing of waste containing the GMO;
- (e) a statement on whether, at the end of the trial, live GMOs will be carried by a person to whom the GMO has been administered and, if so, details of—
  - (i) the potential for their dissemination through family contact, or to the general population; and
  - (ii) measures intended to be taken to minimise the potential for dissemination; and
  - (iii) the potential for the organisms to cross the placenta of a pregnant person or animal.

*Note* For people relying on National Health and Medical Research Council funding, additional requirements may apply (through the Gene and Related Therapies Research Advisory Panel) to dealings of the kind to which this item applies.

## **1.6 Supporting information to be given by IBC**

Information required for a division 5.3 application includes the following information to be given by an institutional biosafety committee (the *IBC*):

- (a) confirmation that the information given to the regulator by the applicant has been checked by the IBC and found to be complete;
- (b) confirmation that the IBC considers that personnel intended to be involved in dealing with the GMO or GMOs have adequate training and experience for the task;

- (c) a statement that the IBC has evaluated the proposed project, and that includes the following details:
  - (i) the date of the evaluation;
  - (ii) the full name of the IBC;
  - (iii) the name and contact details of the chairperson and of the secretary of the IBC;
- (d) a copy of the evaluation report, prepared in accordance with any guidelines issued by the regulator;
- (e) a statement that the IBC is established in accordance with the regulator’s guidelines under the Act, section 98.

*Note* If the applicant is an accredited organisation, the IBC giving the information could be an IBC established by that organisation.

## **Part 4.2 Dealings involving intentional release of GMO into environment—Act, div 5.4**

### **2.1 Information to be given by all applicants**

For an application to which the Act, division 5.4 applies (a *division 5.4 application*), the following information is required:

#### **2.1.1 General information**

- (a) name, address, telephone number and other contact details of applicant;
- (b) name, position within the organisation and contact details of applicant’s project supervisor for the proposed dealing, or dealings, with a GMO, or GMOs;
- (c) title of the project involving the proposed dealing or dealings;
- (d) description of the GMO or GMOs;

- (e) description of the proposed dealing, or dealings, in terms of the Act, section 40 (4) (a), (b) or (c), as applicable;
- (f) description of the aims and purposes of the proposed dealing, or dealings;
- (g) identification of the person, people or class of people, intended to be authorised to undertake the dealing, or dealings;
- (h) proposed date of commencement, and proposed date of completion, of the dealing or dealings;

#### 2.1.2 Risk assessment information—parent organism

- (a) details of the species to be released including, if relevant, information about the strain, cultivar etc;
- (b) an assessment of whether the parent organism is capable of causing disease or other ill health in people, plants or animals and, if so, details of the possible effects;
- (c) details of the natural habitat of the parent organism, and its range;
- (d) details of the location where the parent organism was originally isolated for the purpose of the proposed dealing or dealings;
- (e) details of the distribution of the parent organism, and closely related organisms, in Australia;
- (f) a statement on whether the parent organism, or a closely related organism, is present at or near the site of the proposed release and, if so, details of the population or populations;
- (g) a statement on whether the parent organism is exotic in Australia;
- (h) details of any known predators, or parasites, of the parent organism in Australia;

**2.1.3 Risk assessment information—GMO**

- (a) details of the origin of the DNA to be inserted;
- (b) if the inserted DNA will come from an organism that causes disease or other ill health in people, plants, animals or fungi—details of the effects;
- (c) details of the genetic modification that will be made, including details of the steps to be undertaken in its construction;
- (d) details of the stability of the genotype of the GMO or GMOs, including a statement on whether it has a potentially unstable genotype;
- (e) details of the extent to which the genetic modification has been characterised (that is, the DNA sequenced, and the potential gene products understood);
- (f) details of the intended location of the inserted DNA in the final construct, and the number of copies that will be present;
- (g) details of the markers or sequences that will enable the GMO or GMOs to be identified in the laboratory and under field conditions;
- (h) details of the type of vector to be used in the transfer (including a description of the vector), showing the position of the inserted DNA and any other control sequences or markers in the vector;
- (i) details of whether the vector has the ability to transfer to other hosts and, if so, details of the host range;
- (j) details of whether the recombinant vector will be present in the final construct and if not, how it will be removed;
- (k) if no vector will be involved—details of how the DNA will be introduced and how many copies of the gene will be inserted;

- (l) details of how the modification will change the phenotype of the organism to be released, including information to demonstrate the effect of the modification;
- (m) details of secondary genetic effects that may be anticipated;
- (n) a statement on whether the site, within the host genome, of integration of the resultant transgene is known;
- (o) details of the intrinsic genetic features (if any) of the GMO or GMOs that will regulate survival in the environment, including a statement on how stable those features are;
- (p) details of the genetic changes (if any) that will be included in the GMO or GMOs to limit or eliminate any capacity to reproduce or transfer genes to other organisms;

#### 2.1.4 Risk assessment information—proposed dealing with GMO

- (a) a description of the proposed dealing, or dealings, with the GMO or GMOs, including a description of the proposed intentional release into the environment;
- (b) a statement of—
  - (i) the proposed date or dates for the intentional release into the environment; or
  - (ii) if release is to happen over a number of days—the proposed commencement and completion dates;
- (c) a statement of the number of GMOs to be released;
- (d) a statement of the number of releases of the GMO that are proposed;
- (e) details of—
  - (i) the number of sites for proposed release; and
  - (ii) the area of land to be used; and

- (iii) the location of the proposed release or releases, including identification of the local government area in which any release will take place and the geographical location, grid references and GPS coordinates of the site or sites;
- (f) details of the reasons for the choice of location or locations for the release or releases;
- (g) details of how the GMO or GMOs will be released;
- (h) if large scale production is required to produce GMOs for release—details of the methods to be used to test for batch to batch consistency;
- (i) details of the measures that have been taken, or will be taken, in the production process to ensure quality and purity of GMOs intended to be released;
- (j) details of the arrangements for conducting any other dealings in association with the proposed release, such as importation of a GMO and transportation of a GMO to or from a release site;
- (k) details of proposed uses of the GMO or GMOs, or of things derived or produced from the GMO or GMOs, following release into the environment;

**Examples**

- 1 collecting field trial material for laboratory analysis
- 2 giving GM product to animals as stockfeed

*Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).

- (l) details of all previous applications (whether successful or unsuccessful) made under the Act, or to the genetic manipulation advisory committee, in relation to a proposed dealing with the GMO or GMOs, setting out in relation to each—

- (i) any reference number given to the application by the regulator or the genetic manipulation advisory committee; and
- (ii) the date of the application; and
- (iii) the name of the applicant's project supervisor, or intended supervisor;

**2.1.5 Risk assessment information—interaction between GMO and environment**

- (a) a statement on whether release of a proposed GMO could prejudice any beneficial function of the parent organism in the environment;
- (b) on the basis of contained experiments, details of—
  - (i) the survival times of the GMO in habitats relevant to the release; and
  - (ii) the growth rate (or generation time) of the parent organism and GMO in the ranges of environmental conditions characteristic for the place and date of release; and
  - (iii) the frequency of reversion or loss of the genetic change;
- (c) details of the capability of the GMO to disperse from the release area or areas, and (if any) the dispersal mechanism;
- (d) a statement on whether the GMO is likely to be able to establish in the environment outside the release site or sites;
- (e) a statement on whether the GMO will be able to form long-term survival structures, such as seeds or spores;
- (f) a statement on whether the inserted genetic trait will be able to be transferred to other organisms found at the release site and surrounding environment and, if so, details of—

- (i) the organisms the trait can be transferred to and the frequencies at which it can be transferred, including information about the species that have been tested for transfer and the rationale for selecting the test species; and
  - (ii) the transfer mechanisms involved; and
  - (iii) the techniques that have been used to demonstrate transfer; and
  - (iv) any possible adverse effects of the transfer, including—
    - (A) any advantage that affected organisms are likely to have over members of the species that do not contain the transgene; and
    - (B) environmental risks posed by such an advantage;
  - (g) a statement on whether interactions between pathogens and the transgene are possible (for example, gene silencing) and, if so, details of—
    - (i) the incidence and distribution of relevant pathogens; and
    - (ii) possible effects of interaction;
- Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).
- (h) a statement on whether the GMO is likely to show any competitive advantages over its unmodified parent in mixed populations under the conditions at the release site or sites, and, if so, details of the nature of the advantages;
  - (i) a statement on whether the modified trait will confer a selective advantage on the GMO under certain conditions and, if so, details of the conditions, including data on growth rates with and without selection pressure;



- (j) details of features of the physical environment of the release site or sites, particularly features that may minimise or exacerbate any undesirable effects of the GMO;
- (k) details of the proximity of the release site, or sites, to population centres, centres of agricultural activity, or the habitat of biota that might affect, or be affected by, the proposed release;
- (l) a statement on whether the GMO is expected to remain in the environment after release and, if so, details of—
  - (i) the period of time; and
  - (ii) any environmental risks posed by the GMO during that period;
- (m) details of any other environmental risks that may be posed by the GMO;

**2.1.6 Risk assessment information—risks GMO may pose to health and safety of people**

- (a) details of any allergens or toxins that may be expressed by the proposed GMO that are not found in the parent organism;
- (b) details of any pathogenic properties in the GMO that are not found in the parent organism;
- (c) details of any occupational health and safety risks to personnel dealing with the GMO and safety risks to the wider community;

**2.1.7 Risk management information**

- (a) details of proposed measures for monitoring any risks posed by the proposed GMO, including monitoring for—
  - (i) the survival or presence of the GMO, or transferred genetic material, beyond the proposed release site or

- sites, including specificity, sensitivity and reliability of detection methods; and
- (ii) impacts on the characteristics, or abundance, of other species; and
  - (iii) transfer of the introduced gene to other species; and
  - (iv) any other hazards or deleterious effects;
- (b) details of proposed measures for limiting the dissemination or persistence of the GMO, or its genetic material, in the environment;
  - (c) details of the methods that will be used to minimise the effects of any transfer of the modified genetic trait to other organisms;
  - (d) details of the specific experimental methods proposed for detecting the presence of the GMO, or transferred genetic material, in the recipient organism;
  - (e) details of proposed measures for disposing of—
    - (i) the GMO when the release is complete; and
    - (ii) any waste deriving from the GMO;
  - (f) details of proposed release-site supervision procedures and any safety procedures to be undertaken by staff, including a description of procedures for on-site supervision of the release if the release site is located at some distance from the location of the IBC;
  - (g) details of proposed measures for—
    - (i) informing people covered by the licence of any licence conditions; and
    - (ii) informing the public about the proposed dealing or dealings;

- (h) details of proposed procedures for auditing, monitoring and reporting on compliance with any conditions imposed by the regulator;
- (i) details of any contingency measures that will be in place to rectify any unintended consequence if a hazard becomes evident during the course of the release;
- (j) details of ongoing monitoring to be undertaken after the release is completed;

#### 2.1.8 Information about previous assessments or approvals

- (a) details of results of any applications made for approval of the GMO, or any derived GM products, by any other regulator in Australia or overseas, including information about conditions (if any) attaching to the approval;
- (b) details of any previous licence under the Act for dealing with the GMO, or of a notification of a dealing under the Act, from which the work in the present application has developed;
- (c) if the GMO has been previously released in Australia or overseas—details of any adverse consequences of the release, including identifying references and reports of assessments;
- (d) a list of Commonwealth and State government authorities that have been consulted about the proposed dealings with the GMO (including names of contact officers);
- (e) for an imported GMO—the date of importation or intended importation, including, if possible, a copy of documentation of clearance or assessment from the Australian Quarantine and Inspection Service (AQIS);

### 2.1.9 Suitability of applicant

(if the information is not already provided to the regulator for any other purpose)

- (a) details of qualifications, experience and proposed role of each person to be involved in the dealing or dealings;
- (b) a copy of the applicant's statutory annual report, or other information about the financial viability of the applicant;
- (c) for the Act, section 58 details of any relevant convictions (within the meaning of that section) of the applicant or the project supervisor;
- (d) for the Act, section 58 details of any failure to comply with—
  - (i) a provision of the Act or these regulations; or
  - (ii) a condition of a licence or permit (within the meaning of the Act, section 58 (1) (b) or (2) (c)), particularly if resulting in a revocation or suspension;
- (e) details of any failure to comply with an advice to proceed issued by the genetic manipulation advisory committee;
- (f) details of applicant's capacity to manage any risks posed by the proposed dealing or dealings.

### 2.2 Additional information—if GMO plant

If a division 5.4 application relates to a proposed GMO that is a plant, the following additional information is required for the application:

#### 2.2.1 Information about use of parent plant

- (a) a statement about whether the parent plant has an extended history of cultivation and safe use;

## 2.2.2 Information about any unintended pleiotropic effects

- (a) details of undesirable effects on the parent plant that may result from expression of the transgene, or an associated insertion-related mutation, in the GMO, including the likelihood of any such events;

### **Examples**

- 1 reduced fertility
- 2 increased disease prevalence
- 3 production loss
- 4 grain shedding

*Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).

## 2.2.3 Information about pollen and crosspollination

- (a) details of the mechanism of pollen spread (by insect vectors or by other means) in the plant population;
- (b) details of pollen viability for the parent plant and the GMO;
- (c) details of any potential pollinators for the parent plant and the GMO, and their range and distribution in Australia;
- (d) quantitative data on successful crosspollination between the parent plant, the GMO and its wild relatives;
- (e) if sexually compatible plants live near a site of the proposed release—details of the quantity and the chances for crosspollination with the GMO;
- (f) if crosspollination with the GMO were to happen—details of the likely resulting plants and an assessment of whether they would survive and compete well with unaffected plants;

## 2.2.4 Information about weeds

- (a) details of members of the family of unmodified parent plants that are known to be weeds in any environment;

- (b) details of crosspollination between the species to which the GMO belongs and relatives known to be weeds, including a copy of any peer-reviewed reports that support the information;

**2.2.5** Information about possible result of imparted characteristics being integrated into other species

- (a) a statement on whether the novel characteristics of the GMO could be integrated into other species and, if so, details of its potential to affect—
  - (i) the distribution and abundance of populations of the affected species; and
  - (ii) factors that normally control populations of the affected species in the environment (for example, pathogens, herbivory and physiological stress);
- (b) details of any other possible adverse consequences;
- (c) details of proposed measures to minimise the risk (for example, by imparting male sterility or other means of reproductive isolation);

**2.2.6** Information about seeds of GMO

- (a) a statement on whether the GMO proposed to be released will be allowed to set seed and, if not, whether setting seed is planned for a later release;
- (b) if the GMO is to be allowed to set seed—a statement on whether mature seed is expected to be shed (from, for example, an ear, capsule or pod), and, if so, an indication of the proportion of seed likely to remain in the environment following harvest;

*Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).

(c) a statement on whether the seed has the potential to be dispersed by natural mechanisms and, if so, details of the mechanisms;

(d) details of the length of time the seeds will be capable of being dormant;

**2.2.7 Information about whether GMO can be dispersed by vegetative propagation**

(a) a statement on whether the GMO proposed to be released can be dispersed by vegetative propagation and, if so, the possible mechanisms;

**2.2.8 Information about whether capacity of GMO to add substances to, or subtract substances from, soil will change**

(a) a statement on whether the novel characteristic of the proposed GMO will change the capacity of the plant to add substances to, or subtract substances from, soil (for example, nitrogen or toxic compounds) and, if so, details of all such change;

*Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).

**2.2.9 Information about toxicity**

(a) an assessment of whether there is any likelihood that the introduced trait could cause the proposed GMO to have greater toxicity (for animals, including human beings) than would an unmodified plant and, if so, details of that likely effect;

(b) an assessment of whether any products of the GMO could concentrate in the natural or human food chain to levels which become toxic, and available data (if any) on that subject;

(c) an assessment of whether the biodegradability of the GMO will be different to that of the parent organism and, if so, details of the differences;

**2.2.10** Information about any secondary ecological effects that might result from release

- (a) an assessment of possible effects of the proposed release on—
  - (i) native species; and
  - (ii) resistance of insect populations to an insecticide; and
  - (iii) abundance of prey or parasites;

**2.2.11** Information about resistance of GMO to chemical agent (other than selective agents, such as antibiotics, used in strain construction)

- (a) for a GMO that, as a result of the modification, will have resistance to a chemical agent (for example, a herbicide, but not a selective agent, such as an antibiotic, used in strain construction)—details of any environmental risks related specifically to that resistance;

*Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).

**2.2.12** Information about resistance of GMO to biological agent

- (a) for a GMO that, as a result of the modification, will have resistance to a biological agent (for example, an insect or a fungal disease)—details of any environmental risks related specifically to that resistance.

*Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).



**2.3 Additional information—if GMO micro-organism (not living in or on animals and not live vaccine)**

If a division 5.4 application is in relation to a proposed GMO that is a micro-organism—

- (a) including a micro-organism associated with plants, and a micro-organism that might be applied to modify the physical or chemical environment (for example, to modify soil properties); but

*Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).

- (b) not including a micro-organism living in or on animals, or a micro-organism that is a live vaccine;

the following additional information is required for the application:

**2.3.1 Information about GM micro-organisms associated with plants**

- (a) details of any partner species of plant, including information about the specificity of the interaction and the range of plant species with which the proposed GMO can interact;
- (b) an assessment of the effect of the proposed GMO on the partner plant species, and details of how it will be monitored;
- (c) an assessment of any secondary effects that the proposed GMO might have on the partner plant species;
- (d) an assessment of whether the modification is likely to cause any change to the range of host plant species susceptible to infection by the organism;
- (e) an assessment of the effect (if any) of the proposed GMO on the distribution and abundance of host plant species or other species with which the proposed GMO can interact;
- (f) an assessment of the effect the proposed GMO might have on insects, birds, animals or humans that may eat the plant;

- 2.3.2** Information if parent organism has extended history of use in agriculture
- (a) if the parent organism has an extended history of use in agriculture—a description of the use.
- 2.3.3** Information if GM micro-organism is associated with plant species that are food crops
- (a) if the GM micro-organism is associated with plant species that are food crops—an assessment of whether the proposed GMO could affect the suitability of the resultant produce for consumption by animals or human beings and, if so, details of the effect;
- 2.3.4** Information about impact of GMO on soil and water
- (a) details of the expected effects of the proposed GMO on local soil chemistry (for example, pH, mineral leaching and nutrient levels);
- (b) details of the possible effects of the proposed GMO on local water quality;
- (c) details of the effects the proposed GMO might have on soil organisms that are known to be beneficial to plants (for example, Rhizobium, Azospirillum, Frankia and mycorrhizal fungi) and that are likely to be in a release site;
- Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).
- 2.3.5** Information about any interactions between GMO and closely related micro-organisms
- (a) details of any known interaction between the proposed GMO and closely related micro-organisms in any partner plant (if applicable) and in the environment of the release site;

**2.3.6 Information about known genetic exchange between parent organism and plant pathogens**

- (a) details of any known exchange of genetic material between the parent organism and plant pathogens;

**2.3.7 Other information**

- (a) information about the expected survival and dispersal of the proposed GMO, including dispersal in natural waters, soil and on other natural surfaces;
- (b) a statement about whether the proposed GMO will produce spores;
- (c) a statement about whether the proposed GMO will be resistant to desiccation;
- (d) a list of sterilising and anti-microbial agents (if any) that are expected to be active against the proposed GMO;
- (e) a statement about whether the proposed GMO will be susceptible to ultraviolet or ionising radiation.

**2.4 Additional information—if GMO micro-organism living in or on animals**

If a division 5.4 application is in relation to a proposed GMO that is a micro-organism living in or on animals (including an organism such as gut biota living in larger hosts, and a micro-organism applied externally to an animal (for example, bacteria to prevent fleece rot)), the following additional information is required for the application:

*Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).

**2.4.1** Information about the impact of GMO on host

- (a) identification of the animal host species;
- (b) a statement about whether the parent organism has an extended history of use in agriculture and, if so, details of the use;
- (c) an assessment of any new capacity the proposed GMO will provide for the host species (for example, ability to degrade plant or pasture toxins);
- (d) an assessment of whether the competitive advantage, ecological fitness, biology or distribution, of the host will be altered, and relevant data (if any) on the subject;
- (e) details of any secondary effects expected to result from the introduction of the proposed GMO into or onto the host (for example, information about any possibility of the genetic insert being transferred to other organisms in the host, or to host cells);

*Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).

**2.4.2** Information about impact of GMO on environment (particularly impact on other animals, plants, soil and water)

- (a) any evidence that the proposed GMO might be capable of establishing in, or on, other animals, including feral animals;
- (b) any evidence of other likely effects (including secondary effects) on other plants or animals in the agricultural and natural environments;
- (c) if the proposed GMO will establish in an animal—information about whether the GMO will be excreted or otherwise leave the animal and, if so, the time period that it is expected the GMO can survive outside the animal;

- (d) an assessment of the possible effects of the GMO on local water quality;

#### 2.4.3 Other information

- (a) a statement about whether the proposed GMO will produce spores;
- (b) a statement about whether the proposed GMO will be resistant to desiccation;
- (c) a list of sterilising and anti-microbial agents (if any) that are expected to be active against the proposed GMO;
- (d) a statement about whether the proposed GMO will be susceptible to ultraviolet or ionising radiation.

### 2.5 **Additional information—if GMO live vaccine for use in animals**

If a division 5.4 application is in relation to a GMO that is a live vaccine for use in animals, the following additional information is required for the application:

#### 2.5.1 Information about purpose of vaccine

- (a) identification of the disease to be treated, or prevented, by use of the vaccine;
- (b) identification of the host species on which the vaccine is to be used;
- (c) details of the host range of the parent organism from which the vaccine is constructed;
- (d) details of the level, and duration, of immunity produced in the host species after administration of the vaccine;

## 2.5.2 Information about vaccine

- (a) an assessment of the potential for the genetic material of the vaccine organism to become incorporated in whole, or in part, into the genome of any cells of the vaccinated host;
- (b) an assessment of the period over which the vaccine GMO will be detectable in a test animal, or its excretions;
- (c) if the GMO is a viral vaccine—information about the potential for the nucleic acid of the virus in the vaccine to be rescued, or to be restored to wild type, by recombination or complementation with intracellular viruses;
- (d) details of any deleterious effects the vaccine GMO may have on a pregnant animal;
- (e) a statement on whether the vaccine GMO has a teratogenic effect on a foetus at any stage of gestation;
- (f) a statement on whether the use of the vaccine GMO is likely to—
  - (i) preclude its use for vaccination against other diseases subsequently; or
  - (ii) affect its usefulness for other vaccinations;
- (g) a statement on whether the vaccine GMO produces spores;
- (h) a statement on whether the vaccine GMO is resistant to desiccation;
- (i) a list of sterilising and anti-microbial agents (if any) that are active against the GMO;
- (j) a statement on whether the GMO is susceptible to ultraviolet or ionising radiation;

### 2.5.3 Information about effect of GMO on environment

- (a) details of—
- (i) the potential for the vaccine GMO to spread from vaccinated to unvaccinated animals or to other species (including human beings); and
  - (ii) if the potential exists, the likely mechanism and frequency of such spread;
- (b) an assessment of whether the susceptibility of the host to the vaccine organism could be affected by—
- (i) the state of the host at the time of vaccination (for example, immunosuppression, or superimposition of other disease); or
- Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).
- (ii) other treatments, such as drugs;
- (c) details of proposed methods for disposing of waste containing vaccine GMO;
- (d) details of the intended fate of vaccinated animals at the end of the trial;
- (e) information about whether live vaccine organisms will be carried by an animal at the end of the trial and, if so—
- (i) the potential for dissemination of the live vaccine organisms through the animal's family contact, or to the general population of the species; and
  - (ii) measures intended to be taken to minimise the potential for dissemination; and
  - (iii) the potential for the organisms to cross the placenta of a pregnant animal.

**2.6 Additional information—if GMO vertebrate animal**

If a division 5.4 application is in relation to a GMO that is a vertebrate animal (other than aquatic organisms), the following additional information is required for the application:

**2.6.1 Information about effects of GMO on environment**

- (a) information about the likelihood of any unintended effect on an animal resulting from the release;
- (b) information about any intended gains that are directly linked to changes in other characteristics of the subject species;

**2.6.2 Information about any effects expression of modified trait might have on animal**

- (a) information about expected effects on the physiology, behaviour and reproduction of the animal or animals;

**2.6.3 Information about future dealings with GMO**

- (a) a statement on whether an animal in the experiment is intended to be allowed to breed and, if not, whether breeding is planned in the future;
- (b) a statement on whether the proposed arrangements for handling any offspring are the same as those for the experimental animal or animals, and, if not, the proposed different arrangements;

**2.6.4 Information about feral populations of subject species (if any) that exist in Australia or may be established**

- (a) details of any agricultural, environmental or disease-control problems caused by feral populations of the subject species;
- (b) details of any experimental work that has been done on expression of the novel genetic material in feral animals (such as crossbreeding of GMOs with captive feral animals), and the results of such work;



- (c) an assessment of the likelihood of the novel genetic material entering the feral gene pool (for example, by interbreeding with modified farm animals);

*Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).

- (d) an assessment of the effect that the entry of the novel genetic material into a feral gene pool might have—

(i) on the distribution and abundance of the feral population;  
or

(ii) on the ability of the feral population to cause agricultural or environmental problems; or

(iii) in contributing to the spread of infectious disease;

- (e) if no feral population exists in Australia, information about—

(i) the likelihood of the imparted characteristic enhancing the ability of the species to establish feral populations;  
and

(ii) if there is a likelihood—the arrangements in place to prevent this from occurring;

#### 2.6.5 Information about capacity of GMO to interbreed

- (a) details of the capacity of the GMO to interbreed with any species native to, or currently present in, Australia;

#### 2.6.6 Information about requirements for optimal expression of introduced trait

- (a) details of the management procedures and environmental factors (if any) that would be required for optimal expression of the introduced trait or traits.

*Note* All work involving animals should be conducted according to the NHMRC *Australian Code of Practice for the Care and Use of Animals for Scientific Purposes*, under which it requires review by an

institutional animal ethics committee and by the relevant authority administering State animal welfare legislation.

## **2.7 Additional information—if GMO aquatic organism**

If a division 5.4 application is in relation to a GMO that is an aquatic organism (for example, fish, crustaceans and molluscs), the following additional information must be included:

*Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).

### **2.7.1 Information about effects of GMO on environment**

- (a) a statement on whether the GMO could produce any novel metabolites, or toxins, that are likely to have deleterious effects on parasites or predators and, if so, the likely effect;
- (b) details of any unintended effects that may result from the release;
- (c) a statement on whether the expression of the modified gene is expected to be directly linked to undesirable changes in other characteristics of the subject organisms (for example, a decrease in nutritional value);

*Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).

- (d) information about—
  - (i) whether the modified genetic material can be transmitted to any other species; and
  - (ii) if so, the expected mechanism of transfer, the likely affected species and any likely consequences;

## 2.7.2 Information about any impact on natural populations

- (a) information about whether natural populations of the parent organism, or a closely related species, exist in Australia (including in rivers, lakes, dams or coastal waters) and, if so, details about any problems the natural populations cause with other organisms;
- (b) if no natural populations of the organism to be modified exist in Australia—information about the potential for the modified traits to enhance the ability of the species to establish populations in aquatic habitats;
- (c) information about the results of any experimental work that has been done on phenotypic expression of the modified genetic material in naturally occurring organisms (such as crossbreeding of GMOs with wild or farmed stocks);
- (d) an assessment of the likelihood of the modified genetic material entering the gene pool of natural populations;
- (e) information about any impact the entry of the modified genetic material into the gene pool of a natural organism could have on—
  - (i) the distribution and abundance of the organism; or
  - (ii) associated aquatic farms; or
  - (iii) the environment; or
  - (iv) public health;
- (f) information about mechanisms intended to be used to prevent dispersal of the GMO into other ecosystems;

## 2.7.3 Information about future dealings with GMO

- (a) a statement about whether an organism in the experiment is intended to be allowed to breed and, if not, whether breeding is planned in the future;

- (b) a statement about whether the proposed arrangements for handling any offspring are the same as those for the experimental organisms and, if not, the proposed different arrangements.

**2.8 Additional information—if GMO invertebrate animal**

If a division 5.4 application is in relation to a GMO that is an invertebrate animal, the following additional information must be included:

- (a) information about the effect the GMO might have on the food chain;
- (b) information about the potential for the GMO to produce any novel metabolites, or toxins, that are likely to have deleterious effects on parasites or predators;
- (c) information about other unintended effects that may result from the release;
- (d) a statement on whether the GMO will be fertile and, if not, whether it is intended to use fertile organisms in later releases;
- (e) information about whether populations of the parent organism, or a closely related species, exist in Australia and, if so, any environmental or public health problems, or benefits, caused by the populations;
- (f) information about—
  - (i) whether the modified, genetic material can be transmitted by means other than by reproduction normal for the species; and
  - (ii) if so, the likelihood of that genetic material entering gene pools of natural populations;
- (g) information about—

- (i) whether the modified, genetic material can be transmitted to any other species; and
- (ii) if so, the expected mechanism of transfer, and the likely affected species;
- (h) information about any experimental work that has been done on the phenotypic expression of the novel genetic material in other genetic backgrounds (such as crossbreeding of modified strains with wild or caught stock);
- (i) information about the effect, on the distribution and abundance of the natural populations of the organism, of the entry of the novel genetic material into the gene pool of those populations;
- (j) details of the mechanisms proposed to be used to prevent dispersal of the GMO into other ecosystems.

## **2.9 Additional information—if GMO to be used for biological control**

If a division 5.4 application is in relation to a GMO that is to be used for biological control, the following additional information must be included:

### **2.9.1 Information about expected interaction between GMO and species targeted for biological control**

- (a) the name of the species targeted for biological control;
- (b) details of any direct effects the parent organism has on the target species;
- (c) details of any direct effects the GMO is expected to have on the target species;
- (d) details of how the GMO is intended to be transferred from one target organism to another, and what factors affect the transferability;

- (e) details of the genetic response that may be invoked in populations of the target organism as a result of the use of the GMO (for example, increased resistance to the modified organism), and the expected evidence for the response;

*Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).

#### 2.9.2 Information on possible effects of GMO on non-target organisms

- (a) details of the host range of the GMO, and details of any difference between that host range and the host range of the parent organism;
- (b) a list of the non-target organisms that have been tested for susceptibility to the GMO, and the rationale for the choice of species tested;
- (c) if the modified traits can be transmitted to other organisms that are likely to be in the environment—details of any effects those other organisms are likely to have on non-target species;

#### 2.9.3 Information on other possible effects of GMO on environment

- (a) a statement about the secondary effects that can be envisaged on competitors, predators, prey or parasites of the target species;
- (b) an assessment of the consequence of the removal, or reduction, of the target species on the management of agriculturally significant plants or farm animals;
- (c) details of any predicted change in the ecosystem resulting from a reduction in the population of the target organism;

- (d) information about—
  - (i) whether the GMO produces metabolites that may have deleterious effects on other organisms, including human beings—
    - (A) directly; or
    - (B) indirectly, through concentration in the food chain; and
  - (ii) if so, the likely effect.

**2.10 Additional information—if GMO to be used for bioremediation**

If a division 5.4 application is in relation to a GMO that is to be used for bioremediation, the following additional information must be included:

**2.10.1 Information about expected interaction between GMO and target substrate for bioremediation**

- (a) identification of the target substrate for bioremediation;
- (b) details of the effect the parent organism has on the target substrate;
- (c) details of the effect the GMO is expected to have on the target substrate;
- (d) a list of the substances other than the target substrate that can be metabolised by the GMO and that cannot be metabolised by the parent organism;

### 2.10.2 Information about GMO and its impact on environment

- (a) a statement about whether the GMO will be self-sufficient if added to the contaminated site or whether additional measures may be required (for example, provision of supplementary nutrients and growth factors, or other environmental modifications);

*Note* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).

- (b) a list of any metabolites produced by the GMO that may have deleterious effects on other organisms—
- (i) directly; or
  - (ii) indirectly, through concentration in the food chain;
- (c) details of effects the GMO might have on water, air or soil quality;
- (d) details of effects the GMO might have on organisms that ingest it;
- (e) a statement on whether the GMO will be dispersed from the site of application and, if so, the proposed mechanisms involved and the likely consequences.

### 2.11 **Additional information—if GMO intended to be used as food for human or vertebrate animal consumption**

If a division 5.4 application is in relation to a GMO that is intended to be developed for use as a food for consumption by human beings or animals, the following additional information must be included:

- (a) details of—
- (i) whether the parent organism or the donor organism is of a kind already in use as a food for consumption by human beings or animals, or used in the production of such a food; and



- (ii) whether any processing is needed, or is commonly applied, before consumption;
- (b) details of any metabolites produced by the GMO that may have adverse effects on the consumer (human or animal), including available data on toxicology, allergenicity and other possible adverse effects;
- (c) details of any products of the GMO that are expected to concentrate in the food chain to levels which may become toxic;
- (d) details of any expected changes to the nutritional quality of such food as a result of the genetic modification;
- (e) a statement on whether the GMO is a major component of such food as consumed, or a minor component (for example, yeast cells in beer).

*Note 1* For a food for human consumption that contains GMOs or GM products, see also the assessment requirements under the *Food Standards Australia New Zealand Act 1991* (Cwlth).

*Note 2* An example is part of the Act, is not exhaustive and may extend, but does not limit, the meaning of the provision in which it appears (see Legislation Act, s 126 and s 132).

## **2.12 Supporting information to be given by IBC**

Information required for a division 5.4 application includes the following information to be given by an institutional biosafety committee (the **IBC**):

- (a) confirmation that the information given to the regulator by the applicant has been checked by the IBC and found to be complete;
- (b) confirmation that the IBC considers that personnel intended to be involved in dealing with the GMO or GMOs have adequate training and experience for the task;

- (c) a statement that the IBC has evaluated the proposed project, and that includes the following details:
  - (i) the date of the evaluation;
  - (ii) the full name of the IBC;
  - (iii) the name and contact details of the chairperson and of the secretary of the IBC;
- (d) a copy of the evaluation report, prepared in accordance with any guidelines issued by the regulator;
- (e) a statement that the IBC is established in accordance with the regulator’s guidelines under the Act, section 98.

*Note* If the applicant is an accredited organisation, the IBC giving the information could be an IBC established by that organisation.

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## Dictionary

(see reg 3)

*Note 1* The Legislation Act contains definitions and other provisions relevant to these regulations.

*Note 2* For example, the Legislation Act, dict, pt 1, defines the following terms:

- for
- function
- in relation to
- person
- under.

*Note 3* Terms used in these regulations have the same meaning that they have in the *Gene Technology Act 2003* (see Legislation Act, s 148). For example, the following terms are defined in the *Gene Technology Act 2003*, dict:

- Commonwealth Act
- deal with
- exempt dealing
- gene technology
- genetically modified organism
- GMO
- GM product
- institutional biosafety committee
- notifiable low risk dealing
- Ministerial council
- regulator.

***advantage***, in relation to an adult animal that is genetically modified, for schedule 2 (Dealings exempt from licensing)—see schedule 2, part 2.3.

***animal*** includes every kind of organism in the animal kingdom, including non-vertebrates but not including human beings.

**characterised**, in relation to DNA—

- (a) for schedule 2 (Dealings exempt from licensing)—see schedule 2, part 2.3; and
- (b) for schedule 3 (Dealings that are notifiable low risk dealings)—see schedule 3, part 3.1, clause 1.2.

**code for**, in relation to a toxin, for schedule 2 (Dealings exempt from licensing)—see schedule 2, part 2.3.

**Commonwealth regulations** means the *Gene Technology Regulations 2001* (Cwlth).

**division 5.3 application**, for schedule 4, part 4.1 (Dealings not involving intentional release of GMO into environment—Act, div 5.3)—see schedule 4, part 4.1, clause 1.1.

**division 5.4 application**, for schedule 4, part 4.2 (Dealings involving intentional release of GMO into environment—Act, div 5.4)—see schedule 4, part 4.2, clause 2.1.

**expert advisor** means—

- (a) for part 4 (Gene technology technical advisory committee)—an expert adviser appointed under the Commonwealth Act, section 102 (1); and
- (b) for part 6 (Gene technology ethics committee)—an expert adviser appointed under the Commonwealth Act, section 113 (1).

**gene-knockout mice**, for schedule 3, part 3.1 (Dealings that are notifiable low risk dealings)—see schedule 2, part 2.1, item 1.

**genetic manipulation advisory committee** means the Genetic Manipulation Advisory Committee administered by the Commonwealth Minister for Health and Ageing.

**inclusion-negative**, in relation to a recombinant of insect cell cultures, for schedule 2 (Dealings exempt from licensing)—see schedule 2, part 2.3.

*physical containment level*, followed by a numeral, is a specified containment level under guidelines made by the regulator under the Act, section 90 for the certification of facilities.

*recombinant*, in relation to matter that is a sequence or an organism, for schedule 2 (Dealings exempt from licensing)—see schedule 2, part 2.3.

*shotgun cloning*, in relation to mammalian DNA, for schedule 2 (Dealings exempt from licensing)—see schedule 2, part 2.3.

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## Endnotes

**1 Notification**

Notified under the Legislation Act on 4 June 2004.

**2 Republications of amended laws**

For the latest republication of amended laws, see [www.legislation.act.gov.au](http://www.legislation.act.gov.au).

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