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Monitoring methods for animal ethics committees

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FOREWORD

Monitoring methods for animal ethics committees is the fifth paper in a series about the use of animals in research, testing and teaching published from time to time by the Ministry of Agriculture and Forestry (MAF) under the auspices of the National Animal Ethics Advisory Committee (NAEAC). The objective is to disseminate to a wider audience articles that appear in academic journals and in the proceedings of conferences, or papers prepared for a particular purpose that are considered to be of interest to a more general readership.

This paper, by Dr David Morgan, NAEAC's Deputy Chairperson, has a dual origin. Firstly, it was presented by Dr Morgan at the 2009 ANZCCART Conference in Port Douglas, Australia, and secondly, it formed the basis of a review of NAEAC's guidelines for animal ethics committees (AECs) on adequate monitoring.

NAEAC places great importance on the AEC function of ensuring compliance with the conditions of approved protocols and with the conditions set out in each institution's code of ethical conduct in terms of management of research animals and the facilities in which they are kept. It is an essential part of ensuring that the aims of Part 6 of the Animal Welfare Act 1999 are being met, and that the public can have confidence that all due care is being taken to care appropriately for animals used in research, testing and teaching.

NAEAC is very grateful to Dr Morgan for making his paper available to the committee in this way, and acknowledges the amount of work involved in its preparation.

Virginia Williams

Chair, NAEAC

October 2010

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Monitoring methods for animal ethics committees

By Dr Dave Morgan

National Animal Ethics Advisory Committee

Introduction

The Animal Welfare Act 1999 requires animal ethics committees (AECs) to monitor:

- i) compliance with the conditions of project approvals (section 99(1)(d));
- ii) animal management practices and facilities to ensure compliance with the terms of the code of ethical conduct (section 99(1)(e)).

Monitoring is an important part of the role of an AEC for two reasons. Firstly, it provides a means of ensuring that the welfare of animals used in RTT (i.e. research, testing and teaching) meets the standards required by the committee. Secondly, it can inform public debate about the use of animals in RTT.

A survey in New Zealand has shown that, in general, most of the general public accept the use of animals in RTT, with conditions, such as ensuring no unnecessary suffering (Williams et al. 2007). Because such animal use can (and should) only continue with public support, it is essential that it can be demonstrated transparently that the manner in which approved animal use is conducted does actually meet the standards expected by the AEC, as representatives of the community. The mandatory inclusion of lay members of the public in AECs goes some way to providing this reassurance (Rose et al. 2007), but the requirement for AECs to monitor the RTT it has approved is an important mechanism in maintaining public support.

The Act and its associated regulations do not specify the types of monitoring activities that should be undertaken: rather, it is expected that AECs will develop monitoring processes that are appropriate to the scope and nature of research testing or teaching carried out under its approval.

Monitoring methods

To meet the statutory requirements, monitoring activities can be categorised as ways of assessing whether (i) animal use is being (or was) conducted in the manner approved by the AEC, and (ii) the standards of animal care are acceptable (when assessed against statutes and codes). A variety of approaches (summarised in appendix 1) that can be taken to meet these aims are described below. Not all methods will be appropriate for all AECs.

Ensuring compliance with AEC approvals

1. Scheduled observation of manipulations

The most obvious and direct means of assessing whether animal use meets the protocol and conditions approved by an AEC is to arrange visits to coincide with scheduled manipulations. This often requires some flexibility on the part of the AEC and is more easily achieved by the use of a sub-committee of perhaps two or three committee members whose attendance is easier to co-ordinate than that of the entire committee. It is advisable that sub-committees should always include a veterinary member and one other “external” member. Committees should consider the need for monitoring when applications are reviewed. Monitoring should be focused on manipulations that have the greatest impact on animals, and those that involve new procedures or personnel (especially contracted or “parented” work – see below). Routine, well-established manipulations may warrant only periodic monitoring. AECs are encouraged to use the comprehensive checklists used by accredited reviewers during statutory reviews (Appendix 2).

In large institutions with a dedicated animal welfare officer (AWO), it can be advantageous to have such visits conducted by this person, and examples of the animal manipulation recorded on video for the AEC to observe later. This allows all members to observe the manipulation without disturbing animals or unsettling investigators who may make uncharacteristic errors due to the stress of having to “perform” in front of an audience.

A report on the visit should be prepared on completion of the visit; this is necessary to inform other AEC members (where sub-committees conducted visits) of the findings, to support any recommendations that the AEC may make to the project leader or host institution, and to provide, for future statutory reviews, evidence of the monitoring that was undertaken. Apart from providing AEC members with first-hand experience of manipulations, and hence a better basis for evaluating ethical cost-benefit in future, observation of manipulations alongside project leaders facilitates the development of a relationship based on a common concern for animal welfare, and may lead to suggested improvements in technique.

2. Non-scheduled observation of manipulations

Monitoring reports from non-scheduled (i.e. surprise) visits hold the attraction of being highly transparent and objective. On the face of it, this would appear to be an admirable way of assuring the general public that RTT is being conducted justifiably and to acceptable standards. However, the approach suffers a significant disadvantage in that it may engender a defensive attitude amongst the RTT community that may, to a degree, obstruct the real intent of animal welfare legislation as it applies to RTT. It is advisable for an AEC to discuss the use of surprise visits with the managers of a host institution before using this monitoring approach. It is a sensitive concept, and the broader effects and benefits should be weighed up carefully. Use of the AWO to make surprise visits on behalf of the AEC is less likely to have negative consequences as it is presumably less surprising for project staff to have the AWO make an unannounced visit.

3. Review of completed projects

Reviews by the AEC of completed projects should be retrospective, detailed assessments of the conduct of a piece of work, from beginning to end, against the specifications of the AEC-approved protocol. There are a number of potential benefits to be gained by AECs periodically selecting a range of completed projects for review. Firstly, reviews provide an overview of the work and contribute to a fuller assessment of whether it was conducted as approved than is possible from simply observing the actual animal manipulations. Importantly, the committee is more likely to be able to assess whether animal suffering was outweighed by the benefits accruing from the work once it is completed, thus aiding evaluation of future proposals. Secondly, unanticipated difficulties may sometimes arise that, with hindsight, may change the balance of costs and benefits; knowledge of this can be helpful to both project leaders and AECs in refining methods in future proposals to use animals for similar purposes. Thirdly, project reviews are useful in assessing the adequacy of the processes used by the AEC itself in regulating RTT. This is a particularly valuable benefit as it can form a regular, systematic means by which the appropriateness of AECs' codes and processes are assessed and gradually improved. Fourthly, the five-yearly code-compliance reviews carried out by independent reviewers will be helped by such "internal" project reviews; they provide concise but comprehensive "case-studies", and enable reviewers to assess how well AECs both regulate and monitor RTT.

Where the scope of work by a code holder is limited (e.g. training courses using animals), it is advisable to conduct a complete review annually. Where a wide range of animal use is undertaken, the criteria listed above (1) should be used to identify where project reviews will be most useful.

4. Reports to the AEC

It is often difficult for AECs to remain familiar with work once the approval process has been completed, especially if no on-site monitoring of manipulations is undertaken, or if projects are being conducted off-site at remote locations (especially in wildlife studies). Under such circumstances, it is recommended that AECs should require project leaders to submit interim reports at least annually, and a final report on completion. Well-designed reporting formats should focus on succinctly gathering information on the achievements of the work in relation to the objectives, and whether any animal welfare issues (positive and negative) have arisen: examples of formats for interim and final reports are given in appendices 3 and 4. As well as enabling committees to "keep in touch" with approved work, the reports may provoke an AEC to take a closer look at how a project is progressing, or to re-evaluate some aspect of its own performance in relation to the project. Where code holders wish to publicise the value of animal-based RTT to company staff, shareholders, colleagues, or the general public, these reports can form

an accessible summary of the complete portfolio of work undertaken. Such reports are not a significant additional burden to project leaders' workloads, and, if appropriately designed, have the additional benefit of reinforcing the need to consider animal welfare for the duration of an approval.

Where a large number (e.g. more than 20) of reports are being received periodically by an AEC, the most efficient means of gaining the most value from them is to apportion them equally to individual AEC members for careful consideration and reporting back to the whole committee. To assist this process it is sensible to use a template that elicits the most useful consideration from individual AEC members (see appendix 5 for an example). Presentation of these assessments at committee meetings can generate some very useful feedback to project leaders and institutional management, again reinforcing consideration of animal ethics and welfare.

5. Presentations to the AEC

Another way in which an AEC can maintain familiarity with a project, or a more general area of work, is to invite project leaders to AEC meetings to give presentations on their work. This could form a regular part of the agenda of committee meetings, and provides an opportunity for presentation and discussion of proposed new work, work in progress, or completed work. As with written reporting, the emphasis of the presentation should be on the ethical costs and benefits of the work, and the animal welfare issues it entails. AECs aim to help project leaders carry out their work in an ethically defensible manner, and useful advice, particularly from AEC veterinarians, can often be gained by researchers during the proposal stage where work entails invasive manipulation.

Once studies are underway, a presentation constitutes a form of monitoring that enables the committee to observe, albeit indirectly, how animals are being manipulated and cared for. Indeed, it may be the only practicable way of gaining first-hand experience of the work where it is too hazardous to allow site visits (e.g. work involving infectious diseases) or where it is being conducted in a remote location (e.g. Antarctic wildlife work). In these cases, project leaders should be encouraged to make use of video to demonstrate to the AEC the manipulations carried out.

6. Compliance reporting

AECs should make provision for any staff members within the host institution to raise a concern over the conduct of work. This provides a structured means of informing the AEC and key staff when things do not go to plan. Sometimes the non-compliance may be considered justifiable in hindsight; on other occasions there may be a need to make changes to how work is conducted. The aim should be to firstly consider the action that may be needed to address any animal welfare concerns, and secondly to address procedural and personnel matters based on a clear understanding of the nature of and reasons for non-compliance. Serious cases of non-compliance should be addressed by disciplinary procedures, as determined by management of the host institution in conjunction with the AEC.

In large, structurally complex institutions, statutory compliance has to be managed in a well-organised fashion; it is generally regarded as a "high-risk" area for such institutions as failure can be disastrous. AECs can assist the institution in managing this risk by supplying reports of AEC activity on an appropriately regular basis. The emphasis here should be to alert institutional management to any instances of non-compliance and the measures that have been taken to address the causes and consequences of incidents, although in serious cases, some other reporting mechanism should be used to achieve this immediately (see "Adverse incident reporting" below). While this form of monitoring is not directly aimed at meeting the statutory requirement, it may help maintain the robustness of the regulatory system by regularly reminding institutions' management of the need to support the work of its AEC.

7. Monitoring of contracted or parented work

In some cases, an AEC may approve work that will be carried out for the host institution by a third-party animal facility under separate management. Similarly, there may be instances where an AEC is asked by another institution

to “parent” work where the institution does not maintain its own AEC. Where such arrangements are made, the AEC will have the same statutory responsibilities that apply to work carried out within the host institution, and it is therefore important in both cases that high standards of monitoring are applied. Difficulty may arise where the work is to be conducted at a distance that makes normal site visits impractical, and in such cases the AEC should consider contracting the services of consultant veterinarians or auditors to carry out monitoring. It is essential, however, that the AEC defines the monitoring programme in relation to the key areas of animal welfare identified in the proposal and with regard to the standard of the facilities in which animals will be kept. Where work is being parented, it is also advisable for the proposers to meet with the AEC when the work is being considered, and at key stages of the project where it is of long duration.

8. Monitoring of animal welfare by researchers

Where applications to the AEC anticipate a significant impact on animal welfare, the AEC should ensure that this is monitored through the use of a purpose-designed monitoring schedule and appropriate monitoring sheets (examples given in National Research Council 2008). In certain cases the AEC may have a particular interest in evaluating such monitoring data, and could therefore require that the information should be provided as a condition of approval. For practical purposes, it may be adequate for the AEC to receive a summary of such data.

9. Statutory reviews

Statutory reviews of code-compliance in New Zealand are ultimately the most important forms of monitoring undertaken of the conduct of institutions using animals for scientific purposes; this is because they are the main mechanism by which public accountability can be demonstrated. The reviews are conducted five-yearly by MAF-accredited reviewers with subsequent evaluation by NAEAC to establish consistency. While the AECs do not undertake this monitoring, it forms a very important part of the system being reviewed. Evidence of AEC activities (e.g. minutes of meetings and monitoring information) provides a tangible basis on which code-compliance can be partly assessed, and consequently contributes to the process by which regulators, and in turn Ministers and the public, are assured of the ethical scientific use of animals.

AEC monitoring of animal management practices and facilities

1. Scheduled visits

The purpose and scope of AEC inspections of animal facilities needs to be defined clearly and may vary from, for example, inspection of a specific aspect of animal husbandry practice or the adequacy of a particular building, to a complete assessment of all practices and facilities. Complete assessments are probably most beneficial at a point midway between scheduled statutory reviews, and AECs are encouraged to use the comprehensive checklists used by accredited reviews during statutory reviews (appendix 6). AEC inspections of animal facilities should be preceded by familiarisation with the relevant documents (e.g. livestock codes, standard operating procedures (SOPs)) that describe the physical conditions under which animals are kept, and the routine husbandry practices and experimental techniques that are used. Reference to these documents enables AEC members to judge the adequacy of facilities and practices, and may result in suggested improvements or, alternatively, modifications to SOPs.

2. Non-scheduled visits

As in the case of surprise visits to monitor approved work, there is the possibility that non-scheduled visits to monitor animal facilities and routine practices may have negative consequences. AECs often include in their membership an animal carer from the host institution. This has often proved useful in forming a close linkage between the AEC and the operation of animal facilities, such that high standards are reinforced and incremental improvement is encouraged. Non-scheduled monitoring visits are likely to erode this collaborative approach, with

the relationship becoming increasingly adversarial the more visits occur. However, the AEC and institutional managers need to consider whether these disadvantages are outweighed by, for example, a greater degree of public accountability in the use of animals.

3. Routine monitoring of animal health

All animal facilities should routinely monitor animal health. This is essential to prevent unnecessary impact on animal welfare, to ensure that the quality of scientific data is not compromised by animals behaving or functioning abnormally, and to avoid costly and disruptive disease outbreaks. It is expected that animal carers will have been appropriately trained and capable of designing and implementing such a health monitoring programme. There is a large body of literature to assist this process.

AECs should utilise the expertise of their veterinary representatives in periodically reviewing the monitoring programme (perhaps in conjunction with visits or as part of reviews of SOPs – see below). Committees could also request regular summaries of animal health data from facility staff as a means of overseeing the effectiveness of the husbandry practices used.

4. Adverse incident reporting

Adverse incidents are unanticipated or atypical events that occur to an animal as a result of routine husbandry, experimental manipulation, or diseases. Where unexpected adverse incidents or outcomes occur during RTT, rapid reporting is essential, primarily from the point of view of animal welfare. Understanding of incidents and how to respond to them may require specialised knowledge, so it is important that key information is recorded and reported promptly to those responsible for the work and the AEC, and a collective response made. This may be, for example, isolation of affected or potentially affected animals, closer monitoring, changes to routine husbandry or experimental procedures, or suspension or termination of the work.

5. Periodic review of SOPs

As the scientific body of knowledge underpinning animal management practices is constantly expanding, there is a need to periodically review the adequacy of SOPs being used by animal carers and users. This is an activity in which researchers, animal carers, and the AEC all have an interest as there are implications for animal welfare and, consequently, the robustness of experimental data. Significant improvements in common practices such as anaesthesia or analgesia are generally well publicised, but more specialised practices, such as fitting radio-tracking devices to wildlife, may require more effort by the researcher and the AEC to establish current best practice. Typically, review of SOPs at three-year intervals would be appropriate, but in rapidly evolving areas of scientific knowledge, more frequent review should be considered.

6. Animal carer on the AEC

The most direct means for the AEC to monitor the day-to-day operation of an animal facility is through the membership of an animal carer of the host institution on the committee. This enables the AEC to gain insight into the culture, commitment, capability and effectiveness of the staff responsible for animal welfare. Many AECs have a regular part of meetings devoted to discussion of items raised by the animal care representative. Animal care staff have much to gain from the support of the AEC, particularly where invasive or controversial work is involved.

7. Collection of animal use statistics

MAF collects data annually from AECs on the numbers of animals used in RTT, the purposes for using them, and the degrees of impact involved. The data are collated in the annual report of NAEAC, and provide a means of informing the general public of the overall situation and trends relative to usage in previous years.

References

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Williams, V.; Dacre, I.T.; Elliott, M. 2007: Public attitudes in New Zealand towards the use of animals for research, testing and teaching purposes. *New Zealand Veterinary Journal* 55: 61–68.

Appendix 1: Summary of the monitoring approaches discussed

Purpose of monitoring	Type of monitoring
Compliance with AEC approvals	1. Scheduled observation of manipulations by site visits
	2. Non-scheduled observation of manipulations by site visits
	3. Reviews of completed projects
	4. Annual reports on AEC-approved projects
	5. Project presentations to the AEC
	6. Compliance reporting
	7. Monitoring of contracted or parented work
	8. Monitoring of impact on animal welfare 'in study' by score sheets or checklists
	9. Statutory reviews
Animal management practices and facilities	1. Scheduled visits to facilities
	2. Non-scheduled visits to facilities
	3. Routine animal health monitoring by animal carers and AEC oversight
	4. Adverse incident reporting by facility staff
	5. Periodic review of Standard Operating Procedures by AEC vet
	6. Animal carers on the AEC reporting regularly on animal welfare
	7. Collection of animal use statistics

Appendix 2: Monitoring approved manipulations using sections of the “Checklists for the Review of Code Holders and AECs”

Introduction

The following checklists provide possible templates for questions that reviewers may ask when carrying out reviews. The checklists are based on the *Guide to the Preparation of Codes of Ethical Conduct* (i.e. the “GCEC” and the *Good Practice Guide for the Use of Animals in Research, Testing and Teaching* (i.e. the “GPG”). They are intended as guides only and provide possible questions that reviewers could ask code holders and AECs. Since codes of ethical conduct and AECs of the various code holders differ in their content and procedures, it is not intended that the following checklists provide a complete list of questions. Not all questions will be pertinent to every situation and there may be additional questions that a reviewer asks that have not been included here.

Compliance with the GPG by investigators and teachers

The following items are given as a guide. The AEC should have considered these as part of the project approval process. Application forms that guide applicants by asking the appropriate questions will be of assistance to both the applicant and the AEC.

- Do investigators and teachers understand that they have direct and ultimate responsibility for all matters related to the welfare of the animals under their control (ideally they should have signed a statement to this effect when they submitted their project application)? This includes supervision of students.

Limiting pain and distress

- Did the investigator consider any potentially adverse effects of a manipulation, and have a plan for managing these?
- Were pilot studies carried out (e.g. where the manipulation was to be carried out for the first time, confirm new techniques, refine humane endpoints)?
- Is there evidence that animals were adequately monitored during the experiment for evidence of pain and distress?
 - Were score sheets used to document these observations?
 - Were appropriate indicators used? (e.g. abnormalities in: behaviour, movement, sound, heart and respiration rate, appetite, body weight, temperature, defaecation and urination, reproduction etc)
- Were the anaesthetics/analgesics and or tranquillising agents used appropriate to the species? (Refer to Schofield, J. & Williams, V. 2002: “Analgesic Best Practice for the Use of Animals in Research and Teaching”).
- Were study endpoints developed that minimised pain or distress? (See section 6.4.3 of the GPG for suggestions).
- Was the method of euthanasia appropriate?

Surgery

- Was there evidence of careful planning for surgical procedures?
- Pre-operative examination?
- Pre-operative fasting?
- Administration of pre-operative antibiotic or analgesic considered?
- Evidence of use of experienced surgeons?
- Evidence of aseptic technique for recovery surgery?
- Appropriate post-operative care, with duties of staff clearly defined, emergency procedures established and records maintained?

More severe or controversial manipulations:

- If the AEC approved the use of neuromuscular blocking agents or electroimmobilisation, was special care taken to prevent pain or distress?
- If animal models of human diseases are used was the most appropriate species selected, and was care taken to minimise pain and distress?
- If procedures have been approved that involve modifying an animal's behaviour was positive reinforcement used? If noxious stimuli were used were these as mild as possible and used for the minimum time necessary?
- For toxicological testing proposals were in vitro methods used for initial screening tests, and did the procedures involving animals follow internationally accepted methods?
- For work involving hazards was the advice of the organisation's biohazards committee sought, and were appropriate procedures for containment, disposal and decontamination established?
- Is work involving the manipulation of animals' genetic material carried out in accordance with MAF requirements? Have investigators kept the AEC informed of any adverse effects on the well-being of animals as a result of these manipulations?
- Is there evidence that where tumours were induced, the site was chosen carefully, animals monitored carefully, and the endpoint was appropriately observed?
- Where lesions of the CNS are a feature of a project, has special caging and animal care been provided as specified?
- For work involving the withholding of food or water, was the monitoring and care provided within those limits specified and approved by the AEC?
- For work in which a foetus is affected, was cognisance taken of the requirements, pain and distress of both the mother and foetus? Where new born or newly hatched animals are used, were appropriate care and facilities provided?
- For research work on pain and its relief, was the use of painful stimuli limited to levels which do not distress humans, limited to the minimum time necessary, and were the animals given pain relief, or able to escape from the painful stimuli?

Appendix 3: Example of a template for an “Interim Study Report to the AEC”

Title:

AEC approval no.

Date approved:

Study Leader:

Date of report:

No. animals manipulated:

Grading of manipulations:

What is the study aim?

Brief description of methods:

What has the study achieved to date? (brief summary)

Do you need to modify the approved procedures?

Have there been any amendments made to the approved workplan that were not reported to the AEC? If so, please outline:

Were there any unexpected outcomes from the manipulations?

Appendix 4: Example of a template for a “Final Study Report to the AEC”

Title:

AEC approval no.:

Study leader:

Date of completion:

No. animals manipulated:

Grading of manipulations:

What was the study aim?

Brief description of methods:

What did the study achieve? (1/2 page max)

Were the manipulation gradings appropriate in hindsight? If not, why not?

Did the manipulation procedures go according to plan from an animal welfare point of view?

What animal welfare improvements were made, or could be made in future studies?

Did the study lead to any improvements in animal welfare more generally (e.g. more humane pest control, improved anaesthesia etc.)?

Were there any amendments made to the approved workplan that were not reported to the AEC? If so, please outline:

Appendix 5: Example of a template for “AEC annual review of project reports”

AEC approval no.:

Project Title:

Animal manipulations (species, numbers, and grades):

Report type: Interim/Final

1. Successes and failures:
2. Were the manipulations outweighed by the gains?:
3. Recognition of the three Rs:
4. Improvements in experimental methods:
5. Possible animal welfare benefits or impacts of the study and its findings:
6. Adequacy of reports:
7. Comments on AEC approval and monitoring:
8. Other comment:

Reviewer:

Date:

Appendix 6: Monitoring animal facilities using sections of the “Checklists for the Review of Code Holders and AECs”

Introduction

The following checklists provide possible templates for questions that reviewers may ask when carrying out reviews. The checklists are based on the *Guide to the Preparation of Codes of Ethical Conduct* (i.e. the “GCEC” and the *Good Practice Guide for the Use of Animals in Research, Testing and Teaching* (i.e. the “GPG”). They are intended as guides only and provide possible questions that reviewers could ask code holders and AECs. Since codes of ethical conduct and AECs of the various code holders differ in their content and procedures, it is not intended that the following checklists provide a complete list of questions. Not all questions will be pertinent to every situation and there may be additional questions that a reviewer asks that have not been included here.

AEC compliance with its policies and procedures for monitoring approved projects (see 3.5 and 3.7 of the GCEC and section 99 of the Act)

- Is there a policy for monitoring:
 - approved projects;
 - animal management practices and facilities; and
 - standard operating procedures?
- Do the records show that the AEC adhered to this policy?
- Has the AEC ensured that all people manipulating animals are trained and competent to carry out the procedures?
- Are applicants required to report back to the AEC at the conclusion of project work, or at any other time?
 - Is there evidence that this reporting has occurred?
- Has the AEC collected data on animal usage in compliance with the Animal Welfare (Records and Statistics) Regulations 1999?

Care of animals

Acquisition of animals

- Are any animals collected from their natural habitats?
 - If so, have measures consistent with s.3.1 of the GPG been followed?
- Are any animals obtained from other countries?
 - If so have the measures consistent with s.3.2 of the GPG been followed?
- Are any of the animals transported?
 - If so have the measures consistent with in s.3.3 of the GPG been followed?
- On admission of new animals, are quarantine provisions undertaken consistent with s.3.4 of the GPG?
 - quarantined?
 - animal health evaluation and treatment if necessary?
 - acclimatised?
 - participation in experiments delayed till completion of quarantine?

Outdoor holding facilities

- Are outdoor holding areas compatible with needs of species:
 - size;
 - shelter;
 - water;
 - meet species specific needs?
- Compliant with established practice for that species, eg does care conform to the code of welfare for that species?

Indoor housing

- Is the building:
 - compatible with the needs of the animals to be housed, and
 - the projects undertaken?
- Is the building designed and operated to:
 - control environmental factors appropriately
 - exclude vermin, and
 - limit contamination associated with the keeping of animals, delivery of food, water and bedding, and the entry of people and other animals?
- Is the building maintained in good repair?
- Is the building kept clean and tidy?
- Is there a pest control programme?
- Are there adequate storage areas for food, bedding and equipment?
- Is the choice of detergents, disinfectants and pesticides appropriate?
- Are cleaning practices monitored to ensure effective sanitation?
 - What parameters are monitored?
 - Are records kept?
- Is there a reticulated water supply?
- Is there adequate waste water control and drainage?
- Are there contingency plans for emergencies such as flooding, fire, or a breakdown in lighting, heating, cooling or ventilation?
- Is access to the building controlled to prevent the entry of unauthorised persons?

Environmental factors

- Are the environmental conditions appropriate for the species:
 - ventilation;
 - temperature and humidity;
 - odour control;
 - noise;
 - light intensity and light cycles?

Immediate environment of animals

- Are cages/pens or containers suitable for the animals contained?
 - Do they allow for species-specific behavioural and environmental requirements?
 - Are animals kept in single housing, for what reasons?
 - Is food and water readily available?
 - Is there protection from spread of disease and pests?
 - Can animals be observed easily?
 - Are nesting materials provided, and are these appropriate?
 - Are the cages of smooth durable construction?
 - Are they clean and easily cleaned?
 - Are they well maintained?
 - Are they escape-proof?
 - Do they protect from climatic extremes?
 - Are they designed to prevent injury to animals?
 - Are they large enough for the animals to turn, lie down, stand up etc?
- Is the population density appropriate for the species, age, environment etc?

- Are wire-floored cages in use?
 - Are these cages used only when essential to the project?
 - Is a solid resting area available?

Enrichment

- Are animals provided with opportunities/stimuli to promote expression of normal behaviour (e.g. is recompense made for unnatural environments)?

Management factors

- Is a veterinary consultant used?
- Does the person-in-charge:
 - Have responsibilities for the management of the day-to-day animal care, including weekend coverage?
 - Contribute to the development and maintenance of the organisation's animal care policies and procedures?
 - Ensure that there is reliable monitoring of the well-being of all animals?
 - Ensure that all ill or injured animals are treated promptly, and that the cause of death is investigated for animals that die unexpectedly?
 - Ensure staff wear protective clothing and maintain high standards of personal hygiene in animal areas?
 - Receive information from the AEC regarding project work e.g. copies of applications and approvals?
 - Maintain liaison with investigators regarding all issues relating to animals involved in project work?
- For small animal colonies are there:
 - Documented procedures for the management of holding and breeding facilities?
 - A regular schedule of cage, equipment and facility sanitisation?
 - Adequate records for the source, care, allocation, movement between locations, use and disposal of all animals?
 - Adequate records of the fertility, fecundity, morbidity and mortality of animal breeding groups?
 - Adequate records of the health status, genetic constitution and disease diagnosis?

Staff

- Are the staff numbers sufficient for the numbers and types of animals?
- Are these staff:
 - Trained?
 - Competent?

Husbandry procedures

- Do animals receive appropriate, uncontaminated and nutritionally adequate food in sufficient quantities?
- If animals are fed in groups are there sufficient feeding points to avoid undue competition for food?
- Is suitable drinking water constantly available?
- Are husbandry procedures, which are not part of project work, such as immunisations, carried out by competent personnel?

Animal identification

- Are all animals identified?
- Is method reliable?
- Does method cause minimal stress?

Disposal of animal carcasses and waste

- Is appropriate provision made for the prompt and sanitary disposal of animal carcasses and waste material?

AEC compliance with its policies and procedures for parenting arrangements (see 3.9 of the GCEC and section 84 of the Act).

- Does the AEC monitor parented organisations? What is monitored and are there records of the monitoring?

National Animal Ethics
Advisory Committee

New Zealand Government