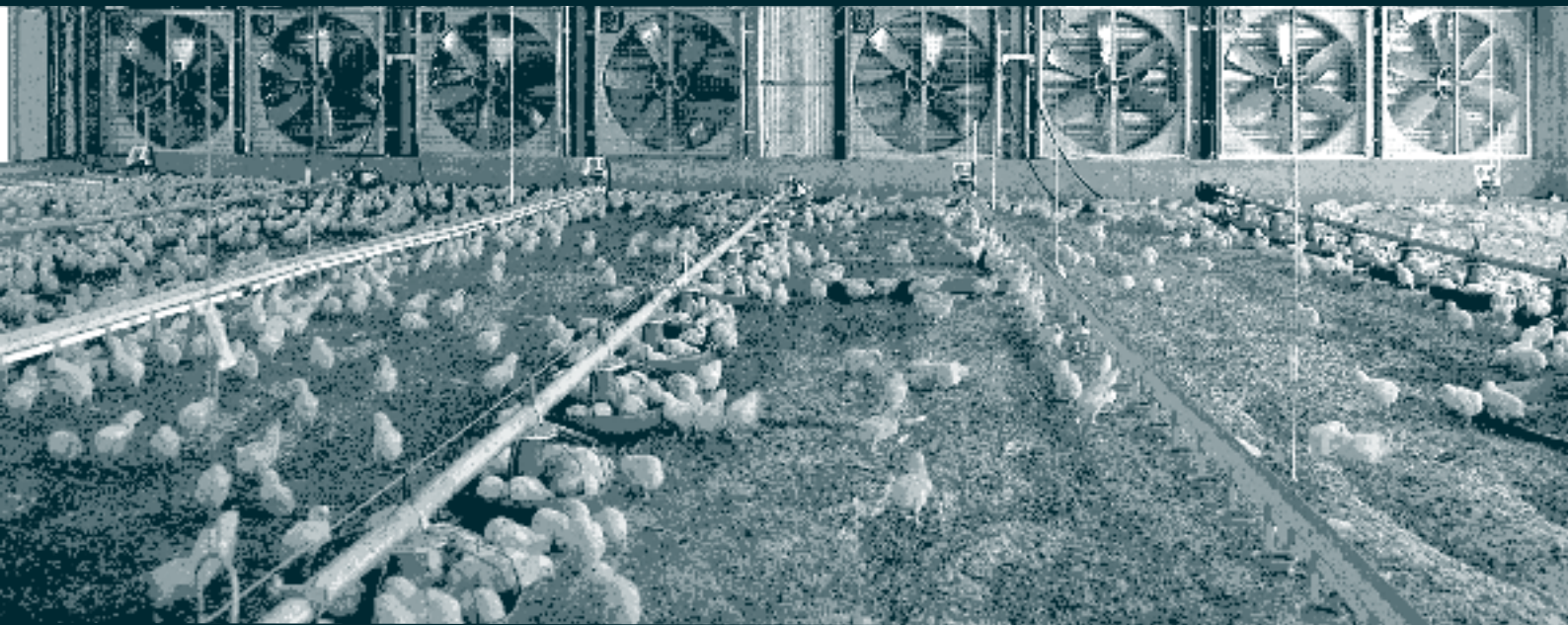




NSW Meat Chicken Farming Guidelines



Managing Planning,
Development and
Environmental Issues



NSW Agriculture



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Developed by Suzanne Robinson (principal author) and Therese Hulme in consultation with government, industry and community stakeholders.

Endorsed by the Intensive Agriculture Consultative Committee (IACC), a government agency and industry committee aimed at promoting the development of sustainable agricultural industries through efficient processes for environmental planning and protection.

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PREFACE

The meat chicken industry is an important component of the agricultural sector of New South Wales. It produces food and other quality protein products and is a leader in market development and use of technology. The industry employs about 6000 people in production and processing, and also sustains support industries.

Location of meat chicken farms and facilities in areas surrounding expanding residential areas raises the potential for land-use conflicts between farmers and residents. At the same time, increased intensification of production technology increases the potential for environmental impact.

In 1996 NSW Agriculture published the *NSW Poultry Farming Guidelines* to help the poultry

industry and other stakeholders manage these issues. These guidelines have just been reviewed and are presented as the *NSW Meat Chicken Farming Guidelines*. The Guidelines are specific to meat chicken farms, and have been developed to help industry, government and the community to manage planning and environmental issues for the meat chicken farming industry. They establish guidelines for the planning, design, construction, operation and management of meat chicken farms in NSW.

The *NSW Meat Chicken Farming Guidelines* have been developed in consultation with other government agencies, the meat chicken industry and community stakeholders.

ABBREVIATIONS

ARA	Appropriate Regulatory Authority
DA	Development Application
DEC	Department of Environment and Conservation (formerly Environment Protection Authority, National Parks & Wildlife Service, ResourceNSW, Royal Botanic Gardens & Domains Trust)
DIPNR	Department of Infrastructure, Planning and Natural Resources (formerly PlanningNSW and Department of Land and Water Conservation)
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EMS	Environmental Management System
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
LEP	Local Environmental Plan
LG Act	<i>Local Government Act 1993</i>
MRL	Maximum Residue Limit
PFM	Planning Focus Meeting
PoEO Act	<i>Protection of the Environment Operations Act 1997</i>
REP	Regional Environmental Plan
RTA	Roads and Traffic Authority
SEE	Statement of Environmental Effects
SEPP	State Environmental Planning Policy
SIS	Species Impact Statement

CONTENTS

PREFACE	3
ABBREVIATIONS	4
1 INTRODUCTION	7
2 OVERVIEW	8
2.1 Purpose of the Guidelines	8
2.2 Scope of the Guidelines	8
2.3 Operation of the Guidelines	8
2.4 Using the Guidelines	8
2.5 Review of the Guidelines	9
3 MEAT CHICKEN PRODUCTION	10
3.1 Production systems	10
3.2 Biosecurity	11
3.3 Animal health and welfare	11
3.4 Human health	11
4 ENVIRONMENTAL PLANNING AND REGULATION FOR NEW AND EXISTING MEAT CHICKEN FARMS	12
4.1 Introduction	12
4.2 Strategic planning	12
4.3 New farm development	13
4.4 Expansion or alteration of an existing meat chicken farm	14
4.5 What approvals are needed to establish or expand a meat chicken farm?	15
4.6 The development assessment and approval process	18
5 SITING AND DESIGN	23
5.1 Selecting a site	23
5.2 Design and construction	29
6 ENVIRONMENTAL IMPACTS AND HOW TO MANAGE THEM	33
6.1 The Environmental Management Plan	33
6.2 Surface water, ground water and soils	34
6.3 Odour	36
6.4 Noise	38
6.5 Dust	39
6.6 Light	40
6.7 Visual impact and landscaping	41

6.8	Traffic	42
6.9	Pests	42
6.10	Chemical usage (spray drift and spills)	43
6.11	Management of waste and nutrient reuse	44
6.12	Community liaison and complaint management	47
7	LEGISLATION AFFECTING MEAT CHICKEN FARMS	49
7.1	Department of Infrastructure, Planning and Natural Resources	49
7.2	Department of Environment and Conservation	50
7.3	Local councils	52
7.4	NSW Agriculture	53
7.5	NSW WorkCover Authority	54
7.6	Sydney Catchment Authority	54
7.7	NSW Department of Health	54
8	GLOSSARY	55
9	REFERENCES AND FURTHER READING	58
	APPENDIX I: ISSUES TO ADDRESS BEFORE SUBMITTING A DEVELOPMENT APPLICATION FOR A MEAT CHICKEN FARM IN NSW	60

1 INTRODUCTION

The meat chicken industry is a significant part of the NSW agricultural industry, with annual production adding about \$470 million to the NSW economy. The industry is concentrated in NSW, with about 43% of Australian meat chicken production occurring in this State.

The industry is well developed in NSW, particularly in the regions of Sydney, Central Coast, Hunter, Tamworth, North Coast and Griffith, and is expanding in the Southern Highlands. Most production is undertaken by a small number of corporate vertically integrated companies that operate breeding farms, hatcheries, feed mills, processing plants, further processing plants and sometimes chicken grow-out farms, with contract growing of meat chickens.

Consumption of chicken meat in Australia is continuing to increase. It is currently 32 kg per capita per year, an increase of nearly 5 kg per capita in the last 5 years. It is thus important that the efficiency of the industry continues to improve to ensure continued supply of quality chicken meat product to the consumer. Improvements in genetics, feed regimes, housing and management have all helped in the progress of the industry over the last 30 years.

An important factor in the continued enhancement of an efficient and sustainable meat chicken industry into the future is good management, development of new housing systems and expansion or renovation of existing housing systems. With the increasing scale and intensity of meat chicken farming, effective management of the potential environmental, health and amenity impacts are becoming more important. These Guidelines have been developed for the purpose of providing guidance for the management of these impacts. They have been developed by NSW Agriculture in consultation with other government agencies, the meat chicken industry and the community.

2 OVERVIEW

2.1 PURPOSE OF THE GUIDELINES

The *NSW Meat Chicken Farming Guidelines* have been developed to provide guidance for the planning, design, construction, operation and management of meat chicken farms in NSW.

Their purpose is to provide a framework for the economically, environmentally and socially sustainable development and operation of meat chicken farms in NSW, recognising the needs of the industry and the community.

This is achieved by providing:

- explanation of the Development Application (DA) and approval processes, requirements and legislation
- information on siting, design and construction of farms
- performance objectives and best practice advice for management of the environmental impacts of farm development and operation.

2.2 SCOPE OF THE GUIDELINES

The Guidelines apply to the development of new farms, the expansion or renovation of existing farms, and the management of all farms involved in the rearing of meat chickens in NSW.

The Guidelines do not apply to the operation of farms established for keeping poultry other than chickens, or for chicken farms operating for egg production, pullet raising, breeding, free range production or hatcheries. However, the principles of the Guidelines and some parts of them may be applied to these operations as appropriate. Advice on development issues for these proposals should be sought from local government and NSW Agriculture.

Lawfully established meat chicken farms may continue to operate in accordance with current approvals, subject to the requirements of legislation, although the Guidelines are intended to encourage all farms to adopt and implement a culture of continuous improvement.

The Guidelines recognise the involvement of both farmers and processors in meat chicken farming. Whereas the farmer (grower) directly operates the farm, companies (processors) provide and own the chickens, arrange transport, provide the feed, provide veterinary and man-

agement advice, and process and market the chickens. In most instances, the farmer operates under a contract to a processing company, and the ongoing performance of the farm is therefore dependent on the actions of both the farmer and the processor.

2.3 OPERATION OF THE GUIDELINES

These Guidelines should be applied uniformly across NSW, and may be referenced in planning documents.

Proponents considering building a new farm, or expanding or renovating an existing farm, should use the Guidelines to plan and design their farm and determine the management practices they will use to minimise environmental impact. Existing farms may use the Guidelines for the development of an environmental management plan (EMP) or simply to determine best management practice.

In deciding on meat chicken farm proposals, responsible authorities should use the Guidelines to help determine reasonable best management practice. An approval authority may make reference to the Guidelines in planning policies, plans and guidelines, as well as in the execution of its responsibilities as the appropriate regulatory authority under the provisions of the *Protection of the Environment Operations Act 1997*.

Following the Guidelines alone will not ensure compliance with planning and environmental management requirements. The Guidelines must be read in conjunction with other planning and environmental management policies, plans, guidelines and legislation.

2.4 USING THE GUIDELINES

The Guidelines provide a description of the planning process, the objectives to be met, and the best practice guidelines to be followed in the development and operation of meat chicken farms.

These requirements are provided for all parties with an interest in the development and operation of meat chicken farms, but in particular the guidelines set out requirements to be taken into account when the proponent is preparing a development application (DA). Where action is required to improve the performance of an

existing farm that does not comply with environmental or health requirements, farmers and responsible authorities are encouraged to use the Guidelines as a reference for defining appropriate practices and performance outcomes.

The contents of the Guidelines are as follows:

Section 3, Meat chicken production, describes some of the different production systems and general issues for consideration in development and management of a farm, including biosecurity, animal health and welfare, and human health.

Section 4, Environmental planning and regulation for new and existing meat chicken farms, explains the planning process and legislation existing for the development and operation of farms.

Section 5, Siting and design, covers the recommendations for location, size, design and construction of farms.

Section 6, Environmental impacts and how to manage them, defines objectives, criteria and best management practice for management of key environmental issues relating to the siting, design and operation of farms.

The environmental impacts and management strategies for which best practice is defined are:

- environmental management plans (EMPs)
- surface water, ground water and soils
- odour
- noise
- dust
- light
- visual impact and landscaping
- traffic
- pests
- chemical usage
- waste management
- community liaison and complaint management.

All impacts and strategies need to be considered in the preparation and assessment of development proposals. A proposal must satisfy the objectives, criteria and best practice, although alternatives to the Guidelines may be used in specific situations.

An approval authority may require more detailed information to demonstrate compliance with particular issues, depending on the circumstances and risk associated with the development.

Section 7, Legislation affecting meat chicken farmers, lists the legislation of relevance to the meat chicken industry.

Section 8, the Glossary explains the key terms used in the Guidelines.

Section 9, the References and further reading section, provides references for policies, guidelines, codes and other information on best practice in the meat chicken industry.

Appendix 1 provides a summary of issues to address before submitting a development application for a meat chicken farm in NSW.

2.5 Review of the Guidelines

The Guidelines are based on current information, knowledge and practice. Further investigation, research and innovation in farm practice may in the future establish new practices and redefine best practice for the industry.

The Guidelines will be revised as new information relating to the design, operation, management and environmental impact of meat chicken farms becomes available. Major reviews are envisaged about every 5 years. In the period between reviews, technical notes will be used to disseminate information on developments in best practice.

Updates to the guidelines will be available on NSW Agriculture's web site (www.agric.nsw.gov.au).

3 MEAT CHICKEN PRODUCTION

3.1 PRODUCTION SYSTEMS

Breeding farms

Breeding farms contain birds that produce fertile eggs. The fertile eggs are laid in nest boxes. The eggs are collected and stored for transport to the hatchery. Day-old progeny from grandparent stock are reared to laying age, and then these breeding birds, known as parent or secondary stock, produce fertile eggs for commercial meat chicken production.

Breeding stock are housed on deep litter or partly or fully slatted floors. Feed consumption of meat chicken breeders is controlled to prevent birds becoming overweight, and fresh water is available at all times. Artificial lighting is provided, designed to enhance the growth, reproduction and wellbeing of the birds. At the end of their productive lives, after about 62 weeks, the breeding birds are removed for meat processing. The shed is then cleaned and prepared for the next flock of breeders.

Hatcheries

After collection, fertile eggs are taken to a hatchery, where they may be stored at coolroom temperatures before they are artificially incubated. Eggs from parent stock are incubated to produce chicks that are consigned to meat chicken farms within hours of hatching. The chicks are vaccinated and graded for quality, size and sometimes sex before being consigned to the growout farms.

Meat chicken farms

Day-old chicks are delivered to the farms as a batch and raised on deep litter within large, naturally or mechanically ventilated sheds with some climate control. The birds have constant

access to fresh feed and water supplied by automatic feeder and drinker lines. The chicks are initially placed in a heated brooding section occupying one-third to one-half of the shed. As they grow, floor space is increased, until at 10 to 14 days the whole shed is occupied.

Artificial lighting is provided and is designed to enhance the growth and wellbeing of the birds.

The birds are reared on litter over an impermeable floor. The litter is generally 50 to 100 mm thick and may be sawdust, wood shavings, rice hulls, paper or chopped straw. The choice of litter material depends on availability, price and absorbency.

When birds have reached the required weight they are caught (generally at night), placed in crates, and transported to the processing plant. Part of the flock is processed at about 5 weeks (thin out), with the majority harvested between 6 and 8 weeks. The sheds are left empty for 1 to 2 weeks for cleanout and disinfection, and then set up ready for the new batch of chicks to arrive. Meat chicken farms generally rear between five and six batches of birds a year.

The used litter may be completely cleaned out at the end of each batch (single batch), partly cleaned out (partial reuse) or cleaned out after several batches (multi-batch).

A fertiliser company generally removes the litter immediately from the farm. Some farms stockpile and spread used litter on pasture and cropping land.

Sheds are generally 100 to 150 metres long and 12 to 15 metres wide, housing about 20 000 to 50 000 birds per shed. Most farms have at least three or four sheds.

Meat chicken breeder flock



SUZANNE ROBINSON

Meat chicken chicks on straw deep litter



GERRY BOLLA

The grower has a contract with a large vertically integrated chicken meat processor. The farmer provides labour, management, shedding, equipment, LPG for heating, and bedding material. The processor provides day-old chicks, feed, medication and technical advice. Some meat chicken growing is done by processors on company owned and operated farms.

3.2 BIOSECURITY

Disease outbreaks can result in loss of income, potential environmental problems associated with mass disposal of dead birds, and trauma to the people affected by the outbreak. Appropriate farm location and management is necessary to avoid problems from disease outbreaks.

A meat chicken farm should be located at least 2 kilometres from other poultry farms to minimise the risk of disease transfer between farms. There is no distance that will ensure protection from disease spread, but generally the greater the distance, the lower the risk.

A new facility should avoid building within close proximity to wetlands or waterways utilised by migratory waterfowl that may carry avian diseases. Also, surface water should not be used for poultry drinking water unless it is treated to recommended chemical and bacterial standards for poultry drinking water.

Chicken sheds should be constructed and maintained so that wild birds and animals do not come in contact with the flock. Rodents, flies and feral animals should be controlled and dead birds disposed of properly to avoid attracting these unwanted pests.

Entry of people and equipment should be controlled and supervised in accordance with industry biosecurity standards.

The *Broiler Industry Biosecurity Code* establishes minimum standards for meat chicken (broiler) farms that should be followed by the industry. Copies of the *Broiler Industry Biosecurity Code* can be obtained from the Chicken Meat Federation, telephone (02) 9955 3224.

3.3 ANIMAL HEALTH AND WELFARE

The Model Code of Practice for the Welfare of Animals – Domestic Poultry (4th Edition, ARMCANZ 2002) covers requirements for housing, equipment, lighting, ventilation, temperature, protection, food, water, health and management practices.

It is the responsibility of all meat chicken farm operators to ensure that they adhere to the

standards set out in the Code of Practice and the *Prevention of Cruelty to Animals Act 1979*. The Code includes maximum recommended stocking densities that must be observed, and is prescribed under the Act.

Copies of the code may be obtained from CSIRO Publications, PO Box 89, East Melbourne, Victoria 3002, telephone 1800 645 051, www.publish.csiro.au.

3.4 HUMAN HEALTH

The *Occupational Health and Safety Act 2000* (OHS Act) and the Occupational Health and Safety Regulation 2001 address requirements to ensure the health, safety and welfare of those working and visiting the meat chicken farm. An OHS risk assessment should be included in plans for new facilities or modifications of existing facilities, and where possible this should involve workers.

The OHS Safety Regulation lays down further requirements relating to specified hazards including plant and machinery, noise and hazardous substances.

The design, construction and operation of the meat chicken farm facilities should comply with Occupational Health and Safety requirements and relevant Australian Construction and Safety Codes. To meet the requirements of the Regulation it is required that workers are consulted in OHS risk management, including identification of OHS hazards, assessing risk and, where possible, elimination of hazards. Where hazards to health and safety cannot be eliminated, then measures to control risk should be designed and implemented.

Health risks to people off-site in the area surrounding the proposed development should also be considered and addressed by appropriate siting and management. Dust and bioaerosols from meat chicken farms may be associated with asthma, allergies and other respiratory ailments in susceptible individuals.

Contact WorkCover or the Department of Health for further information.

WorkCover:

Phone: 02 4321 5000; Fax: 02 4325 4145; E-mail: contact@workcover.nsw.gov.au

For address, telephone or fax details of all WorkCover offices, visit www.workcover.nsw.gov.au/AboutUs/WorkCovercontacts/default.htm.

4 ENVIRONMENTAL PLANNING AND REGULATION FOR NEW AND EXISTING MEAT CHICKEN FARMS

4.1 INTRODUCTION

In NSW, meat chicken farming has to comply with a range of legislation and regulations designed to protect the environment, animal health and the expectation of local communities of certain amenity standards. There are various consents or licences, provided mainly by local councils and the Department of Environment and Conservation (DEC). These define the required environmental performance outcomes for the farm, taking into consideration the interests of farmers, neighbours and the environment. Well sited, planned, designed and managed developments should have little difficulty in conforming to requirements. Although initially the range of requirements may seem complex, a path through them is clearly defined in the guidelines.

Growers and processors have an opportunity to influence planning and environmental legislation. The long-term future of the industry will be directly affected by the effectiveness of the industry to participate and influence local and State governments in the development, implementation and review of strategic initiatives under planning and environmental legislation.

4.2 STRATEGIC PLANNING

Strategic planning provides a framework for sustainable development in a region through the integration of the interests of economic development, land-use planning, resource management and conservation and enhancement of biodiversity and ecological systems in the short, medium and longer term.

In the meat chicken industry, processors plan strategically when they look to establish new infrastructure, such as a processing plant or feed mill, or establish new contracts with farmers. Farmers plan strategically when they consider development of new farms or expansion and/or modification of existing farms. Local and State governments plan strategically when they develop plans and regulations. These state the aims for various locations and designate what land uses are permissible in those zones. They also

develop performance goals in relation to air, noise and water pollution. This includes water-sharing plans or vegetation management plans for catchments or areas.

For the meat chicken industry to maximise the benefits of strategic land-use planning, peak industry organisations as well as individual farmers and processors need to participate in State Government and council initiatives to ensure that the interests and needs of the industry are appropriately considered. There is a range of opportunities to do this under the relevant legislation.

The meat chicken industry should be aware of the importance of these activities and take the opportunity to influence the outcomes. In particular, the industry needs to consider land-use planning as part of its own strategic planning in a region. It is principally through the local council planning process that changes to the land uses in proximity to farms may occur over time. Therefore a risk-based approach should be taken in relation to the possible short and longer

Key factors for the successful participation in the strategic planning processes of government are:

1. a clear industry strategic plan (processor and farmer) that outlines the industry's short, medium and longer term goals and demonstrates its commitment and value (economic, social and environmental) to the locality
2. a willingness to actively promote the industry in a locality
3. an awareness of the land use and other strategic planning activities of local and State government and a willingness to be actively involved, including attending meetings and writing submissions when there are proposed changes to the Local Environmental Plan or when there are development applications for development in the vicinity of meat chicken farms.

term impacts of change on individual farms as well as the industry's continued operation in the area. For example, the introduction of residential developments and dispersed rural dwellings into an area can be a significant threat to the continued operation of the meat chicken industry in the area. Farmers and processors need to be involved in the planning process to reduce the risk of future conflict with neighbours as a result of changes to planning provisions.

Planning authorities need to consider the impacts of the change in land use on the continued viability of existing meat chicken industries and individual meat chicken farms in a locality. As existing meat chicken farms can contribute significantly to the local economy, consideration needs to be given to the implications on the continued viability of the industry when making planning decisions and approving individual residential developments in the vicinity.

4.3 NEW FARM DEVELOPMENT

All new commercial meat chicken farms must go through a development assessment and approvals process. This process is designed to provide information to the proponent, the community and the approval authorities on the likely environmental, social and economic implications of the proposal. In assessing a new farm proposal, the potential impacts of the proposal on the local community and economy as well as on the physical environment must be considered. The scale and complexity of the proposed farm as well as the characteristics of the location will determine the detail and depth of the assessment to be undertaken.

Can a chicken meat farm be built here?

The first step in strategic planning for a new meat chicken farm is to consult the local council to find out whether its strategic plan includes provisions that are likely to encourage or constrain meat chicken farming in its local government area. As land use may change over time owing to the changing needs of the community, it is important to discuss with council the current trends and to have council identify localities that are likely to be appropriate for meat chicken farming in the medium to longer term. This should be done before identifying individual blocks of land.

Once individual blocks of land have been identified in these localities, a preliminary evaluation of their suitability should be under-

taken. This should be based on the practical, financial and environmental factors discussed in Section 5 of these Guidelines. Issues to be considered include:

- zoning and other provisions under environment planning instruments such as the Local Environmental Plan (LEP)
- size and shape of land
- access to the processing plant and hatchery (distance and suitability of roads for trucks)
- water and power supplies
- drainage and flooding issues
- topography and vegetation
- separation from other poultry farms
- separation from residences and other sensitive land uses.

It is important to do this evaluation before making a financial commitment to a particular site. Additional advice on siting and designing a meat chicken farm is provided in Section 5.

In particular, if the LEP provisions do not permit or encourage poultry development on a particular site, the process of obtaining approvals for a meat chicken farm will be much more difficult and expensive than if the site is identified as suitable for poultry development. One of the key factors is whether poultry farming is a permissible use under the LEP prepared by the local council.

Local councils use LEPs to zone land into categories such as commercial, residential, industrial, rural-residential and rural to provide a clear indication of what types of development are permitted in certain localities. Each zone has a restricted range of uses, and some zones will prohibit intensive animal industries such as poultry farming. If the zoning applying to a property does not currently allow poultry farming, a development application will generally not be able to be lodged unless appropriate rezoning occurs.

When consulting the LEP for the local government area, the maps that accompany the plan can be used to identify what zone the property is in. Rural zones are generally referred to as either 1(a), 1(b), 1(c), etc. The zone tables, usually in the first half of the LEP, will indicate whether the land use is either: permitted without consent; requires consent; or is prohibited. For example, *agriculture* is almost always permitted without

consent in rural zones, which is why most primary producers have not needed to consult LEPs. On the other hand, most types of *intensive livestock industry* require consent (that is, approval) from council in general rural zones. In some rural zones, such as rural residential zones, *intensive livestock industry* is usually prohibited because of potential conflict with residential neighbours over issues of odour, noise and dust.

The way in which intensive livestock industries are referred to in LEPs varies from council to council. Many older LEPs refer only to *intensive livestock agriculture*, or *intensive livestock keeping*, and may not require development consent from council in the general rural zone. Many modern LEPs refer to meat chicken farms under the definition of *intensive livestock industry*, and consent is required in all zones. To be sure on how meat chicken farms are dealt with for the proposed location, talk to the local council's town planning staff.

In addition, Regional Environmental Plans (REPs) are in place in some areas of the State, such as the Hunter Valley, North Coast, Murray and Sydney regions. State Environmental Planning Policies (SEPPs) are also in place, such as SEPP 58 – Protecting Sydney's Water Supply. They may have implications for some types of intensive livestock industries. Local councils in these areas will be able to provide information on the requirements of any relevant REPs and SEPPs.

4.4 EXPANSION OR ALTERATION OF AN EXISTING MEAT CHICKEN FARM

Before any expansion of an existing meat chicken farm is undertaken, consult the local council to determine whether an approval is required for the alteration or expansion and the level of development assessment that will need to be undertaken. This will depend on the scale of the proposed changes and the likely extent of additional impacts that may arise.

It may also be worthwhile to undertake a risk assessment and cost-benefit analysis to consider the appropriateness of continuing operation on the site, and to compare relocation options with expansion on the existing site. Where surrounding land use is changing and residential or rural residential development is starting to occur in the vicinity of the meat chicken farm, discussions should be held with council regarding the likely implications of this trend. This advice should be considered in the risk assessment.

Older meat chicken farms with no previous development approval

For older meat chicken farms operating before the introduction of the LEP or provisions in the plan that required development consent for meat chicken farms, there may be existing use rights. Existing use rights enable the use of land or building to continue, where it was legally being used for that purpose immediately before the introduction of an environmental planning instrument, such as a Local Environmental Plan. These provisions also have the effect of allowing continued operation in a location where meat chicken farms may now be a prohibited land use.

However, existing use does not include:

- alterations, extensions or rebuilding
- any increase in the area used
- an enlargement, expansion or intensification of an existing use
- any continuance of existing use that is in breach of any consents or conditions of consent
- any continuance where use is abandoned (that is, not used for 12 months).

Where the alteration or expansion proposes a change that goes beyond the 'existing use', a DA will be required from the consent authority. Consult with the local council on the development approval process required for these activities.

Meat chicken farms with development consent

The consent authority should be consulted when proposing to expand or modify an existing meat chicken farm that has development consent.

In some circumstances where the impacts of the proposed change are inconsequential, the consent authority may agree to change the consent without notification of neighbours.

In circumstances where the proposed changes are of more consequence but the development can be considered to be substantially the same development as that already approved, the consent authority may agree to modify the consent after notifying the community of the proposed changes.

Where the proposed changes are of a more substantial nature, the consent authority may

require that a new DA be lodged for approval of the changes. In these circumstances the consent authority will need to consult Schedule 3 of the Environmental Planning and Assessment Regulation 2000 to determine whether the existing operation plus the change will trigger the need for an Environmental Impact Statement (EIS). Part 2 of Schedule 3 contains factors for the consent authority to consider in making this decision, including the environmental performance of the existing operation, the likely impacts of the expanded or changed operation and the proposed mitigation and management regime.

- If the proposed change to the existing meat chicken farm will result in the whole operation being classified as a designated development for the first time, the expansion will usually be assessed as a designated development. The EIS prepared will need to cover all aspects of the proposal, including the existing operation.
- If the proposed change to an existing designated development will not significantly increase the environmental impacts of the total development, a new EIS is not required. However, approvals for the proposed alterations will still need to go through the development assessment process, including preparation of a Statement of Environmental Effects (SEE).
- If the proposed change to an existing designated development will significantly increase the environmental impacts of the total development, a new EIS must be prepared. Whereas the EIS should focus on the new aspects of the meat chicken farm, all aspects of the proposal, including the existing operations, will need to be considered.

Provisions relating to State Significant Development, Integrated Development, Complying Development and Designated Development may also apply (see sections 4.5 and 4.6).

4.5 WHAT APPROVALS ARE NEEDED TO ESTABLISH OR EXPAND A MEAT CHICKEN FARM?

It can be expected that development consent will be required from the consent authority (usually the local council) to establish or expand a commercial meat chicken farm in NSW under Part 4 of the Environmental Planning and Assess-

ment Act (EP&A Act). Other approvals in relation to pollution control, water supply or road access may also be required. To clarify what approvals and requirements apply, it is best to contact the local council. Depending on its size and location and the other approvals required, a meat chicken farm development or expansion may be classed as one of the following:

State Significant and local development

Under the provisions of State Environmental Planning Policy (SEPP) No. 34, poultry farms that employ more than 20 people (full-time equivalent) or have a capital investment of more than \$20 million (excluding land value) are considered to be *State Significant* developments. The Minister for Infrastructure, Planning and Natural Resources is the consent authority for State Significant development, and the Department of Infrastructure, Planning and Natural Resources (DIPNR) undertakes the assessment. If the development is State Significant, the Major Development Assessment Branch of DIPNR in Sydney should be contacted at the outset.

Any development that is not State Significant is *local development*, and for this the DA must be lodged with the local council.

Designated and non-designated development

The EP&A Act has regulations that list or designate particular types, sizes and locations of developments with potential for causing significant environmental impacts (Schedule 3 of the EP&A Regulation).

If the proposal is a *designated development*, an Environmental Impact Statement (EIS) must accompany the DA lodged with the consent authority. If the proposal is *non-designated development*, a Statement of Environmental Effects (SEE) must accompany the DA lodged with the consent authority. For further information see Table 1 and section 4.6, *The development assessment and approvals process*.

Integrated developments

If the development also requires an approval listed in Table 2, the DA is considered to be an *integrated development* and is subject to specific planning processes.

Designated developments include poultry farms for the commercial production of birds (such as domestic fowls, turkeys, ducks, geese, game birds and emus), whether as meat birds, layers or breeders and whether as free-range or shedded birds:

- that accommodate more than 250 000 birds

or

- that are located
 - within 100 metres of a natural waterbody or wetland, or
 - within a drinking water catchment, or
 - within 500 metres of another poultry farm, or
 - within 500 metres of a residential zone or within 150 metres of a dwelling not associated with the development and, in the opinion of the consent authority, having regard to topography and local meteorological conditions, likely to significantly affect the amenity of the neighbourhood by reason of noise, odour, dust, lights, traffic or waste.

(Extract from the Environmental Planning and Assessment Regulation 2000, Schedule 3)

Table 1. Requirements for an Environmental Impact Statement (EIS) or Statement of Environmental Effects (SEE)

Schedule 2 of the EP&A Regulation sets out specific requirements for an EIS. These equally apply to SEEs. In either case, the level of assessment should match the level of impact of the proposed enterprise.

A) Executive summary

B) Description of the proposal

- objectives – reason for undertaking the proposal
- size of the operation – e.g., stock numbers or area under production; production targets
- production and/or processing facilities (if any)
- previous and existing operation on the site
- site layout plans, including any waste storage and disposal areas
- water and power supply, road access and proposed truck movements
- an outline of any construction to be undertaken
- plan for the storage and disposal of wastes; e.g., for livestock enterprises: dead animals, manure, sludge and effluent
- emergency contingency plans, e.g. for power failure, mass mortality events
- consideration of alternatives

C) Location description

- whether the proposal is consistent with any relevant SEPP, REP or LEP
- topography, drainage and flooding pattern, vegetation, soil type and ground water depth (particularly where there is on-site effluent/manure disposal)
- relationship with surrounding land uses, e.g., distances to any houses, property boundaries or watercourses

D) Identification of key issues

E) Assessment of environmental issues

- amenity issues, including noise, odour, dust and visual impacts
- water quality, drainage, flooding, and water supply impacts
- erosion and sedimentation
- traffic and road impacts
- waste management: on-site disposal of effluent, manure or dead animals
- health risks
- native vegetation and, if relevant, threatened species populations, ecological communities and their habitats
- economic and social effects

F) List of approvals and licences

G) Proposed environmental management plan and mitigation measures

- summary of how potential environmental impacts will be minimised or managed
- proposed actions to minimise and manage land-use conflicts

H) Justification for the proposal

Table 2. Additional approvals and licences that may be required

Approval body	Legislation	Approval
Department of Environment and Conservation	<i>Protection of the Environment Operations Act 1997</i>	Licence authorising the carrying out of a scheduled activity, or the work designed to enable such activities to be carried out
	<i>National Parks and Wildlife Act 1974</i>	Licence to control water pollution from a non-scheduled activity Consents to destroy Aboriginal artefacts, relics or places
Department of Infrastructure, Planning and Natural Resources	<i>Water Act 1912: Part 2, Part 5, Part 8</i>	Surface water licences Ground water and bore licences
	<i>Water Management Act 2000</i>	Approvals for works on floodplains and banks of rivers and lakes Approvals for works that affect the flow of water to or from a river or lake Water-sharing plans Water management plans
	<i>Rivers and Foreshores Improvement Act 1948</i>	Approval for works within 40 m of the bed or bank of a river or lake
	<i>Native Vegetation Conservation Act 1997</i>	Clearing of native vegetation
The Heritage Office	<i>Heritage Act 1977</i>	Approval to undertake works affecting an item protected by a conservation order
Local council (and Roads and Traffic Authority)	<i>Roads Act 1993</i>	Approval to undertake work in a road corridor (may also be subject to concurrence of RTA)
Mine Subsidence Board	<i>Mine Subsidence Compensation Act 1961</i>	Approval to undertake works in a Mine Subsidence District
NSW Fisheries	<i>Fisheries Management Act 1994</i>	Approval to cut, remove or damage marine vegetation Approval to dredge or reclaim land Approval of aquaculture enterprises
NSW Rural Fire Service	<i>Rural Fires Act 1997</i>	Approval to subdivide or develop bushfire-prone land

If the application involves development of land that is part of critical habitat or is likely to significantly affect a threatened species, population or ecological communities, or their habitats, a Species Impact Statement (SIS) will need to be prepared in accordance with the *Threatened Species Conservation Act 1995*.

For poultry developments within Sydney's drinking water catchments the Sydney Catchment Authority has a concurrence role, in accordance with State Environmental Planning Policy 58 – Protecting Sydney's Water Supply.

The consent authority must consult with the relevant approval body during the assessment of the project and integrate the requirements of the subsequent approval into the development consent to ensure a consistent and integrated approach to regulation of the poultry farm. For meat chicken farms, additional licenses and approvals will most likely be required under the *Protection of the Environment Operations Act 1997* (PoEO Act) (see section 7 *Legislation affecting chicken meat farms*.)

Complying development

The LEP may also list certain types of local developments that have predictable and minor environmental impacts as *complying developments*. Complying developments are required to comply with specified predetermined development standards. Meat chicken farms are generally not considered to have predictable and minor impacts and would not be identified as complying developments. However, minor additions to farm structures may fall into this category of development. Again, consult the council to determine the development approval requirements for any changes to the physical layout of the farm.

Developments not requiring consent

In exceptional circumstances development consent may not be required. However, the farm should still comply with industry best practice, especially in relation to odour, noise, dust and waste management. Local councils can still regulate these premises by using their powers under the PoEO Act.

In circumstances where development consent is not required, but an approval is required under other legislation (for example, for water supply or pollution control), the provisions of Part 5 of the EP&A Act apply. This means that before

granting the approval or licence under the other legislation, the government authority must consider whether the proposed meat chicken farm is likely to significantly affect the environment. If the government authority decides that this is the case, an EIS must be prepared. If not, the approval authority will usually require a *Review of Environmental Factors* to be prepared by the applicant. This document will be similar to the SEE.

4.6 THE DEVELOPMENT ASSESSMENT AND APPROVAL PROCESS

The key steps in the planning assessment process (Figure 1) are outlined below.

Deciding what needs to be included in the development application

Before preparing a development application (DA), the applicant should meet with the consent authority and other key regulatory or advisory government agencies so that issues can be discussed and government authorities can indicate what issues they consider should be assessed and the appropriate assessment methodology.

For major proposals for farm development in sensitive locations (for example, new residential areas) where there are a large number of issues to be considered, a Planning Focus Meeting (PFM) is recommended so that relevant parties can meet and discuss the proposal. A PFM should include a site visit and would normally include:

- the applicant
- the applicant's consultants
- representatives from the local council
- DEC, DIPNR, NSW Agriculture and other appropriate State Government agencies
- other potentially involved parties.

The PFM is usually organised by the consent authority or NSW Agriculture's Agricultural Environment Officers. The applicant should provide the PFM organiser with a Project Outline (a six- to 10-page document including a map and project specification) about 2 weeks before the PFM. The PFM organiser should send this to the participants so that they have time to consider the relevant issues. The PFM will help identify the issues to be covered in the DA and will often save time and money.

If the project is a designated development, the proponent must consult with DIPNR for the *Director-General's Requirements* for the EIS. The minutes of the PFM should be sent to DIPNR when you request the Director-General's Requirements. If the development is an integrated development, DIPNR will contact the approval authorities so that their requirements can be integrated into the Director-General's Requirements.

NSW Agriculture can provide technical advice on the siting, design and management of intensive agricultural enterprises and can help coordinate input from State agencies and consent authorities.

Preparing the development application

The proponent or their consultant must prepare supporting documentation (either an EIS or SEE) to accompany the DA. The documents should provide an outline of the size and nature of the proposed development and the management practices and environmental impact mitigation strategies to be employed. Also, a description of the site and surrounding environment and an assessment of the likely impacts of the proposal on the environment should be included, in addition to justification for the undertaking of the enterprise.

The purpose of these documents is to allow the applicant, members of the public, the appropriate regulatory authority and relevant government agencies to properly understand and consider the environmental consequences of the proposed development. Support the application with maps, plans, diagrams and photographs where appropriate.

To help in the preparation of supporting documentation for the DA, DIPNR has EIS guidelines for poultry farms. In addition, agencies such as the DEC have guidelines in relation to assessment and management of environmental issues. These can help in the development of the project and in the preparation of the EIS or SEE. Generally details of the issues that agencies require you to address will be supplied during the PFM. If a PFM is not required, or has not been organised, the agencies should be consulted about their requirements.

The EP&A Act requires the consent authority (usually the local council) to determine whether threatened species, populations or ecological communities are likely to be significantly af-

ected. An assessment of flora and fauna must be performed and submitted to the consent authority to determine whether a species impact statement (SIS) needs to be prepared. To avoid delays, this should be undertaken before the finalisation of the SEE or EIS. It is advisable to consult the DEC and/or NSW Fisheries if an SIS is likely to be required.

During the preparation of the SEE or EIS, the proponent should consult with neighbours and the broader community to ensure that issues of importance to the community are appropriately addressed in the assessment. In addition, the community may have information that will help in the preparation of the assessment.

The burden of justification rests with the applicant (the farmer). The better the quality of the supporting information the easier it is for the consent authority to make its assessment and subsequent decision.

Lodging the development application

The DA and supporting documents must be submitted to the consent authority. You should check with the consent authority about the number of copies of the supporting documents needed for exhibition and consultation purposes.

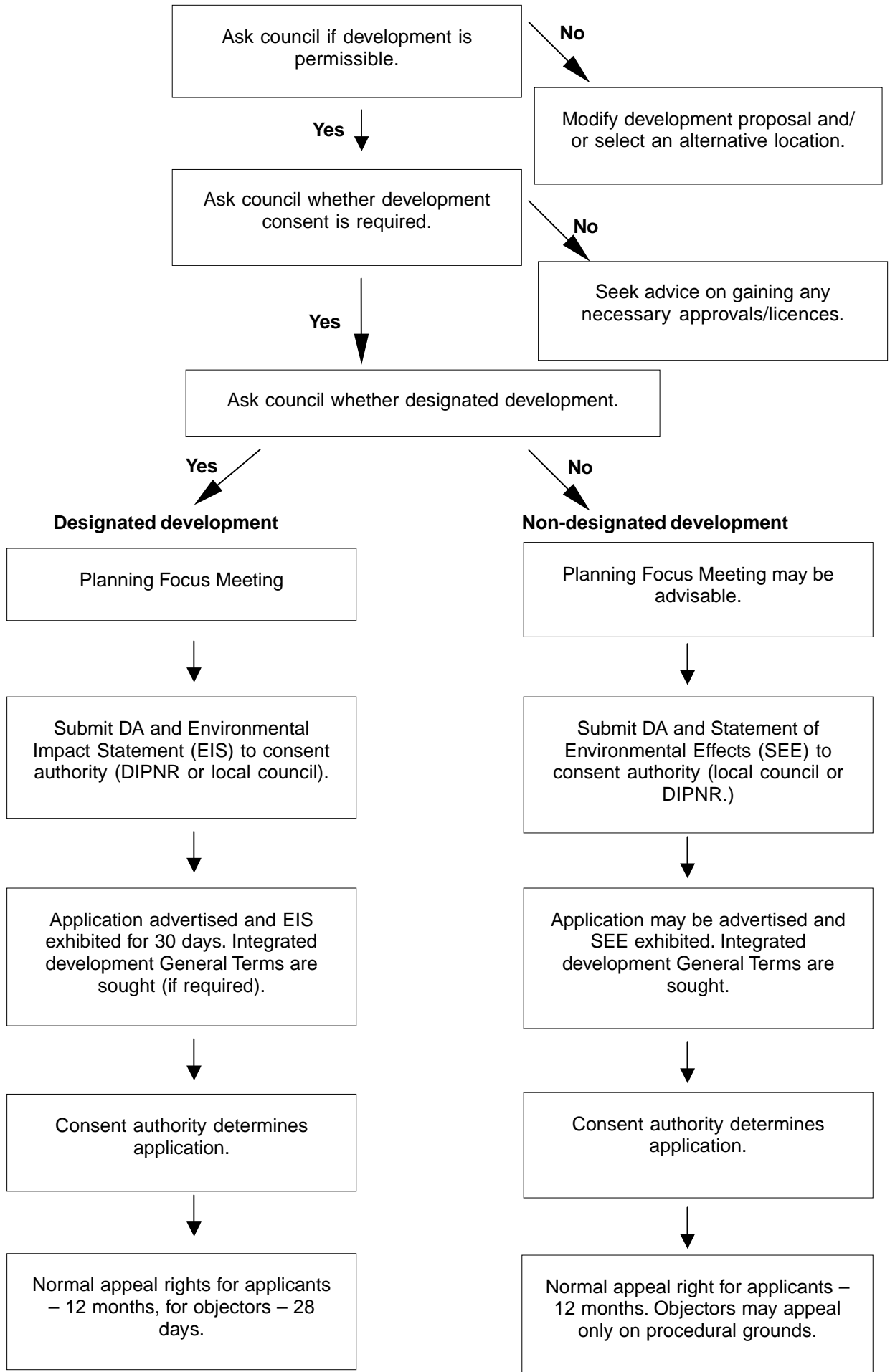
Depending on the scale of the development, the consent authority will be either the local council (for local developments) or the Minister for Planning (for State Significant developments). If the Minister is the consent authority, DAs should be lodged with DIPNR. For local developments the application should be lodged with the local council.

The application should be accompanied by the *land owner's* consent if the land is not owned at the time of the DA being lodged or is to be leased. If any of the land is Crown land, DIPNR's permission must be obtained. A DA fee must be paid; the amount is based on the estimated capital value of the project. Additional charges are levied if the DA must be advertised and if the project is integrated development. The consent authority will receipt the application, date it, and issue a DA number.

Public consultation

The consent authority must notify neighbours of the proposal and invite them to comment on it. If the project is a State Significant development, designated development or integrated development, the DA must be advertised in the newspa-

Figure 1. The planning assessment process



per and the documentation exhibited with an invitation to comment on the proposal. The consent authority may also send copies of the documentation to other agencies to seek their views.

If the project is an integrated development or requires concurrence, copies of the DA and the documentation must be immediately sent to the integrated approval and/or concurrence authorities. These authorities along with the consent authority can 'stop the clock' and request additional information if appropriate information is not provided in the EIS or SEE.

Assessment

The consent authority (and any integrated approval authorities) will assess the impact of the proposed development on the physical environment, the community, and the economy of the local area. Integrated and concurrence authorities will assess the proposed development against their specific requirements. The consent authority is required to incorporate the requirements of integrated and concurrence authorities. Following this assessment they will then decide to grant consent, grant consent with some conditions, or refuse consent for the application. Matters taken into account include:

- the requirements of any local, regional or State planning instrument, development control plan and planning legislation that relates to the site or the proposed development
- the impact that the proposed development is likely to have on the natural environment, the built environment and the local community
- whether the site is suitable for the proposed development
- any submissions made by neighbours, the wider community and government agencies after the DA was advertised
- the public interest.

In determining a DA for a meat chicken farm, the consent authority may seek advice from NSW Agriculture, the DEC, DIPNR and other State government agencies.

The decision

The consent authority will either approve or refuse the DA. If the application is approved, the

consent authority will usually set out conditions that the applicant must meet in the construction and operation of the project.

Right of appeal

If the applicant is unhappy with the decision, they may ask the consent authority to review the application. This must be done within 28 days of the decision being made. In addition, any applicant who is dissatisfied with the consent authority's decision may also appeal to the Land and Environment Court, asking it to review the decision. This appeal must be made within 12 months of the decision being made.

If the project is a designated development, a person who objected in writing to the proposal during the exhibition period may appeal to the Land and Environment Court on the merits of the proposal. This must be done within 28 days of the decision being made. For non-designated developments, the merits of the decision cannot be appealed in the Land and Environment Court.

However, anyone may appeal to the Court to remedy or restrain a breach of the EP&A Act that may have occurred in determining the DA. If a consent authority notifies the decision, this appeal can only be lodged within 3 months of the decision.

Approval to begin building works

If the development involves building works (for example, a building, road or stormwater system), the applicant must apply to the council, the Minister or an accredited certifier for a construction certificate. The construction certificate certifies that the work the applicant intends to do will comply with required standards. The applicant needs to provide detailed designs and documentation with their application. These must be consistent with the plans lodged with the DA, and it must be clear that any building work will comply with the Building Code of Australia.

Before any work may start, the applicant must choose a principal certifying authority (PCA). This can be the council, the Minister (for DIPNR) or an accredited certifier. The PCA will make sure that the work is done in accordance with the development consent and approved construction plans. At least 2 days before starting work, the applicant must notify the council that work is going to start and must also tell council the identify of the PCA, if it is not the council.

Approval to occupy

The applicant must obtain an occupation certificate from the certifying authorities before occupying or using a new building or changing the use of an existing building.

Compliance check

The authority that has approved the development will monitor the development to make sure that the approval conditions are being complied with. If the development does not comply, the applicant may be:

- fined (given a penalty notice)
- ordered to make changes to the development or the activities carried on at the premises
- taken to the Land and Environment Court. The court may order the applicant to carry out necessary works (such as altering the development or making repairs), or may forbid the applicant to use the premises in certain ways.

5 SITING AND DESIGN

5.1 SELECTING A SITE

The establishment of a meat chicken farm is a substantial long-term investment, making it **critical** to ensure that an appropriate development locality and site is chosen. The operation and management of a meat chicken farm established on an unsuitable site will be more costly and face difficulties, risking the operation's longer-term viability. Appropriate siting is the most cost-effective way of dealing with environmental performance issues such as odour, dust, noise and protection of waters. By addressing these issues at the planning stage, ongoing operational costs and management issues will be significantly reduced.

Locality

Meat chicken farms should be located within a reasonable proximity to the processing plant, hatchery, feed mill, clean litter supply, labour and services to minimise the cost of transport and ensure long-term sustainability. The site should have access to an adequate source of good quality water.

The farm should be well away from other poultry farms (at least 2 kilometres) for biosecurity reasons, and should not be in an area prone to natural hazards like floods or bushfires.

Local Government Areas that support and encourage meat chicken farm development are recommended when considering suitable localities for development. It is worthwhile contacting

Meat chicken farms must be located in a Rural Zone and not too near existing or potential sensitive land uses.



the local councils in a region to determine which may be more accommodating.

Meat chicken farms must be located in a Rural Zone, and not too near existing or potential sensitive land uses that are likely to be incompatible with poultry farming. Sensitive land uses include dwellings, hospitals, schools, and other places where people are present for extended periods of time. The location and size of a proposed meat chicken farm should be such that there will be no unacceptable impacts on the health and amenity (for example, from odour, dust, bioaerosols, noise, visual impacts) of residents on the property itself, on neighbouring properties, and in the surrounding area.

Sensitive land uses also include natural resources such as waterways, wetlands and water catchments. Consideration should be given to the suitability of the site in terms of protection of land, road capacity and safety, ground and surface waters, pests and other emissions or discharges to the environment.

It cannot be assumed that the neighbouring owners or land uses will remain the same, in the short or longer term. Where a site adjoining a proposed meat chicken farm is currently vacant, it should be assumed that a future dwelling might be located anywhere on the property. Any agreement with an existing owner regarding the acceptance of impacts is not binding on future owners. Consider reasonable separation distances for management of potential environmental impacts.

The potential for surrounding land use, including other agricultural activities, to adversely affect the meat chicken farm also needs to be considered (for example, biosecurity risk from spreading of poultry litter by neighbours).

Size

The land area required for a meat chicken farm will vary considerably depending on many variable factors, including the size of the operation, local topographical and climatic features, surrounding land uses, the technology used for the development and the proposed management practices. As a general rule, the smaller the block, the higher the dependence will be on technology to manage impacts.



SUZANNE ROBINSON

Adequate setback distances minimise off-site impact and allow for landscaping and screening plants around the farm facility.

The property must be of sufficient size to accommodate the facilities required to support the planned operation. These facilities include the chicken sheds and feed silos, amenity block, storage sheds, internal roads, stockpile areas and dead bird storage. If it is intended to apply litter to land as a fertiliser and soil conditioner, then sufficient land area is needed to ensure sustainable application rates. Consideration should also be given to management areas for mass disposal of dead birds (refer to section 6.11).

Adequate setbacks should be provided to allow for landscaping and screening of the chicken sheds, other buildings and storage areas on the property and, importantly, to minimise the likelihood of off-site adverse noise, odour, and dust impacts. Additional land is needed to ensure reasonable biosecurity, community amenity and natural resource protection. How odour impact is managed will be a significant determining factor in land area requirement.

In addition, local topography, climatic conditions or other features may indicate that greater separation or buffer distance is required. For example, a house located downhill from a meat chicken farm is more likely to experience odour impacts than a house uphill, owing to the pattern of cold air drainage. On the other hand, the particular development design and technology used and the local features or conditions may indicate that distances may be reduced and environmental impact objectives still achieved.

The local council may have guidelines or development control plans for meat chicken development in the area, and these may specify mini-

mum property sizes for meat chicken farms. Refer to local council guidelines when determining farm location and size.

Odour impact assessment

The results of an odour impact assessment play a key role in determining an appropriate location and size for a new meat chicken farm. Guidance on the expectations of the Department of Environment and Conservation (DEC) regarding odour impact assessment is contained in the *Draft Policy: Assessment and Management of Odour from Stationary Sources* (NSW EPA 2001) and *Technical Notes: Assessment and Management of Odour from Stationary Sources* (NSW EPA 2001). Odour impact assessment methodologies for chicken meat farms continue to evolve as new data and techniques become available. The Draft Policy reflects the state of knowledge at the time of publication. Before commencing any significant odour impact assessment, contact the DEC to discuss any changes to the preferred assessment methodology. Additional information on the DEC's requirements for a dispersion modelling based odour impact assessment is contained in the *Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in New South Wales* (NSW EPA 2001).

An assessment of odour impact will need to be completed to support an EIS, an SEE, a DA or a DEC licence application (if the activity is listed in Schedule 1 of the PoEO Act). This assessment must provide details of the odour impact assessment and clearly demonstrate to the consent authority (the local council or Minister for Infrastructure, Planning and Natural Resources) and

the regulator (local council or DEC) that the proposal is able to meet the DEC environmental outcomes for odour.

Odour impact assessment is a site-specific design tool. However, it can only predict the likely odour impacts. In some cases, once the facility is operational, odour impacts may be experienced at some locations. The operator will need to address these odour impacts and if necessary modify the facility on the basis of actual, rather than predicted, operational outcomes.

Shape

Square blocks are favoured over long, thin blocks of similar area in order to maximise farm layout and design options and separation distances from the sheds to the boundary of the property.

Topography

An elevated site is preferred for natural ventilation and drainage, but sites where cold air will carry odour down to residences should be avoided. A reasonably level site is preferable to a sloping one to minimise erosion potential and building costs. When spreading manure on-farm, flat to gently sloping land is preferred.

Topographical features can be used to shield meat chicken developments from view and lessen any potential visual impact on the surrounding area.

Power supply

Access to reliable three-phase power is essential for provision of water and feed to the birds and for lighting and ventilating the sheds. Discuss needs for future expansion with the power supplier when estimating power and electrical equipment requirements. Arrangements for electricity supply need to be made with the local electricity authorities. Private contractors may install electricity infrastructure on the property. Access to power may be a considerable cost if power is not already present on the site.

Installation of standby generators is essential to minimise the adverse consequences of power disruptions, particularly if controlled ventilation will be used.

Road access

Suitable all weather vehicle access able to support articulated vehicles of up to 40 tonnes

should be provided from a fully constructed public road for the transport of birds, litter, wastes and feed.

Choose a transport route to the farm that avoids truck movements near sensitive land uses such as schools and hospitals and through towns as much as possible.

Establish the access road on a compacted sub-base with good table drains, and with a compacted gravel layer with a good camber to shed rainwater to the drains. In some situations it may be appropriate to seal the farm access road.

Consideration should be given to the ease of access within and beyond the site. For site access from a public road, putting the gate 30 metres inside the property boundary of the farm will allow trucks requiring access to park off the road while the gate is being opened. Alternatively, the access roadway can be fenced off.

Take into account the impact of noise, dust, bioaerosols, lights and road safety on nearby sensitive land users when locating access roads, parking and turning areas. Some roadworks may be needed to accommodate this, such as development of turning lanes. Funding may need to be negotiated between the developer, the local council and the Roads and Traffic Authority.

Contact the Roads and Traffic Authority or the local council for further information.

Water supply

The site should have access to water of sufficient quantity and quality for each intended use. Water is required for drinking, shed cooling, shed sanitation, fire protection, irrigation of landscaping and domestic use (amenities block and residence).

Reticulated town water supply is ideal, but this is often not available. Alternatives are ground water (bore), surface water (dam or river) and rainwater (collected from shed roofs). All water sources other than town supply should be tested for quality to ensure they are reasonable for consumption by poultry and will not cause excessive corrosion or build-up on farm equipment.

Surface water may contain solids and may be contaminated with disease organisms from wild birds. Water sourced from dams and rivers should be filtered and treated before use in sheds. This will help prevent blockage of drink-

ers and minimise disease risk to the birds. Chlorination, ultraviolet light systems or other appropriate disinfection procedures may be used to disinfect the water.

Failure of water supply for even a short period can cause disastrous losses of birds. It is essential to have an alternative water source, or on-farm reserves for a minimum of 2 days' calculated water requirements at maximum usage (for example, in summer for cooling). The capacity of reserves should be based on water availability and reliability at the site of development.

Each bird produced requires about 8 litres of drinking water in their lifetime. Therefore, assuming the industry standard of 5.6 batches a year, an allowance of about 45 000 L/1000-bird shed capacity/year is needed. Additional water is also needed for cleaning, shed cooling and other purposes.

The water should be tested for salts, nitrates, pH, and bacterial contaminants.

In the Sydney Basin there will be increasing restrictions on availability of raw water since Sydney is now using more than the sustainable yield of water from the catchment. Plans for water supply for developments in the Sydney Basin should make use of water collected from sheds or stormwater, provided it does not compromise biosecurity.

When potable water is supplied from a public utility, a backflow prevention device must be installed for containment protection. A reduced pressure zone device valve or a registered break tank and air gap must be fitted immediately after each supply water meter. The backflow prevention must be installed on the farm's side of the water meter, with no connections between the water meter and the backflow prevention. The backflow prevention device must be installed and maintained in accordance with the National Plumbing and Drainage Code and Australian Standard 3500 (AS/NZS 3500).

In consideration of occupational health and safety, the farm owner must take responsibility for zone and individual backflow protection from hazards within their property, as specified in AS/NZS 3500. The farm owner is responsible for maintaining all backflow prevention devices in accordance with AS/NZS 3500 Part 1.2.

State Government guidelines and regulations are in place for sourcing water from bores or surface watercourses, or for catching water in dams. A



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The water supply should be of sufficient quantity and quality for each intended use, including shed cooling. Water used to wet evaporative cooling pads may be recycled. Water can be collected from shed roofs for farm use.

licence from DIPNR may be required. Contact DIPNR or NSW Agriculture for further information.

Hydrology

The proposed site should be above the level of flooding, with an average recurrence interval of 1 in 100 years. It should also be ensured that flooding will not impede road access to the farm.

The bases of the chicken sheds should be raised to facilitate drainage of stormwater away from the sheds. The use of properly designed gently sloping, wide, open drains that are well grassed and kept mown will avoid erosion, and the vegetation cover will help filter solid particles from the run-off.

Vegetation

Selecting a site that avoids the need to disturb or clear native vegetation and habitat greatly reduces potential impacts and the need for additional studies. Existing vegetation should be maintained where possible, but trees should be strategically cleared for a distance of 15 metres around the proposed sheds to allow adequate ventilation of the sheds and protect the sheds from falling debris and branches. Approval from DIPNR or in some instances the local council is required to clear vegetation.

Grass should be maintained around the sheds to avoid soil erosion and dust generation. These



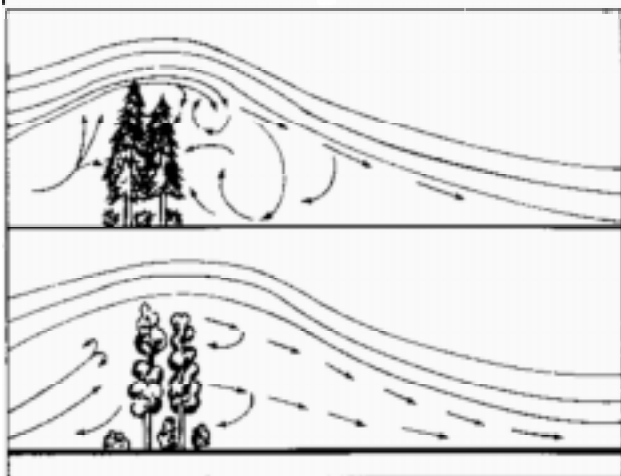
GERRY BOLLA

Existing vegetation should be maintained where possible. Trees and topographical features can be used to help screen sheds from view. Grass should be maintained around sheds to avoid soil erosion but should be kept low around sheds for pest-control purposes.

grassed areas will also help reduce the heat load on the buildings from radiation off the bare ground.

The site should be planted with suitable trees and shrubs to allow the site to benefit from prevailing cooling breezes, form wind breaks to westerly winds, and improve the visual aesthetics of the area. Vegetative screens should be of a permeable nature that allows the air to penetrate, but need to be at least three rows thick to effectively slow air movement and trap the bulk of the dust and odour within the vegetative buffer. A densely planted screen of broadleaved trees and shrubs will look effective and will block the farm complex from public view. However, it is not appropriate because it will act like a wall, resulting in lifting and dumping of the air (taking dust and odour with it) on the

Figure 2. The effect on airflow of impermeable (top) versus permeable (preferred) screening



other side of the break rather than slowing the air movement down within the break. When planning for the planting of native vegetation, it is preferable to use local provenance native species. State Forests or a reputable local nursery will be able to advise on suitable/appropriate species.

Separation distances for biosecurity, community amenity and natural resources protection

Individual local governments may have their own requirements for separation distances in guidelines or development control plans (so the requirements of the local government area in which development is being considered need to be checked). In addition, meat chicken growers should confer with the processing company they are contracted to regarding their separation requirements.

Such distances should be considered to be minimum requirements, and the appropriate distance for any farm should be established on a case-by-case basis. Potential sites must be evaluated by the proponent for suitability on their individual merits, on the basis of the characteristics of the site and proposed development, and the proposed management practices. Management practices should be determined in an environmental management plan (EMP) and submitted with the DA. Information on Environmental Management Systems and Plans can be obtained from NSW Agriculture and the Rural Industries Research and Development Corporation.

Separation distances alone do not necessarily guarantee absence of environmental impacts on neighbours. Other measures, including improved technology and good management practice, should also be used to avoid, minimise and manage external impacts.

Biosecurity

Disease control is an important issue for the meat chicken industry. A number of serious airborne poultry diseases can travel large distances. To ensure optimal biosecurity the proximity to other poultry farms must be taken into account when choosing a location and site for a meat chicken farm development. A distance of at least 2 kilometres between poultry farms is recommended for new farms.



GERRY BOLLA

Suitable separation distances from other poultry farms, neighbours and sensitive natural resource areas minimise the risk of impacts on the farm, community and environment.

In the event of an emergency animal disease, control zones of 3 kilometres or more may be put in place. Maintaining a suitable distance from other poultry farms will considerably reduce the inconvenience that may result from disease outbreak control measures.

Consideration should also be given to maximising the distance between chicken sheds and roads used by feed trucks and live-bird-hauling vehicles servicing the local poultry industry.

Avoid building new facilities within close proximity of wetlands or waterways utilised by migratory waterfowl that may carry avian diseases.

A poultry farm development within 500 metres of another poultry farm is a designated development under the EP&A Act and will require an EIS.

Community amenity

Meat chicken farms by their very nature will produce emissions of odour, dust, bioaerosols and noise. Odour nuisance complaints are the greatest source of environmental complaints made against the meat chicken industry. Provision of reasonable buffer distances within the proposed development boundary will help ensure that community amenity is maintained and that land-use conflict between the meat chicken farmer and neighbours is avoided or minimised.

Planting of vegetative screens in the buffer zone around the farm, or locating the farm sheds in already vegetated areas, will screen the farm and

help reduce odour and dust transfer to the surrounding environment.

A poultry farm development within 500 metres of a residential zone or 150 metres of a dwelling not associated with the development and likely to significantly affect the amenity of the neighbourhood is a designated development under the EP&A Act and will require an EIS to be lodged with the DA.

The Draft Policy: Assessment and Management of Odour from Stationary Sources in NSW and Technical Notes. Draft Policy: Assessment and Management of Odour from Stationary Sources (NSW EPA 2001) describe the odour performance criteria for meat chicken farms and how to determine separation distances by a tiered assessment process.

Natural resource protection

Natural resource protection should be a priority in any development proposal, and buffer distances from watercourses, wetlands and drinking water catchments should be maintained to ensure that nutrient and pathogen contamination does not occur.

Litter application methods, topography and vegetative cover dictate the potential risk of nutrients entering the water catchment. Vegetated buffer zones help reduce the risk by filtering the surface run-off water. The nutrient filtering capacity of buffer zones is increased with greater vegetative cover and distance. However, buffer zones alone will not guarantee environmental outcomes.

A poultry farm developed within 100 metres of a natural waterbody or wetlands, or within a drinking water catchment, is a designated development under the EP&A Act and will require an EIS.

5.2 DESIGN AND CONSTRUCTION

The design and construction of meat chicken farms may contribute to adverse impacts on sensitive land uses in the surrounding area. The design and construction should minimise off-site impacts and promote the economic and operational efficiency of meat chicken farms. The development should utilise site topography, existing vegetation and strategic planting of trees to integrate the development into the landscape.

Construction

The design and construction of the chicken sheds and associated works must meet technical and environmental standards that minimise the potential for offensive odours and unacceptable levels of dust and noise affecting neighbours. It should facilitate the cleaning and maintenance of collection areas. Sheds should be constructed and designed to exclude wild birds, vermin and rodents.

Consideration should also be given to minimising the potential for environmental impacts that may occur during the construction phase, including noise and vibration impacts, erosion and sedimentation. An EMP may be required for the construction phase of the development.

Most existing meat chicken sheds are about 100 metres by 12 metres, steel-framed, clear-span, gable-roofed structures. Sidewalls are generally

Meat chicken sheds are generally clear-span, steel framed, and gable roofed structures.



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Most meat chicken farm sheds are about 100 metres long and 12 metres wide. Newer sheds are often larger.

solid up to 400 millimetres high, with the balance netted and fitted with woven plastic curtains or hinged metal shutters. The curtains or shutters are raised and lowered manually or automatically to control ventilation and temperature, and to provide protection from adverse weather conditions. Fogging the interior of the shed from ceiling-mounted fogger lines evaporatively cools the chickens in hot weather.

Newly constructed sheds are mostly tunnel ventilated and generally have either curtained or solid sidewalls with minimum-ventilation vents spaced along the top of the sidewalls. They are fitted with large extraction fans at one end. The fans draw air down through the length of the shed, either through the minivents or through evaporative cooling pads at the other end of the shed if the shed is in cooling mode.

Sheds normally have a raised, compacted impermeable base. The minimum acceptable permeability standard is 10^{-9} m/s. Some new sheds have a concrete slab base for ease of cleanout and disinfection, although this is a significantly more expensive alternative. A concrete base may be required on particularly vulnerable soils.

Roof eaves should be sufficiently wide to keep out rainwater and minimise the amount of excessive summer sun entering the shed. Gutters and down pipes will help in stormwater management and will also help prevent erosion of the elevated foundation pad edges.

Orientation

The orientation of the chicken sheds should complement the characteristics of the develop-

ment site (layout of nearby roads, topography, meteorology, and other natural features of the site). It is very desirable to align the long axis of the sheds east–west to minimise shed surface area exposure to the sun and sun entering the shed. Direction of prevailing winds should be taken into consideration, with sheds oriented to take advantage of cooling summer breezes. Tunnel-ventilated sheds should be oriented so that the fan-end of the shed, where the air exits, will have minimal impact on neighbours.

Layout

The layout of the farm should provide for efficient management of feed, placement of fresh litter, delivery and collection of birds, and collection, handling and treatment of wastes. It must also minimise off-site impacts on neighbouring land uses.

The layout should provide an optimal design in response to the site and local environmental conditions and features. Factors to be taken into account include existing buildings, roads, dams, vegetation and valuable habitat, watercourses, drainage lines and waterbodies, slopes and other topographical features, and local meteorological conditions such as wind patterns and atmospheric stability.

Consideration should be given to the impact of prevailing winds and katabatic drift (cool air draining downhill) on surrounding sensitive land users, with regard to transport of odour, dust and noise.

Sheds should be a minimum of 15 metres apart from sidewall to sidewall to ensure good ventilation. This distance is less critical for forced-

Adjustment of drinker line height helps ensure litter remains dry and odour is minimised.



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Feed systems should provide wholesome feed with minimum wastage.

ventilation (tunnel) sheds, although vehicle access between sheds for maintenance and other purposes should be considered.

Infrastructure

The selection of drinker-system technology is based on minimal water leakage to avoid wetting the litter while meeting the birds' requirements for drinking water. For most situations, nipple drinkers with drip trays are best practice. The drinker systems are designed to work at specific pressures, and manufacturers' recommendations should be followed for functional requirements and the number of birds per drinker. Drinkers should be checked and fixed daily to ensure they are working effectively and are not leaking. The height of drinkers needs to be altered regularly in keeping with manufacturers' recommendations.

Silos and feed systems should be designed to efficiently provide wholesome feed without contamination and with minimum wastage. Feed wastage and bird enteric problems not only add to the amount of nutrient and water in the litter, but also can add substantially to the cost of production. Feed system capacity and design influence the number of truck movements and dust and noise generation. Consider these and other potential impacts on neighbours when deciding on a feed system.

Fans are fitted in chicken sheds to facilitate air movement (ventilation) and for bird cooling. Circulating fans may be used inside naturally ventilated sheds to encourage air movement in the shed. Tunnel ventilation depends on a



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Extraction fans are fitted to tunnel-ventilated sheds for ventilation and bird cooling.

number of large fans installed into the shed's end-wall pulling fresh air into the shed and expelling stale air (which also holds moisture). To ensure correct capacity and installation, select the fans in consultation with the manufacturer and an independent expert. Other factors to consider are fan efficiencies that influence running costs, as well as noise levels. It is important to clean and maintain fans to ensure that they are functioning properly, to avoid ventilation problems and slower drying of litter.

Evaporative cooling pads and fogger systems are installed for evaporative cooling inside the sheds to optimise the environment for the birds in hot weather. Fogger line pressure and fogger nozzles need to be properly maintained, otherwise

Heater units fitted to sheds are used to warm the shed for young birds.



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problems could result in overheating of birds or wetting of litter, resulting in odour.

Heaters are used to warm the shed environment for young birds, which until fully feathered are unable to adequately maintain body temperature. Hanging radiant heaters have traditionally been used, but forced-air space heaters are becoming the norm. These include free-standing vented or unvented gas heaters.

Automatic controllers are fitted to most new sheds. The computer controllers are used for temperature and ventilation control and other operational aspects such as feed, water, light and weighing of birds. Correct operation of the automatic controllers is essential to management of the birds' environment, and emergency alarms and backup generators in case of problems or power failure are a must to ensure bird welfare and survival. Backup power is essential for fully enclosed sheds as well as those with drop-down sides.

All infrastructure should be planned to ensure the health and safety of employees, contractors and other visitors to the workplace. An OHS risk assessment should be undertaken before finalisation of plans, and relevant modifications should be made to control identified risks.

Stormwater management

A Stormwater Management Plan should be developed for inclusion in the EMP. This plan should include provisions for the routing of clean storm water around the development site and for the retention of potentially contaminated storm water within the site.

The locations of nearby watercourses, dams and lakes must be identified and provision made for adequate setbacks and other measures needed to prevent contamination by stormwater or wastewater run-off from the meat chicken farm.

Shed bases need to be elevated to prevent entry of stormwater. Litter stockpile and carcass disposal areas must be located, designed and managed to avoid stormwater entry. Bunding is often required to contain any stormwater that does enter these containment areas, and this nutrient-rich water should be directed to catchment dams or storage tanks.

Keep clean stormwater separate from areas that may be affected by meat chicken farm wastes. Establish stormwater table drains along all building lines to collect stormwater run-off from

roofs, roads and hardstand apron areas to discharge into a catchment dam or filter within the property before release to the catchment. Table drains should be grassed to avoid erosion and to catch sediment, and they should be graded to make mowing easier. In areas prone to soil erosion, crushed rock traps and drops may need to be incorporated into the drainage system to slow down the water and minimise erosion.

Run-off from the property should not be more than pre-development levels; to achieve this retention dams may be required. If retention dams are used as a mechanism to capture run-off, these should have a capacity to retain run-off from a 1-in-20-year storm. Keep excavated soil from dam construction and reuse it on site wherever possible. For further information on stormwater management contact DIPNR.

Ground water management

Meat chicken farms should not be constructed on areas with shallow ground water. Poultry sheds and storage, stockpile and disposal areas for used litter and carcasses should have impermeable bases and adequate clearance to the ground water table to protect against ground water pollution.

The vulnerability of the ground water resource to pollution depends on the depth to the ground water, soil type and the nature of the aquifer systems in the region. A development in a vulnerable area will require more thorough assessment and investigation, and will need more control strategies to ensure protection of the ground water resource.

Generally, an impermeable compacted base will prevent nutrient leaching, but on vulnerable soils a concrete base may be needed to ensure ground water protection.

The local DIPNR office can advise on ground water vulnerability.

Ventilation

Adequate ventilation is essential to maintaining acceptable air and litter quality inside the chicken shed. Ventilation management involves reaching a balance between maintaining air quality and temperature to achieve reasonable bird comfort and growth performance.

Insufficient ventilation can result in excess heat, humidity, waste gas and dust remaining in the sheds. This causes poor air quality, which nega-

tively affects bird health and welfare. It also results in wetter litter and associated odour problems.

The first step to achieving good shed ventilation control is to have the shedding and equipment designed to do the job effectively and efficiently. Having the right infrastructure for good ventilation control is wasted without good management practices to maintain the optimum conditions. So the second step to ensuring good ventilation is to set up maintenance and management systems to keep the chicken sheds running at their best.

Although capital investment in shedding and equipment is substantial, ultimately a good maintenance and management program will make the job easier with fewer problems, which is more cost effective in the long term. It is always a good investment of time and money to research the best shedding and equipment alternatives for a proposed development. It represents a small cost when compared to the capital outlay, and it is important to get it right the first time.

6 ENVIRONMENTAL IMPACTS AND HOW TO MANAGE THEM

6.1 THE ENVIRONMENTAL MANAGEMENT PLAN

Outline

Effective operation and management of a meat chicken farm may significantly reduce the potential for environmental problems to arise. An environmental management plan (EMP) specifies operational and management standards and practices, and also develops strategies and measures for minimising environmental risks and contingency actions for managing environmental problems that may arise. The EMP should be based on an environmental management system (EMS) approach of plan, do, check, and act, with a philosophy of continual improvement of the system and operations. To facilitate effective environmental management, an EMP may contain a number of separate management plans depending on the development's scale, complexity and/or the sensitivity of the receiving environment. Other plans that can be nested in an overall EMP include:

- Stormwater Management
- Erosion Control
- Monitoring
- Revegetation.

These plans could have separate components covering the construction and operational phases. The plans may not be applicable in all cases.

Objective

Apply best practice management to the meat chicken farm to minimise the environmental impacts associated with farm operation and management and comply with legislative requirements.

Performance criteria

An EMP is developed and implemented that includes strategies and measures for minimising environmental risks and contingency actions for managing environmental problems that may arise on the farm. The EMP is submitted with the DA for approval.

Best practice guidelines

- An EMP is submitted as part of the DA and forms part of the planning approval.
- The EMP is site-specific and is prepared to meet the objectives, criteria and best practice guidelines of the elements in section 6 of these Guidelines.
- A generic EMP that is acceptable to the appropriate regulatory authority may be used as a template for developing the farm's site-specific EMP.
- The EMP is agreed on between the grower and their processor.
- Where any element is not addressed in the EMP lodged with the DA, the applicant must explain why it is not considered relevant or applicable.
- The EMP is maintained and updated as required by the farm manager and is available for inspection by the appropriate regulatory authority.
- The EMP is annually reviewed by the farm manager in cooperation with the processor.
- To help determine whether the EMP is effective, neighbours may need to be enlisted to keep diaries of environmental events that are deemed unacceptable. Try to ensure that a range of compass directions and distances from the farm are represented to allow assessment of the direction and dilution of the impact.
- EMPs have the following components in an auditable format:
 - contact details, description of the farm and operations and an environmental management policy statement
 - overall objectives and specific, measurable and time-bounded targets for each identified risk event
 - a list of risk events identified using risk management principles



An Environmental Management Plan should address environmental aspects for the whole farm.

- day-to-day best practice management strategies to minimise the potential for risk events
- details of contingency plans to deal with accidents and emergencies (flood, fire, mass bird deaths, chemical spill, power and water interruption), including trigger points and target response times for critical incidents
- details of the responsibilities of the processor and grower for environmental management
- details of monitoring systems for assessing environmental performance and procedures to ensure regular and accurate recording of data. Monitoring records are to be available to responsible authorities upon request.
- procedures for responding to complaints
- provision for annual review and auditing of performance against EMP objectives, with appropriate adjustment made in light of findings and in accordance with continuous improvement principles
- provision for post-incident investigation, review of emergency actions carried out, and reporting to the local council if requested
- environmental training undertaken by staff.

Information on Environment Management Systems and Plans can be obtained from NSW Agriculture and the Rural Industries Research and Development Corporation.

6.2 SURFACE WATER, GROUND WATER AND SOILS

Outline

Meat chicken farms use a considerable amount of water for drinking, cooling and cleaning. Water usage from surface and ground water resources must be managed within the sustainable yield so that the integrity of the water resource and the ecosystems that it supports are not compromised.

Planning, design, operation and management of the chicken farm must ensure natural resource protection. Transport of organic matter, nutrients, salts, microorganisms and chemicals to surface water and ground water must be avoided.

Sustainable use of used litter as a fertilizer is achieved by applying the litter at a rate (tonnes/ha) that meets the nutrient requirements for plant growth (crop or pasture). Additional nutrients may need to be added to balance nutrient levels to meet plant requirements. Sustainable land application of litter needs to be addressed in the EMP.

Objective

Ensure that best practice is adopted in planning, design, development, operation and management of the farm so that surface water, ground water and soil are used sustainably and protected from contamination and degradation.

Performance criteria

- Best environmental management practice is applied in planning, design, development,

operation and management of the farm so that water quality is maintained. Further information on best practice water management can be obtained from DIPNR.

- An Erosion and Sediment Control Plan is submitted with the DA. The plan meets the requirements of the DIPNR guidelines *Preparing an Erosion and Sediment Control Plan* (1997). The owner and the builder are responsible for controlling soil erosion and preventing sediment from the building site from being washed into stormwater drains or other waters, as required under section 120 of the *Protection of the Environment Operations Act 1997*. Erosion and sediment control guidance notes are available from DIPNR and DEC.

Waters: Requirements of the PoEO Act

The occupier of any premises must not cause or permit any waters to be polluted (section 120).

- A licence is obtained from DIPNR for use of surface or ground water in the operation of the farm.
- Irrigation scheduling is managed to prevent soil from becoming waterlogged and to prevent excess nutrient run-off or percolation to ground water.
- Storage of contaminated surface water is managed to ensure adequate capacity to store water during wet weather. Chemicals (for example, pesticides, detergents and disinfectants), pathogens and nutrients all have the potential to contaminate water.

- An EMP is developed and implemented that includes strategies and measures for minimising contamination and degradation of surface water, ground water and soil from the farm and contingency actions for managing problems that may arise.

Best practice guidelines

- Reasonable separation distances for natural resource protection are achieved.
- The farm is not in a flood prone area.
- Ground water vulnerability is assessed and appropriate siting, design and management strategies used to protect ground water.
- Waste storage areas are designed to avoid contact with stormwater, and any contaminated stormwater is collected, treated and disposed of without causing pollution.
- Areas of nutrient and chemical storage, including the chicken sheds, litter stockpiles and dead bird management areas are on an impervious base material to protect ground water from pollution. Chemicals should be stored in bunded and roofed areas.
- Spills of litter, feed, chemicals and other potential pollutants are cleaned up promptly.
- Vegetated buffer strips are developed and maintained around sheds and stockpile and disposal areas to catch and filter pollutants.
- Chemical storage and usage ensures protection of natural resources from chemical contamination. (See section 6.10 *Chemical usage*.)
- Land application of litter and wastewater is done using a water and nutrient balance that

Erosion and sediment control are needed on the construction site to manage large areas of exposed soil until grass cover can establish.



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matches application rate to safe soil storage ability, safe infiltration rates, crop uptake and allowable losses. (See section 6.11 *Management of waste and nutrient reuse*.)

- Spreading on slopes greater than 10 per cent is avoided (that is, 10 metre rise in 100 metres).
- Erosion problems are actively controlled.
- Pastures are managed to maintain vegetative cover and stabilise soils.
- Stock access to streams and damage to stream banks are minimised.
- Farm dams are constructed and maintained, and unsealed roads are located and managed, to reduce soil movement, erosion and dam leakage.
- Local wetlands are protected for their role in filtering natural sediment and nutrient loads and providing a diversity of wildlife habitat.
- On-site household wastewater systems (septic tanks and aerated wastewater treatment units) are maintained and operated to prevent nutrients getting into streams or ground water.
- Management strategies are used to control site erosion and the water quality of run-off, and include preventive measures as well as appropriately placed and maintained sediment controls such as sediment traps, sediment barriers, silt fences and straw bales below fill batters or highly disturbed areas.

6.3 ODOUR

Outline

Odour is the largest source of complaint against meat chicken farms. Odour problems generally arise when residential developments encroach on existing agricultural areas, when a farm is inappropriately located near a residential development, or when a farm changes technology or operations, resulting in increased odours. Unsatisfactory management practices can also lead to an increase in odour generation, and hence odour complaints.

The emission of offensive odour from licensed premises where scheduled activities are carried on is an offence under the PoEO Act unless the emission is identified in the licence as potentially offensive and was emitted in accordance with the licence, or the only affected persons

were engaged in the management or operation of the premises.

Controlling and managing odour is difficult, because odour levels may vary significantly with weather conditions, shed design, management practices, flock age and health status. Odours may have considerable impacts on sensitive land uses beyond the farm property boundary, depending on the sensitivity of individuals.

Odour is primarily produced from the anaerobic decomposition of manure, spilled feed, dead birds and other organic matter. High litter moisture content increases this biological reaction, so keeping litter dry is the primary factor in odour control. The chickens also have a distinct odour that is more noticeable when their feathers are damp.

The potential nuisance caused by odour emissions is a function of many interrelated factors, including:

- the nature, strength and offensiveness of the emissions, which depends on:
 - total number and stocking density of birds
 - disease and digestive upsets in the birds
 - feed formulation (for example, nitrogen content)
 - amount of faecal material in the litter and its moisture content
 - farm management and operation
 - shedding, equipment and other technologies
 - pollution control and waste management practices.
- the frequency, intensity, duration and character of odour impacts, which are influenced by:
 - local meteorological conditions and topographical features that govern the transport and dispersion of odorous emissions
 - distance of the receptor or sensitive land use from the odour source
 - nature and sensitivity of the receptor.

Separation of emission sources and sensitive land uses by appropriately locating and sizing the poultry farm provides protection from the adverse impacts of emissions. However, it does not relieve farm management of the responsibil-

ity to use best practice in the design, operation and management of the meat chicken farm. Farm management has the greatest influence on odour generation.

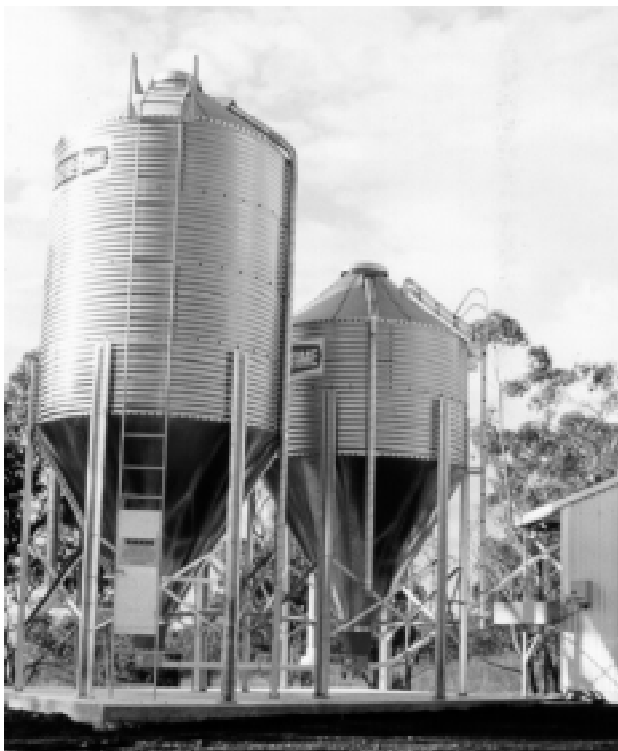
Objective

Ensure that best practice is adopted in the planning, design, development, operation and management of meat chicken farms so that odour emissions do not cause unacceptable impacts on nearby sensitive land uses or receptors.

Performance criteria

- Site selection and design is informed by an odour impact assessment that identifies appropriate separation distances. (See 'Odour impact assessment' in section 5.1.)
- Best environmental management practice is applied in the selection and use of shedding technology, farm equipment and farm management so that farm operations and odour emission comply with the requirements of the PoEO Act. Information on best practice shedding technology can be obtained from industry associations or NSW Agriculture.

Correct feed storage and formulation helps minimise odour problems. A concrete pad under feed silos helps in easy clean-up of spilt feed. Spilt feed can attract pests and cause odour.



Odour: Requirements of the PoEO Act

The occupier of any premises must not cause air pollution (including odour) through a failure to maintain or operate equipment, to carry out maintenance work on plant, or to deal with materials, in a proper and efficient manner. The operator must also take all practicable means to minimise and prevent air pollution [sections 124, 125, 126 and 128 of the PoEO Act].

The occupier of a premise on which scheduled activities are undertaken must not emit an offensive odour, unless the emission is identified in the environment protection licence as potentially offensive and was emitted in accordance with the licence [section 129 of the PoEO Act].

- An EMP is developed and implemented that includes strategies and measures for minimising odour emission from the farm and contingency actions for managing odour problems that may arise.

Best practice guidelines

- A log of key conditions and activities with potential to affect odour generation is maintained and periodically reviewed. The log addresses relevant factors such as flock age, the condition of feed, drinkers, foggers and litter, and climatic conditions.
- Best practice waste management is followed. (See section 6.11 *Management of waste and nutrient reuse*.)
- Litter moisture levels are maintained between 15 and 30 per cent to avoid odour generation.
- Vegetative screens or constructed impact walls are used to slow airflow and/or redirect the odour plume. (See section 6.7 *Visual impact and landscaping*.)
- To minimise the impact of odour on nearby sensitive land uses or receptors, plan and perform farm operations taking into account weather conditions, forecasts and time of day (for example, when neighbours are at work).
- Minimise dust emission, as odour molecules are carried on dust particles. (See section 6.5 *Dust*.)

- Superior technologies are used where economically and operationally practicable. These technologies may include dispersion, incineration, scrubbing systems, adsorption systems, biofiltration and adding masking compounds to odorous air. (Information on technologies is available from *Technical Notes. Draft Policy: Assessment and Management of Odour from Stationary Sources in NSW* (NSW EPA 2001) and the Rural Industries Research and Development Corporation environmental database/odour control strategies project).

6.4 NOISE

Outline

Noise from meat chicken farms may adversely affect nearby sensitive land uses. Noise from farms may be continuous or intermittent. Typical sources of noise are truck and tractor movements, feed equipment and fans. Other noise sources are emergency generators and alarms. Noise and vibration may also be an issue during construction.

The transmission of noise and resulting impacts are affected by many factors, including atmospheric conditions, local topography and noise barriers. Residents are much more sensitive to noise in the evening and night when background noise levels are lower and the potential for sleep disturbance is greater. Night-time pick-up of birds is preferred by the industry for bird welfare and product quality reasons, and noise impact from this activity must be minimised where sensitive receptors are located near the farm.

The effect of noise on nearby land uses can be minimised during the design and planning stage of meat chicken farm development.

Although meat chicken farms with fewer than 250 000 birds do not require a DEC licence under the PoEO Act, the criteria presented below would be used by local councils in:

- developing action plans to resolve noise conflict situations
- setting conditions for development consent
- setting noise targets in LEPs and REPs.

Proponents should therefore site, design and develop meat chicken farms to meet these criteria in order to minimise the risk of noise complaints.

Objective

Ensure that noise levels generated by the meat chicken farm and associated activities do not have unacceptable impacts on nearby sensitive land uses.

Performance criteria

- Noise levels generated by the farm and related activities do not exceed the requirements of the *NSW Industrial Noise Policy* (NSW EPA 2000).
- An EMP is developed and implemented that includes strategies, measures and contingency actions for minimising noise and vibration impact.

Noise: Requirements of the PoEO Act

The occupier of a premises must not cause noise to exceed prescribed levels, or cause offensive noise, or conduct activities in an environmentally unsatisfactory manner [sections 95–100 and 263–279]

Best practice guidelines

- Noise levels generated by the farm and related activities meet the requirements of the *NSW Industrial Noise Policy*. The noise from vehicle movements associated with development is covered by the Policy if the vehicles are not on a public road. If the vehicles are on a public road, the *Environmental Criteria for Road Traffic Noise* (NSW EPA 1999) apply.
- Noise and vibration from the construction as well as the operational phase are addressed in the EMP.
- Access points and roads are located to minimise noise impacts on neighbouring sensitive land uses.
- Farm design and layout reduce the need for vehicles to reverse and allow vehicles to leave the farm travelling in a forward direction.
- The design and siting of all mechanical equipment, including fans and pneumatic feed systems, minimise the generation of mechanical noise and the likelihood of off-site vibration.

- Landscaping is used to mitigate noise if required (for example, earth mounds or solid fences).
- Bird pick-up and associated night-time activities are undertaken with minimum noise generation. (Birds are normally collected at night for bird welfare and product quality reasons.)
- Low noise levels are important criteria in the selection and operation of mechanical equipment and vehicles, including consideration of exhaust muffling equipment and adjustable reversing alarms or lights on vehicles.
- All vehicles and machinery are maintained to ensure that noise does not exceed manufacturers' specifications. Tonal effects and frequency modulations or impulses are minimised.
- Except in emergencies or with council consent, feed deliveries and other truck movements (apart from bird pick-up where necessary) do not take place outside daylight hours.
- Details of the management of noise are given in the EMP and include measures to minimise noise at all times from equipment and machinery, and from pick-up and delivery vehicles.
- The farm operator liaises closely with drivers, pick-up crews and processors to ensure all are aware of the potential for conflict arising from noisy vehicle use and behaviour.
- The *NSW Industrial Noise Policy* (NSW EPA 2000) sets two separate noise criteria, to account for controlling intrusive noise impacts and maintaining noise level amenity for residences and other land uses. Both components must be taken into account for residential receivers, but in most cases only one will become the limiting criterion.

Intrusive noise criteria limit maximum noise levels from a source to no more than 5 decibels (dB) above the measured background level, with the minimum background level being 30 dB-A.

Amenity noise criteria set recommended noise levels for specific receivers. The acceptable noise levels are listed in Table 2.1 on page 16 of the DEC's *NSW Industrial Noise Policy* (NSW EPA 2000).



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Design and siting of mechanical equipment, including extraction fans, should aim to minimise noise generation and impact. Fan hoods help to direct noise and dust.

For further information on noise contact the DEC.

6.5 DUST

Outline

Dust from poultry farms can be generated from the chicken sheds (litter and feathers), vehicle movement, on-site operations (for example feed delivery, site construction, litter spreading, and shed cleaning) and movement of wind across bare soil. Odour particles can be carried on dust, so minimising dust emission from the farm can significantly reduce odour.

Dust from meat chicken farms may arise from dried manure, feathers, grain husks and other organic matter, and may be associated with allergies, asthma and other respiratory ailments in humans.

A combination of good design, operation and management practices and provision of adequate buffer distances must be employed to minimise the risk of unacceptable dust impacts.

For large-scale proposals, the DEC may require an air quality impact assessment to be done to predict the impact of dust emissions with the use of computer-based dispersion modelling. The DEC's requirements for computer-based dispersion modelling are provided in the *Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW* (NSW EPA 2001).

Objective

Ensure that the design, development, operation and management of the farm minimise the generation of dust emission that may affect sensitive land uses.

Performance criteria

- Site selection and design are informed by a dispersion-model-based dust impact assessment if appropriate.
- Best environmental management practice is applied in the selection and use of shedding technology, farm equipment and farm management so that farm operations and dust emission comply with the requirements of the PoEO Act.
- An EMP is developed and implemented to include strategies and measures for minimising dust emission from the farm and contingency actions for managing dust problems that may arise.

Best practice guidelines

- Reasonable separation distances and buffer zones are used for protecting biosecurity, community amenity and natural resources from dust impact. (See 'Separation distances' in section 5.1).
- Moderate driving speeds are maintained on unsealed roads.
- Loads are securely covered for transport.
- Spills are cleaned up promptly.
- Temporarily stored poultry manure is covered.
- Ground cover plants and vegetation screens are developed and maintained. (See section 6.7 *Visual impact and landscaping*.)
- Farm operations are planned and performed taking into account weather conditions and forecasts (for example, wind direction and strength) to minimise the impact of windblown dust on nearby sensitive land uses.
- Litter moisture is monitored and maintained above 15 per cent to avoid potential dust emission from over-dry litter. Fogging with water or a dust-suppressing agent is a contingency action taken if dust emission from sheds is a problem.

Dust: Requirements of the PoEO Act

The occupier of **any premises** must not cause air pollution (including dust) through a failure to maintain or operate equipment, or to deal with materials, in a proper and efficient manner. The operator must also take all practicable means to minimise and prevent air pollution [sections 124, 125, 125, and 128].

The occupier of any premises must not carry on an activity or operate any plant so as to cause the emission of air impurities (including solid particles) at above the concentration and/or rate set out in the Clean Air (Plant and Equipment) Regulation [section 128 of the Act].

- Road wetting is a contingency action taken if unacceptable dust emission from significant truck movements is likely.
- Impact walls, earthen mounds or fan hoods may be installed at the end of tunnel-ventilated sheds as a control measure against unacceptable dust impact.

6.6 LIGHT

Outline

Stray lighting from vehicle headlights, security lighting and sheds lit to maintain regular light periods can be intrusive to neighbouring residences. Stray light and shadows moving through poultry sheds may also panic the birds and result in increased mortalities. Planning of vehicle movements and farm lighting must ensure light does not adversely affect neighbouring sensitive land uses or bird behaviour.

Objective

Ensure that the movement of vehicles and the lighting design of the farm is planned to minimise any light impact on the amenity of nearby sensitive land uses and on bird behaviour.

Performance criteria

- Access points and roads on the property are located (or shielded) to minimise light impacts on neighbouring sensitive land uses and avoid stray light entry into chicken sheds.

- Lighting of the farm is designed to avoid excessive illumination and to minimise illumination of neighbouring sensitive land uses.
- An EMP is developed and implemented to include strategies and measures for minimising light impacts from the farm.

Best practice guidelines

- Lights used to illuminate the site for security and bird pick-up must be angled or shielded so that they do not directly illuminate any nearby sensitive land uses.
- Car parks and roads are situated and/or screened to avoid stray lighting from vehicle headlights directly illuminating any nearby sensitive land uses.
- Vegetative screening, earthen banks and constructed walls are used, if required, to screen against light impact.

6.7 VISUAL IMPACT AND LANDSCAPING

Outline

Chicken sheds and supporting farm infrastructure can be visual intrusions on the landscape that may be offensive to the aesthetic values of some people. Landscaping can play an important part in softening the visual impact of meat chicken farms and can also help reduce noise, dust and odour impacts. Choice of construction materials and use of topography also help reduce visual impact. Ensuring that the farm is constantly maintained in a tidy condition not only improves visual amenity, but helps with control of other impacts like pests, disease and odour.

Objective

Ensure that planning, design, operation and management minimise the visual impact of the farm, and use landscaping and screening to reduce the impact of noise, dust, light and odour on surrounding properties.

Performance criteria

- Existing vegetation is retained wherever practicable.
- Proposed landscaping provides substantial visual screening from roads, public areas, nearby residences and other sensitive land uses.

- The plant species selected blend in with the local vegetation and landscape and are low maintenance and suited to the site.
- Building materials, equipment and plant are selected to minimise visual impact.
- The topography of the site is used to best advantage to maximise visual screening.
- An EMP is developed and implemented that includes strategies and measures for minimising visual impact from the farm and for providing and maintaining landscaping.

Best practice guidelines

- The natural topography and terrain of the site and the existing vegetative cover are used to best advantage to maximise visual screening.
- Construction materials are selected where practicable to minimise visual impact. For example, use green curtain materials or shorter feed silos if appropriate.
- Early contact is made with the local council to establish a list of plant species suitable for screening that are appropriate to the local conditions and are low maintenance.
- A landscape plan is designed to ensure the long-term effectiveness of landscaping for screening of farm sheds and structures, and is approved by the approval authority. The plan includes a reasonably detailed estimate of the quantity and types of materials, plants, irrigation equipment and other inputs required and a time limit for the completion of the landscape works.

Screening trees around the farm facility reduce the visual impact of farm infrastructure and noise, dust, light and odour impacts.



SUZANNE ROBINSON

- Landscape planting is no closer than 15 metres to the perimeter of the chicken sheds and ensures effective upper and lower level screening, utilising trees and shrubs. To achieve a semi-permeable buffer, plant three or four rows of fine-leaved vegetation with different height.
- Mounds to a height of about 2 metres are used if the combination of natural topography and tree planting cannot effectively screen the farm. Soil from construction of dams, drains and sheds may be suitable for these mounds.
- Landscaping is maintained and dead plants are replaced.
- Buildings (including gutters, walls, and roof and side curtains) and site (including grassed surrounds, drains, fences, dams and roads) are maintained in a functional and tidy condition at all times.

6.8 TRAFFIC

Outline

Movement of vehicles to and from the site, and accommodation of farm vehicles on the site, can affect the safety and amenity of the public and neighbours. Problems of odour, noise, dust, feathers and vehicle lights can be associated with traffic movement. Site access must not interfere with the function of adjoining roads, and off-site impacts on nearby sensitive land uses must be minimised.

Contact the approval authority at an early stage of development planning to determine appropriate access and road layout requirements and to identify whether the approval of the Roads and Traffic Authority (RTA) is required.

Objective

- Provide appropriate access to the property from adjoining roads to minimise interference with traffic.
- Ensure that the movement and accommodation of articulated vehicles and employee and visitor car parking are adequate and are planned to minimise any detrimental impact on the amenity of nearby sensitive land uses.

Performance criteria

- Access to the site is from a road constructed to accommodate articulated vehicles, and the

access point is designed to be wide enough to provide for turning vehicles and allow safe ingress and exit.

- Adequate area is provided within the site to accommodate all service vehicle movements and for parking of vehicles within the property.
- Access points and roads on the property are located to minimise noise impacts on neighbouring sensitive land uses.
- An EMP is developed and implemented that includes strategies and measures for minimising traffic impacts.

Best practice guidelines

- The approval authority approves the location and design of access to the site.
- Access is constructed to a standard that minimises deterioration of the road pavement, avoids sharp turns, and provides sufficient road width for turning vehicles. If there is a farm boundary gate, enough off-road parking space is provided to allow trucks to park safely before entering the gate.
- Areas are provided for parking articulated vehicles for loading and unloading, and sufficient on-site manoeuvring area is provided to enable all vehicles to enter and exit the site in a forward direction.
- The surfaces of roads, loading areas and parking spaces are maintained to allow all-weather access.
- The farm operator liaises with contract drivers, bird pick-up crews and processors to ensure awareness and minimisation of traffic impacts (for example, noise from exhaust brakes) on neighbouring sensitive land uses.

Contact the local council or the Roads and Traffic Authority for further information. (Also see 'Road access' in section 5.1.)

6.9 PESTS

Outline

Pests increase the risk of disease on farm and can be an environmental health risk to humans. They also damage shedding and equipment. Pests affecting meat chicken farms include rodents (rats and mice), foxes, wild birds, flies, manure beetles, mosquitoes, cats, dogs, and external parasites like mites and lice. Effective

pest control is achieved through appropriate design and management of the farm.

Objective

Minimise health and disease risk to chickens and humans and risk of pest damage to sheds by keeping pest levels on the farm to a minimum.

Performance criteria

- Pest exclusion and control are factored into design criteria for construction of new farms and expansion of existing farms.
- An EMP is developed and implemented that includes strategies and measures for minimising pest infestation and contingency actions for managing pest problems that may arise.

Best practice guidelines

- All buildings, plant and equipment are designed and maintained to exclude vermin from the farm, sheds, water and feed.
- Feed supplies and breeding sites used by pests are eliminated from the farm. For example, feed spills and carcasses must be cleaned up quickly, and breeding sites and harbours are eliminated by keeping grass around sheds mown, the farm tidy and the environment as dry as possible.
- Pest numbers are regularly monitored, and targeted pest extermination programs are undertaken, maintained and monitored for

Sheds should be designed and maintained to exclude pests. Wire mesh over ventilation openings helps keep wild birds and other pests out of sheds.



effectiveness. Routine baiting for rats and mice is essential.

- Pesticide use must meet the requirements of the *Pesticides Act 1999* and associated Regulations. This legislation is administered by the DEC and requires all users of pesticides to use products in accordance with label directions. The Pesticides Amendment (Records) Regulation 2001 requires people who use pesticides for commercial purposes to keep records of pesticide use. User training requirements will also shortly be introduced. All poultry farmers who use pesticides will be required to meet the accreditation requirements of ChemCert or SMARTtrain programs.

6.10 CHEMICAL USAGE (SPRAY DRIFT AND SPILLS)

Outline

The use and storage of agricultural chemicals are associated with potential risks for users, consumers, the community and the environment. Agricultural chemicals used on meat chicken farms include detergents, disinfectants, fumigants, fuels, herbicides, pesticides and veterinary medications. Minimisation of risk to health and the environment is achieved through good planning and management.

Objective

Minimise the risk to public health, property and the environment from chemical use and movement of agricultural chemicals on to non-target areas.

Performance criteria

- An EMP is developed and implemented that includes strategies and measures for minimising environmental risks and contingency actions for managing environmental problems that may arise from chemical usage.
- Pesticide use meets the requirements of the *Pesticides Act 1999* and associated regulations such as the Pesticides Amendment (Records) Regulation 2001 and the proposed Pesticides Amendment (User Training) Regulation (administered by the DEC).
- Storage, transport and use of chemicals meet the requirements for protection of the health and safety of workers and visitors to the

workplace and meet the Hazardous Substances requirements laid down in the Occupational Health and Safety Regulation 2001 under the *Occupational Health and Safety Act 2000* (administered by NSW WorkCover).

Best practice guidelines

- All agricultural chemicals used on farm are registered by, or allowed to be used subject to a permit issued by, the Australian Pesticides and Veterinary Medicines Authority. They are stored, mixed, applied and disposed of in accordance with the instructions on the relevant label or permit and NSW WorkCover Authority's *Code of Practice for the Safe Use and Storage of Chemicals (including Pesticides and Herbicides) in Agriculture* (WorkCover NSW 1998).
- Standards on the storage and handling of dangerous goods comply with the *Dangerous Goods Act 1975*. Standards Australia has published standards on the storage and handling of dangerous goods.
- Chemical records covering the purchase or procurement of chemicals and details of their application are maintained for a period of at least 3 years. Records are available to the responsible authorities to confirm that chemical use meets regulatory requirements. Refer to the Pesticides Amendment (Records) Regulation 2001.
- All people applying chemicals on the farm have successfully completed training in safe use of chemicals (for example a SMARTrain Chemical Application course or Managing Chemical Use course).
- Sheds are closed during chemical applications to minimise off-site chemical spray drift. Sheds are kept closed for the recommended time after spraying of toxic or odorous chemicals.
- There is no spray drift or run-off from sprayed areas into sensitive land-use areas such as watercourses, wildlife habitats, residential areas, public amenities or other sensitive land uses, including enterprises using integrated pest management or organic practices.
- Minimise chemical use and choose chemicals with the lowest toxicity and water contamination potential.

Further information on agricultural chemical usage can be obtained from NSW Agriculture, WorkCover or the DEC. (Also see section 9 *References and further reading*.) Also, provisions in the *Occupational Health and Safety Act 2000* about the use of hazardous substances and pesticides must be complied with.

6.11 MANAGEMENT OF WASTE AND NUTRIENT REUSE

Outline

Waste management on a meat chicken farm involves solid and liquid waste control. The sustainable reuse of used litter and dead birds as a source of nutrient and soil conditioner is encouraged.

Waste management includes:

- the collection, storage and disposal of dead birds
- shed cleanout, storage, disposal and spreading of litter as a fertiliser or removal from site
- on-site litter stockpiling and composting
- disposal of used chemical containers
- avoidance of contaminated run-off,
- collection and appropriate re-use of run-off
- potential for re-use of waste products

Objective

Manage waste from the farm to prevent pollution of surface water, ground water and land, to minimise odour and dust generation and to follow the waste management hierarchy of:

1. waste avoidance
2. recycling/reclamation
3. waste reuse
4. waste treatment to reduce potential degrading impacts
5. waste disposal.

Performance criteria

- Farm operations meet the requirements of waste management legislation such as the *Protection of the Environmental Operations Act 1997*.
- For large (more than 250 000 birds) licensed poultry farms the occupier assesses and

Waste: Requirements of the PoEO Act

It is an offence under the PoEO Act to dispose of waste in a manner that harms or is likely to harm the environment. It is also an offence to transport waste to an unlawful waste facility, or to permit the disposal of waste at such a facility. [sections 115, 143 and 144]

classifies their waste in accordance with *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid Wastes* (NSW EPA 1999).

- An EMP is developed and implemented that includes strategies, measures and contingency actions for waste management, including a nutrient management plan for application of litter and contingencies for disposal of mass bird mortalities.
- Management and disposal systems for waste are designed and operated so that odour generation and the likelihood of disease transmission are minimised.

Best practice guidelines

Removal of litter

- Litter is removed from the shed and loaded directly into trucks and taken off-site.
- Used litter is transported from the farm in covered vehicles to avoid spillage and dust emission.
- Spillages are contained and cleaned up immediately to minimise the likelihood of stormwater contamination.
- Litter removal is preferably not undertaken when climate factors (wind and temperature) increase the likelihood of offensive off-site odour or dust impacts.
- Avoid litter becoming wet during the removal process.
- Reduce ventilation from the shed during removal to minimise off-site odour and dust impacts, always giving priority to a safe working environment.

Litter management in the shed

- Monitor the moisture content of the poultry litter with the aim of maintaining it between

15 and 30 per cent. The moisture content of the litter is the greatest influence on odour and dust generation. The litter moisture level is relatively easy to estimate with a reasonable degree of accuracy by using Table 3. For greater accuracy use a low-cost moisture meter.

Assess moisture levels in each shed on a weekly or other regular basis at equally spaced points along and across the shed, such as:

- Three points under the drinker lines,
 - Three points between the drinker lines, and
 - Three points near the shed wall.
- Material used for litter in meat chicken sheds must be dry and absorbent, remain friable, and be suitable for reuse.
 - Aerate wet litter to enhance drying, or preferably remove wet litter.
 - Control excessive dust generation by fogging the shed when required.
 - Enteric problems in the birds can cause wet litter, and immediate action must be taken to identify and, if possible, eliminate these problems.
 - Prevent rainwater, water from irrigation sprinklers, and surface water entering the sheds, and ensure fogger and drinker systems are not wetting the litter.

On-farm litter storage and use

- Used litter is stored and stockpiled on an impervious base to avoid ground water contamination. Stockpiles should also be located to avoid surface water contamination
- Temporary and permanent storage pad sites are out of public view and the prevailing

Table 3. Litter condition and moisture content

Litter description	Moisture content (%)
Dusty	Less than 15
Dry–friable	15–20
Friable to moist	20–30
Sticky/caking	30–45
Wet and sticky/ heavy caking	45–60
Very wet and sticky	More than 60



GERRY BOLLA

Land application of litter should meet nutrient balance requirements. Timing of spreading should be informed by weather conditions and consideration of impacts on neighbours.

wind to an extent that is economically and operationally practicable.

- Extraneous surface water is excluded from the stockpile site.
- Short-term stockpiles are covered and banded to exclude water and minimise dust and odour emissions.
- Long-term uncovered stockpiles are managed to avoid odour and dust emissions and have a catchment dam to collect any run-off from the pile. Excess effluent from the dam is land-applied at sustainable rates, as determined by a nutrient balance.
- Land application of litter and wastewater is done by using a nutrient and water balance that matches application rate to infiltration rate and matches application volume to safe soil-storage ability, crop uptake and allowable losses and is monitored.
- Litter is incorporated as soon as practicable after application.
- Litter is not spread in weather conditions (wet or windy) that will cause odour or dust impact on neighbouring sensitive land uses or contamination of natural resources.
- Litter spreading is avoided when there is a greater likelihood of public exposure – such as on weekends and holidays – to an extent that is economically and operationally practicable.

Litter storage and application on farm follow best practice guidelines, as provided in the

National Environmental Management System for the Meat Chicken Industry (RIRDC 2002).

Dead bird management and disposal

- Dead birds are disposed of legally and following best practice and standards. Disposal may be by:
 - rendering
 - composting
 - incineration
 - burial
 - acid preservation.
- Farm practices for dead bird management and disposal comply with the *Broiler Industry Biosecurity Code* (Australian Chicken Meat Federation 2002).
- Dead birds are disposed of or stored appropriately (for example, frozen) within 24 hours of dying.
- A contingency plan is in place for disposal of mass bird mortalities (for example, from endemic disease, heat stress or exotic disease).
- Consideration should be given to the impacts on the physical environment and any nearby receptors of the disposal method. In locations where on-site disposal is possible, choose a site by taking into consideration the prevailing winds so that the impact of windblown odour and dust on nearby sensitive land uses is minimised. Composting

and rendering produce the smallest physical environmental impacts.

- Dead bird collection vehicles and all containment systems are leakproof and vermin-proof.
- Where there is regular removal of dead birds from the farm, dead birds are collected, placed in an enclosed container and either taken off-site daily or stored in freezers until the regular collection.
- Where permitted by the Protection of the Environment Operations (Control of Burning) Regulation 2000, on-site incineration or burial of dead birds must be undertaken only when more sustainable options are not viable, or in an emergency situation with the approval and to the standards of the relevant authorities. This practice is suitable only on larger land areas with good separation distances.
- On-site incineration units are sited out of public view or enclosed in a shelter; are capable of incinerating 1 day's accumulation of normal mortality; use after-burners to eliminate smoke, odour and air emissions; and are maintained and cleaned weekly. Incinerators must meet PoEO Act emission and standards.
- On-site burial sites are located out of public view. The bottom of the trench or pit must be at least 3 metres above the maximum ground water table. The trench or pit must

On-site incineration should be done only where more sustainable options are not viable. It is suitable only for farms with good separation distance.



SUZANNE ROBINSON

be designed so that there is no surface or sub-surface seepage and no surface water entering. The final cover will be at least 1 metre of compacted clay soil. The trench or pit must be covered daily to contain odours and exclude pests. Not all soil types or locations are suitable for on-site burial: consult with DIPNR.

- On-site composting systems must comply with best practice standards and be preferably sited out of public view.

Further information on dead bird disposal technologies and their environmental impact control may be obtained from industry organisations, NSW Agriculture, DEC or DIPNR.

Wastewater

- Any contaminated water, including liquid effluent, is collected, treated and disposed of without causing pollution. Land area should be sufficient for sustainable disposal of liquid wastes. Irrigation areas and treatment systems should be properly managed. Refer to the Draft Effluent Irrigation Guidelines (NSW EPA 1995) for further information.
- Wastewater generated by meat chicken farming activities may be regarded as liquid trade waste. For sewerred areas in Sydney Water's area of operations, written approval must be sought before any collected and treated effluent is discharged to the sewage system. The relevant requirements are in the *Sydney Water Act 1994* (Section 49) and its *Trade Waste Policy and Management Plan* (Sydney Water Corporation 2001). Further information can be obtained from Sydney Water on 131 110 or their website, www.sydneywater.com.au. Other water authorities may have varying requirements.

6.12 COMMUNITY LIAISON AND COMPLAINT MANAGEMENT

Outline

Liaison between the property owner/manager and neighbours can be helpful in communicating information for the purposes of avoiding and managing complaints. Open lines of communication help in identifying problems, verifying complaints and successfully applying relevant remedies to minimise the impact of farm operations on neighbouring sensitive land uses.

Objective

Maintain systematic communication between the farm and neighbouring sensitive land users to minimise environmental complaints.

Performance criteria

An EMP is developed and implemented that includes strategies, measures and contingency actions for managing community liaison and complaints about environmental impacts or problems that may arise.

Best practice guidelines

- Inform neighbouring sensitive land users of unusual events or problems that may affect their amenity, the timeframe of the impact, and the mitigation strategies that have been initiated.
 - When a complaint is justified, gather relevant evidence and identify and implement strategies to remedy the problem. Inform the complainant of the outcome of the investigation and any actions taken to avoid recurrence of the problem.
- Record full details of complaints received, results of investigations and corrective actions in a complaint register.
 - Record significant operational activities on the farm, particularly those that have potential environmental impact. Measure and record daily weather conditions and prevailing wind direction. These records will help in the investigation of problems.
 - Participate in and cooperate with the mediation process in cases of dispute.

Mediation services are available for free from the Dispute Resolution Services section of the Community Justice Centre. The Land and Environment Court may also provide mediation services in an attempt to resolve a matter brought before them through mediation rather than in court.

7 LEGISLATION AFFECTING MEAT CHICKEN FARMS

Copies of the following legislation are available from the NSW Parliamentary Counsel's Office website at www.legislation.nsw.gov.au. Contact the responsible authority for details and interpretation of how the legislation relates to meat chicken farms.

The operation of new and existing poultry farms is regulated through legislation, the terms and conditions attached to the development consent and any associated licences or approvals. (Non-compliance with these terms and conditions will result in liability to prosecution under the relevant legislation.) The major pieces of legislation that a new or existing poultry farm must follow are described below, under the appropriate administering authority.

7.1 DEPARTMENT OF INFRASTRUCTURE, PLANNING AND NATURAL RESOURCES

The Department of Infrastructure, Planning and Natural Resources (DIPNR) incorporates the departments previously known as Land and Water Conservation and PlanningNSW. It is responsible for:

- land-use planning issues for the State, and administers legislation regarding these issues, including the Environmental Planning and Assessment Act. The Major Development Assessment Branch of DIPNR (phone: 02 9762 8166) can provide guidelines for preparing an EIS if the proposal is classed as a designated development.
- sustainable management of the State's natural resources (soil, water, vegetation and coastline). Total catchment management principles are used to help ensure productive land, clean water and a diversity of vegetation and wildlife within catchments.
- administering water licences, regulating works on land adjacent to rivers, and regulating the clearing of native vegetation.

Contact details

For further information on infrastructure, land use and transport planning contact DIPNR, 20 Lee Street, GPO Box 3927, Sydney 2001. Phone

(02) 9762 8000 (switch), Phone (02) 9762 8044 (inquiries), Fax (02) 9762 8713, E-mail: information@dipnr.nsw.gov.au, Web: www.dipnr.nsw.gov.au.

For further information on natural resources management contact DIPNR, 23–33 Bridge Street, GPO Box 39, Sydney 2001. Phone (02) 9228 6111 (switch), Phone (02) 9228 6415 (information), Fax (02) 9228 6455, E-mail: information@planning.nsw.gov.au, Web: www.dipnr.nsw.gov.au (or regional office).

Environmental Planning and Assessment Act

The *Environment Planning and Assessment Act 1979* (EP&A Act) provides for a hierarchy of environmental planning instruments, which include SEPPs, REPs and LEPs. The Act also provides the framework for local government zoning, assessment requirements, development control plans, and development consent provisions for operating poultry farms. It is the major legislation governing the development of poultry farms and the first port of call for potential developers.

It is an offence under the EP&A Act to undertake without consent a development or activity that requires consent. It is also an offence to breach any of the terms or conditions of the development consent. The relevant consent authority, usually local government, enforces the development consent, but any person may bring proceedings in the Land and Environment Court for an order to restrain breaches of this Act.

Water Management Act

The *Water Management Act 2000* provides for the integrated and sustainable management of the State's waters. All provisions of the Act have commenced, except those relating to aspects of harvestable rights, access licences and approvals. For the time being, matters relating to licences and approvals will continue to be dealt with by the Rivers and Foreshores Improvement Act and the Water Act.

Water Act

The *Water Act 1912* regulates water extraction from rivers and ground water bores and the construction of water supply works, such as dams and weirs.

Rivers and Foreshores Improvement Act

The *Rivers and Foreshores Improvement Act 1948* regulates other works in river channels and on adjacent land (within 40 metres of the top bank).

Native Vegetation Conservation Act

The *Native Vegetation Conservation Act 1997* regulates clearing of vegetation on State-protected land (river banks and steep slopes) and native vegetation in other areas.

7.2 DEPARTMENT OF ENVIRONMENT AND CONSERVATION

The Department of Environment and Conservation (DEC) incorporates the former Environment Protection Authority, National Parks and Wildlife Service, ResourceNSW, Royal Botanic Gardens and Domain Trust. The DEC is responsible for

- protecting the environment and administering a number of Acts to control waste and pollution of the environment. The DEC is responsible for administering environment protection licences and notices under the Protection of the Environment Operations Act.
- the protection of cultural heritage and fauna and flora, particularly in relation to threatened species issues. DEC can provide advice on these issues and related legislation.

Contact details

For further information on the Pesticides and PoEO Acts and their implementation contact Department of Environment and Conservation, 59–61 Goulburn Street, PO Box A290, Sydney South 1232. Phone (02) 9995 5000 (switchboard), Phone 131 555 (information & publications), Fax (02) 9995 5999, Web: www.dec.nsw.gov.au, E-mail: info@epa.nsw.gov.au (or regional offices).

For further information on the protection of cultural heritage and fauna and flora contact Department of Environment and Conservation, 43 Bridge Street, PO Box 1967, Hurstville 2220. Phone (02) 9585 6444 (switch), Phone (02) 9253 4600 (information), Fax: (02) 9585 6555, Web:

www.dec.nsw.gov.au, E-mail: info@npws.nsw.gov.au (or regional offices).

Protection of the Environment Operations Act

The *Protection of the Environment Operations Act 1997* (PoEO Act) aims to protect, enhance and restore the environment having regard to the need to maintain ecologically sustainable development. It also aims to reduce risks to human health and to prevent the degrading of the environment. It controls the environmental impact of existing and future human activities through a system of licences and environment protection notices. The DEC administers this Act, but local councils are also empowered under the Act to control the environmental impacts of some poultry farms.

The forms of pollution controlled by this Act include:

- **Air pollution.** Air pollution includes the emission of any impurities into the air (such as smoke, dust, fumes, odours and gases) from poultry farms. For poultry farm operations with an environment protection licence, the licence will set out conditions directed at minimising air pollution, including odour. All other poultry farm operations should follow current recommended best practice to prevent or minimise air pollution. It is an offence under the Act if an occupier of premises causes air pollution because of failure to maintain or operate plant, or to deal with materials, in a proper and efficient manner. Section 6.3 of these Guidelines outlines best practice guidelines for managing odour. Section 6.5 outlines best practice guidelines for managing dust.
- **Noise pollution.** Noise generated during poultry farm operations may adversely affect nearby sensitive neighbours. The *NSW Industrial Noise Policy* (NSW EPA 2000) and *Environmental Criteria for Road Traffic Noise* (NSW EPA 1999) have been developed as a framework for the regulation of premises. They are used by the appropriate regulatory authority (the DEC or councils) in setting permissible noise emission levels for individual poultry operations. It is an offence under the Act if noise is emitted from premises because of the occupier's failure to maintain or operate plant, or to deal with

materials, in a proper and efficient manner. Notices or directions may also be issued in certain circumstances requiring noise emissions to cease or to be reduced. Section 6.4 of these Guidelines sets out best practice guidelines for managing noise.

- **Disposal of waste.** It is an offence under the PoEO Act to dispose of waste in a manner that harms or is likely to harm the environment. It is also an offence to transport waste to an unlawful waste facility, or to permit the disposal of waste at such a facility. Section 6.11 of these Guidelines outlines best practice guidelines for waste management.
- **Water pollution:** The PoEO Act makes it an offence to pollute waters. However, it is a defence if the pollution was regulated by an environment protection licence and the licence conditions relating to that pollution were not contravened. All environment protection licences are issued and administered by the DEC. Section 6.2 of these Guidelines outlines best practice guidelines for minimising surface and ground water impacts.

Scheduled activities (designated developments)

Many designated developments under the EP&A Act are also classed as scheduled activities under the PoEO Act, and thus may require an environment protection licence under the PoEO Act. A single integrated environment protection licence will be issued to regulate all forms of pollution that may arise from the carrying out of the development and its associated activities.

The licence will be issued, and its implementation monitored, by the DEC. Licences are issued with conditions. Examples of conditions that may be attached to a licence include emission limits, monitoring and reporting of emissions, providing certification of compliance with the licence, and undertaking mandatory environmental audit programs, pollution studies and pollution reduction programs. The DEC must review the licence at least once every 3 years, and must give public notice of its intention to do so.

Non-scheduled activities (non-designated and designated developments)

In general, local councils will be responsible for regulating pollution from all non-scheduled activities (except where an activity is carried out

by a public authority). That is, the local council will be the appropriate regulatory authority (ARA) for the purposes of the PoEO Act. If a development or its associated activities are likely to cause water pollution, an environment protection licence from the DEC may be required, and the DEC will be the ARA for such premises. So that there is only a single regulatory authority dealing with the farm, the DEC will use this licence to regulate all environmental impacts from the activity.

Pollution from activities can be regulated through:

- planning instruments (for example, an LEP) and development consent conditions
- issuing notices under the PoEO Act, such as
 - clean-up notices: issued when a ‘pollution incident’ has occurred or is likely to occur. A pollution incident does not include incidents involving only the emission of noise or odour. (Note that if a clean-up notice is issued, a fee is payable.)
 - prevention notices: can be issued when an activity is being conducted in an ‘environmentally unsatisfactory manner’
 - compliance cost notices: enable the regulatory authority to recover the costs of ensuring compliance with clean-up and prevention notices
 - noise control notices: used to prohibit activity, or the use of an article, that causes noise emissions above a level specified in the notice when measured at any specified point.

Duty to notify pollution incidents

There is a **duty to notify** the appropriate regulatory authority (broadly, the DEC or the local council) of pollution incidents where material harm to the environment is caused or threatened. Material harm includes actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial or that may result in actual or potential loss or property damage of an amount over \$10,000. Failure to do so is an offence. However, any notification is not admissible in evidence against the person for an offence or for the imposition of a penalty. The duty to notify applies to the person carrying out the activity, an employee carrying out the activity (if the employer cannot be notified), and the occupier of premises where the incident occurs.

Any person may bring proceedings in the Land and Environment Court for an order to remedy or restrain a breach of the PoEO Act or its regulations.

Pesticides Act

The *Pesticides Act 1999* aims to reduce the risks associated with the use of pesticides to human health, the environment, property, industry and trade by controlling and regulating the use of pesticides in NSW. The Act empowers the DEC to enforce the proper use of all pesticides in NSW after the point of sale. The Act also provides regulation-making powers. The Pesticides Amendment (Records) Regulation 2001 sets the requirements for record-keeping of pesticide use. The proposed Pesticides Amendment (User Training) Regulation sets the training standards. Both regulations apply to commercial users of pesticides (including farmers). There are also provisions to regulate foodstuffs that contain prohibited residues of pesticides. For further information contact the DEC.

National Parks and Wildlife Act

The *National Parks and Wildlife Act 1974* specifies that consent is required from the DEC to destroy Aboriginal artefacts, relics or places. It also addresses protection of fauna, native plants, threatened species, populations and ecological communities.

Threatened Species Conservation Act

The *Threatened Species Conservation Act 1995* aims to conserve threatened species, populations and ecological communities. The Act requires a licence to be obtained from the DEC to pick or harm a threatened species, population or ecological community. The Act may also require, through the EP&A Act, an assessment of the potential impacts on threatened species for development approval.

Road and Rail Transport (Dangerous Goods) Act

The *Road and Rail Transport (Dangerous Goods) Act 1997* sets out requirements for the transport of Dangerous goods (including pesticides and other chemicals) on roads. WorkCover NSW regulates the off-road handling of Dangerous goods.

7.3 LOCAL COUNCILS

Local councils are responsible for the management, improvement and development of the resources of their area and are responsible for administering some regulatory systems. Local councils are also regulatory authorities under the PoEO Act. Local council planning systems operate under DIPNR systems.

The local council is a valuable first point of contact for both new and existing poultry farm operations. Councils can provide information on:

- any planning controls that apply to a particular parcel of land
- any additional information that may need to be supplied with the DA
- development consent conditions.

Local Government Act

The *Local Government Act 1993* (LG Act) lets local councils provide for the current and future needs of local communities and manage local resources. It also requires them to use the principles of ecologically sustainable development.

Under the LG Act councils may abate a public nuisance. A public nuisance is one that materially interferes with public health, safety, property, enjoyment or comfort. In some instances, odour from existing operations has been dealt with as a public nuisance.

The LG Act enables councils, in certain circumstances, to issue an Order to a person to do, or refrain from doing, things in or on a premise. Examples of orders that may be issued include:

- to repair or make structural alterations to a building where the building is erected in a catchment district and causes, or is likely to cause, pollution of the water supply
- to do things necessary to control the flow of surface water across land where other land is being damaged or likely to be damaged
- to ensure that land is, or premises are, placed or kept in safe and healthy conditions when they are not in a clean or sanitary condition
- to store, treat, process, collect, remove, dispose of or destroy waste in the manner specified in the order when waste present or generated on the land is not being dealt with satisfactorily

- to comply with an approval when an approval has not been complied with
- not to conduct, or to cease conducting, an activity.

Failure to comply with an order is an offence under the Act.

7.4 NSW AGRICULTURE

NSW Agriculture delivers agricultural research, extension, education and regulation and is responsible for administering a number of Acts affecting poultry producers.

NSW Agriculture has Agricultural Environment Officers located around the State who can provide advice on the development assessment process, convene a planning focus meeting (PFM) if required, and provide advice on how to manage the ongoing environment regulations associated with poultry farming. Poultry advisory officers are also available to provide advice on poultry farming and development.

Contact details

NSW Agriculture, 161 Kite Street, Private Bag 21, Orange 2800. Phone (02) 6391 3100 (switchboard), Phone (02) 6391 3458 (publications), E-mail: nsw.agriculture@agric.nsw.gov.au, Web: www.agric.nsw.gov.au (or regional offices).

Stock Diseases Act

The Stock Diseases Act 1923 places an obligation on owners of stock to notify the presence of any disease under the Act to an inspector. Notifiable diseases for chickens include:

- egg drop syndrome (EDS 76)
- infectious laryngotracheitis
- *Salmonella pullorum* disease
- chlamydiosis
- salmonella enteritidis
- avian tuberculosis
- Newcastle disease.

The Act enables inspectors to quarantine stock that they suspect are infected with disease and to order testing, treatment and/or slaughter as appropriate to control the disease.

Exotic Diseases of Animals Act

The *Exotic Diseases of Animals Act 1991* aims to protect Australian livestock industries from exotic (foreign) diseases. It requires anyone who sus-

pects exotic disease in livestock to immediately notify NSW Agriculture. The Act allows for quarantine, testing and control measures for elimination of the disease. Notifiable exotic diseases for chickens include:

- avian influenza (highly pathogenic)
- Newcastle disease
- infectious bursal disease (hypervirulent form)
- screw worm fly.

Poultry can be carriers for other notifiable diseases.

Poultry Meat Industry Act

The *Poultry Meat Industry Act 1986* regulates the contractual arrangements between poultry growers and processors. The Poultry Meat Industry Committee operating under the Act sets guidelines for drawing up agreements between processors and growers, including prices paid for raising chickens. The committee also assists in negotiating disputes between processors and growers.

Stock Foods Act

The *Stock Foods Act 1940* stipulates the requirements for production and labelling of stock feeds. Feeds not meeting requirements may be withdrawn from supply.

Stock Medicines Act

The *Stock Medicines Act 1989* legislates the registration, supply, labelling and use of stock medicines. Because of the significance of residues in food products, chickens should be treated only with registered products, according to the label instructions (unless authorised otherwise by a veterinarian), and the withholding period should always be adhered to.

Under the Act, poultry producers may not:

- be in possession of unregistered stock medicines
- use unregistered stock medicine (unless approved by a permit or order)
- use stock medicine that is not for use in food-producing animals (unless approved by permit or order)
- use stock medicine contrary to label directions (unless authorised in writing by a veterinarian).

Stock (Chemical Residues) Act

The *Stock (Chemical Residues) Act 1975* aims to prevent contamination of human food with pesticides, drugs and chemicals. The Act allows for the setting of maximum residue limits (MRLs) for various chemicals. Contaminated stock may be placed in detention to prevent them or their products entering the human food supply. The stock or products may be destroyed, and action may be taken to prevent the use of contaminated land or buildings for livestock.

Prevention of Cruelty to Animals Act

The *Prevention of Cruelty to Animals Act 1979* regulates the care and welfare of animals, including chickens. The *Model Code of Practice for the Welfare of Animals – Domestic Poultry* (ARMCANZ 2002) is a guide for people responsible for the welfare and husbandry of domestic poultry, and is prescribed under the Act. The RSPCA and the Animal Welfare League have inspectors empowered under the Act.

7.5 NSW WORKCOVER AUTHORITY

WorkCover is responsible for ensuring the health, safety and welfare in the workplace and for administration of, and advice on, the NSW Workers Compensation scheme and injury management requirements.

Contact details

WorkCover NSW, Telephone: 02 4321 5000, Fax: 02 4325 4145 For address, telephone or fax details of all WorkCover offices:

www.workcover.nsw.gov.au/ContactUs/default.htm

Occupational Health and Safety Act

The *Occupational Health and Safety Act 2000* (OHS Act) aims to protect workers in the workplace, and there are many regulations under this Act, including the Occupational Health and Safety Regulation 2001 under the OHS Act. The regulation consolidates regulations relating to specific hazards, including plant and machinery, hazardous substances and noise, and lays down requirements for consultation with workers relating to meeting OHS obligations.

7.6 SYDNEY CATCHMENT AUTHORITY

The Sydney Catchment Authority (SCA) is responsible for supplying bulk water and for

ensuring that Sydney's catchment areas are managed and protected to promote water quality, protection of public health, and safety and protection of the environment. They are empowered under the *Sydney Water Catchment Management Act 1998*. The Authority may have input into the granting of some licences.

Contact details

Sydney Catchment Authority, Level 2, 311 High Street, PO Box 323, Penrith 2751. Phone: (02) 4725 2100, Fax: (02) 4732 3666, E-mail: hotline@sca.nsw.gov.au, Web: www.sca.nsw.gov.au (or field offices).

7.7 NSW DEPARTMENT OF HEALTH

NSW Health is responsible for the administration of the *Public Health Act 1991* – 'an Act relating to the maintenance of proper standards of health for the public and for other purposes'.

The Public Health Act provides power to make certain orders and give directions during a state of emergency and at times in regard to the disinfection or destruction of items and the closure of water supplies and premises.

The Public Health Act and advice on issues relating to the public health and protection of the safety of food, water and air are administered by Environmental Health Officers located in Public Health Units of the local Area Health Service.

Contact details

Phone: 02 9391 9000, E-mail: nswhealth@doh.health.nsw.gov.au

To contact the local Public Health Unit go to the website www.health.nsw.gov.au and look under 'Find your Local Health Service'.

8 GLOSSARY

Applicant

Any person or company submitting a DA for land-use approval (also called proponent or developer).

Appropriate regulatory authority

The authority responsible for development consent approval, other approvals or licences under environmental legislation, and/or for regulating or providing advice on development and operational issues – for example, the local council, DIPNR, or the DEC.

Bioaerosols

An aerosol that contains live or dead microorganisms or biological fractions.

Biosecurity

Protection from biological contaminants such as disease organisms.

Broiler

Chicken raised for meat (also called meat chicken).

Buffer zone

A buffer zone is the land between potentially incompatible land uses that provides separation so that the impacts of one land use can be 'diluted by distance' to a level that is tolerable or acceptable at the sensitive land use or receptor. In establishing a buffer, both existing and likely future sensitive receptors need to be taken into consideration.

If a buffer area is to be considered as part of the mitigation strategy for a poultry farm, it should be ideally owned or leased by the farmer. If not, there should be discussions with the current landowners to gain their agreement to use their land as a buffer area. However, it must be recognised that landowners and land uses may change in time, and this approach may not provide a secure mitigation strategy for the longer term.

Conditional consent

Approval of a DA by a consent authority subject to one or more binding conditions.

Consent authority

Authority responsible for approving a DA (usually the local council or DIPNR).

Composting

Breakdown of organic matter by microbial action.

Designated development

A development with the potential for significant environmental effects, and therefore requiring an Environmental Impact Statement (EIS) to accompany the DA. Criteria for designated developments are determined in the Environmental Planning and Assessment Act. Many designated developments will also require a licence from the DEC.

Development Application (DA)

Application to a consent authority for approval to develop or alter land use.

Development Control Plan (DCP)

Council guidelines for development, often with prescriptive measures for setbacks of sheds, etc.

Drinker

Source of drinking water for chickens, usually in the form of a nipple or cup.

Environmental Impact Statement (EIS)

A detailed assessment of the potential environmental impacts of a proposed development. The EIS is submitted as part of the DA. An EIS is necessary for designated developments, and may be required for non-designated developments.

Environmental Management Plan (EMP)

A plan developed by the applicant to explain how they will manage the environmental impact of their operations. Based on an Environmental Management System (EMS) approach.

Environmental Management System (EMS)

A system developed using a 'plan, do, check and act' approach, with a philosophy of continual

improvement of the system and operation to manage environmental impact of operations.

Integrated development

A development that requires one or more licences or approvals as well as development consent. Determination of approvals and licences is integrated with determination of development consent. Many designated developments are integrated developments.

Litter

Bedding material used on the shed floor to help absorb moisture from the manure. Examples are shavings, sawdust, rice hulls, paper and straw. Litter is no longer 'fresh' when it contains poultry manure. Litter can be used as a fertiliser or soil conditioner because of its nitrogen, phosphorus, potassium and organic matter content.

Local Environmental Plan (LEP)

A plan formulated by the local government that specifies planning controls in a local government area, including zoning into land-use categories. The LEP outlines the permitted and prohibited uses for each zone and sets standards for certain aspects of land use.

Nutrient balance

Matching of nutrient application rates with safe soil-storage ability, crop uptake and allowable losses to avoid pollution and ensure environmentally sustainable nutrient application.

Planning focus meeting (PFM)

A meeting, usually held on the site of the proposed development, to identify the issues to be covered in the DA. The meeting is usually attended by the applicant, their consultant/s, representatives from local and State government agencies, and other potentially involved parties.

Principal Certifying Authority (PCA)

An accredited certifier that ensures work is done in accordance with the development consent and approved construction plans.

Protection of the Environment Operations Act (PoEO Act)

Legislation administered by the DEC for the purpose of environmental protection and pollution control.

Regional Environmental Plan (REP)

A plan formulated by DIPNR that specifies planning controls in a regional area and provides the framework for local environmental plans (LEPs), for example, for the Hunter Valley, North Coast, or Sydney.

Responsible authority

An authority responsible for providing advice on planning, development and operational issues (but without approval authority) – for example, NSW Agriculture.

Scheduled activities

Activities that require licensing by the DEC under the PoEO Act. Many designated developments are classed as scheduled activities.

Sensitive land use

A land use that may be sensitive to environmental impacts from a proposed or existing development: for example, dwellings, hospitals and schools, where people are present for extended periods of time. Also includes natural resources such as waterways, wetlands and water catchments.

Sensitive receptor

A person or people that may be sensitive to environmental impacts from a proposed or existing development, including those associated with residences, schools and hospitals.

Separation distance

The distance between the point of generation of an environmental impact and a receptor sensitive to that impact.

Statement of Environmental Effects (SEE)

An assessment of the potential environmental impacts of a proposed development, submitted with the DA.

State Environmental Planning Policies (SEPP)

Policies formulated by DIPNR that specify planning controls to deal with issues significant to the State.

Waterbody

A **natural waterbody** including a lake or lagoon either naturally formed or artificially modified; or a river or stream, whether perennial or intermittent, flowing in a natural channel with an established bed or in a natural channel artificially modifying the course of the stream; or tidal waters including any bay, estuary or inlet; or

An **artificial waterbody** including any constructed waterway, canal, inlet, bay, channel, dam, pond or lake, but not including a dry detention basin or other construction that is only intended to hold water intermittently or an artificial waterbody associated with the facility; or

A **natural wetlands** including marshes, mangroves, backwaters, billabongs, swamps, sedgelands, wet meadows or wet heathlands that form a shallow waterbody (up to 2 metres in depth) when inundated cyclically, intermittently or permanently with fresh, brackish or salt water, and where the inundation determines the type and productivity of the soils and the plant and animal communities, or

An **artificial wetlands** including marshes, swamps, wet meadows, sedgelands or wet heathlands that form a shallow waterbody (up to 2 metres in depth) when inundated cyclically, intermittently or permanently with water, and are constructed and vegetated with wetland plant communities, but does not include an artificial wetlands associated with the landfill site.

9 REFERENCES AND FURTHER READING

Animal welfare

ARMCANZ 2002. *Model Code of Practice for the Welfare of Animals – Domestic Poultry* (4th edition). Agricultural and Resource Management Council of Australia and New Zealand. CSIRO Publications, Melbourne.

Planning

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DUAP 2001. *Planning Focus: Good Practice Guidelines*. NSW Department of Urban Affairs and Planning, Sydney.

NSW Agriculture. *Intensive Agriculture and Development Control Process*. Agnote DPI/261, December 1999. (www.agric.nsw.gov.au/reader/3177)

NSW Agriculture. *Guidelines for the upgrade or expansion of poultry meat farmers*. Agnote DAI-291, April 2003. (www.agric.nsw.gov.au/reader/148)

Planning NSW *Lodging a DA with us* (www.planning.nsw.gov.au/assessingdev/da_steps.html)

Chemical use

Department of Agriculture, Fisheries and Forestry – Australia 2000. *Draft National Guidelines for Spray Drift Reduction of Agricultural Chemicals*. Agricultural and Veterinary Chemicals Policy Committee on behalf of Standing Committee for Agriculture and Resource Management. Department of Agriculture, Fisheries and Forestry – Australia, Canberra, August.

NSW Agriculture 1998. *Principles of Spray Drift Management*. NSW Agriculture, Orange.

WorkCover NSW 1998. *Code of Practice for the Safe Use and Storage of Chemicals (Including Pesticides and Herbicides) in Agriculture*. WorkCover NSW, Sydney.

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Parsons J. M. (ed) (1995) *Australian Weed Control Handbook*, Inkata Press, Sydney

Environmental management systems and plans

DLWC 1997. *Preparing an Erosion and Sediment Control Plan*. Department of Infrastructure, Planning and Natural Resources, Maitland.

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RIRDC 2002. *National Environmental Management System for the Meat Chicken Industry*. Rural Industries Research and Development Corporation, Sydney, February.

Effluent

NSW Department of Local Government 1998. *Environment and Health Protection Guidelines: On-site Sewage Management for Single Households*. Department of Local Government, Nowra.

NSW EPA 1995. *Draft Guidelines for the Utilisation of Treated Effluent by Irrigation*. NSW Environment Protection Authority, Sydney.

Noise

NSW EPA 1999. *Environmental Criteria for Road Traffic Noise*. NSW Environment Protection Authority, Sydney.

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Nutrient Management

NSW Agriculture 2003. *Best practice guidelines for using poultry litter on pastures*, 3rd edition, Agnote, NSW Agriculture, Orange.

NSW EPA 1995. *Draft Guidelines for the Utilisation of Treated Effluent by Irrigation*. NSW Environment Protection Authority, Sydney.

Odour

NSW EPA 2001. *Draft Policy: Assessment and Management of Odour from Stationary Sources in NSW*. NSW Environment Protection Authority, Sydney.

NSW EPA 2001. *Technical Notes. Draft Policy: Assessment and Management of Odour from Stationary Sources in NSW*. NSW Environment Protection Authority, Sydney.

Dust

NSW EPA 2001. *Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW*. NSW Environment Protection Authority, Sydney.

Biosecurity

Australian Chicken Meat Federation 2002. *Broiler Industry Biosecurity Code*. Australian Chicken Meat Federation, Sydney.

Sediment/Erosion

Department of Housing 1995. *Managing Urban Stormwater: Soils and Construction*. NSW Department of Housing, Sydney.

Spray Drift

CSIRO Publishing 2002. *Spray Drift Management – Principles, Strategies and Supporting Information*. CSIRO, Collingwood, Victoria

Surface water, ground water, soils and waste

Department of Housing 1998. *Managing Urban Stormwater: Soils and Construction*. NSW Department of Housing, Sydney.

NSW EPA 1999. *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid Wastes*. NSW Environment Protection Authority, Sydney.

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APPENDIX I: ISSUES TO ADDRESS BEFORE SUBMITTING A DEVELOPMENT APPLICATION FOR A MEAT CHICKEN FARM IN NSW

1. BEFORE LAND PURCHASE

Consult with local council

The first step in strategic planning for a new meat chicken farm (or expansion of an existing one) is to consult with the local council to find out whether their strategic plan (local environmental plan) includes provisions that are likely to encourage or constrain chicken meat farming in their local government area. This will help identify localities that are likely to be most appropriate for meat chicken farming in the medium to long-term. This step should be done before the purchase of the land.

The local council can also provide advice on:

- the level of development assessment your proposal will need to undergo
- who the consent authority will be (either the local council or the Department of Infrastructure, Planning and Natural Resources – DIPNR)
- the type of information that will need to accompany your DA
- additional licences/approvals that you may need to obtain (for example, water licences, approval to clear native vegetation).

Identify and evaluate potential properties

Individual blocks can be identified once you have found an appropriate locality. Perform a preliminary evaluation as to their suitability on the basis of practical, financial and environmental factors. (These are discussed in detail in section 5 of these Guidelines.) Issues to consider include:

- zoning and other provisions under environment planning instruments such as the local environmental plan (LEP)
- size and shape of land
- access to the processing plant, hatchery, feedmill and services, including distance and suitability of roads for trucks

- water and power supply
- drainage and flooding issues
- topography and vegetation
- separation from other poultry farms
- separation from residences and other sensitive land uses
- bushfire risk.

Hold a planning focus meeting

For major developments where there are a large number of issues to be considered, a Planning Focus Meeting is recommended before the DA is submitted so that relevant parties can meet and discuss the proposal. A planning focus meeting is held on-site between:

- you (the proponent)
- your consultants
- representatives from the local council
- appropriate State Government agencies
- other potentially involved parties.

This meeting will help the proponent identify the issues to be covered in the DA and will often save time and money.

It is also advisable to consult with your neighbours about the proposal and identify their potential concerns.

2. REQUIREMENTS FOR THE DA

The DA generally comprises a form from the consent authority (generally the local council) and a document that should provide a description of the proposal, assess the likely impacts of the proposal on the environment, and justify the undertaking of the enterprise. This document is known as a Statement of Environmental Effects (SEE), or, for designated developments, an Environmental Impact Statement (EIS).

Before you submit your DA check that you have:

- completed and signed all appropriate sections of the DA form

- attached the required number of copies of associated documentation
- locality maps
- site and building plans that are drawn to an appropriate scale and show the direction of north
- an environmental impact statement/ statement of environmental effects
- an environmental management plan
- included payment for the DA fees.

Environmental Impact Statement/ Statement of Environmental Effects

The following outline is a guide as to what needs to be included in an EIS/SEE. In either case the level of assessment should match the level of impact of the proposed enterprises.

Part A: Information about the location

Planning information

Have you provided information on the following?

- property title and ownership details
- whether the proposal is consistent with any relevant State Environmental Planning Policy (SEPP), Regional Environmental Plan (REP) or Local Environmental Plan (LEP) and zoning
- any approvals and licences required.

Site and locality description

Have you included maps and plans that show the following?

- the general location of the property in relation to major towns and roads
- the property boundary, existing vegetation, streams and access roads, power lines and the boundaries of neighbouring properties
- the location of existing sheds and facilities, access roads, truck parking, loading and turning areas, highlighting any changes.

Does your documentation briefly describe the following factors?

- soil type
- climatic conditions including wind strength and directions
- significant site features (for example, treed areas, wetlands, watercourses)
- existing land uses on the site
- land use on surrounding properties (existing and potential), including distances to neighbouring houses and property boundaries

- topography, drainage and flooding pattern, vegetation, soil type and ground water depth (particularly where there is on-site effluent/ manure disposal)
- distance to nearest poultry farm.

Part B: Description of the proposal

Objective

- Have you included a brief statement outlining the reason for the proposed development (why you are doing it, what it will achieve)?

Previous and existing operations

Have you briefly described the following?

- the history of poultry operations and approvals
- the current operations and facilities
- existing bird numbers and recent enterprise changes or upgrades

Description of proposed operations

Have you briefly described the nature and scale of the proposed development and resultant operation, including the following?

- number and type of sheds, including associated structures (for example, machinery, amenities)
- maximum bird numbers and density
- growing cycles and frequency of clean out
- type of machinery to be used (for example, for shed clean-out, waste management and bird disposal)
- description of processor and grower responsibilities
- production and/or processing facilities (if any)
- road access and proposed vehicle movements
- power supply
- total water requirements (including water for drinking, cooling, cleaning, dust suppression and any other uses such as toilets and showers)
- water source and storage (location and size of dams and tanks, water quality, monitoring and treatment options)
- dead bird and used litter management
- heating, cooling and ventilation systems
- options to minimise energy use (for example, shed orientation, insulation)
- an outline of any construction to be undertaken (including any staging of development)

- emergency contingency plans (for example, for power failure, mass mortality events)
- projected life of the operation
- consideration of alternatives
- alarm and backup systems
- shed design and materials to be used
- elevation and visibility of sheds
- earthworks, including dam construction
- erosion and sediment control measures to achieve effective stormwater management during construction and operation
- number of employees
- rodent control
- feed and water system
- landscaping plan (type and number of trees, irrigation system).

Site and building plans

Have you included plans that clearly indicate the locations of the following?

- existing and proposed sheds, buildings and facilities (for example, silos: differentiate between existing and proposed)
- any significant vegetation to be disturbed
- dead bird treatment and/or disposal areas
- poultry litter, stockpile and land application areas
- landscaping (for example: screening plants, mounds)
- water storage areas
- vehicle parking, loading and turning areas and access roads
- building plans, specifications.

Part C: Assessment and management of environmental issues

Identify potential environmental issues and proposed mitigation measures, including the development of an Environmental Management Plan (EMP). For more information on environmental impacts and how to manage them, refer to section 6 of these guidelines.

- impacts on native vegetation and, if relevant, threatened species, populations and ecological communities
- list of all approvals and licences required
- economic and social effects
- bushfire protection
- surface, ground water and soils

- odour
- noise
- dust
- light
- visual impacts and landscaping
- traffic
- pests
- chemical usage (spray drifts and spills)
- management of waste and nutrient reuse
- community liaison and compliance management.

An EMP specifies operational and management standards and practices, and also develops strategies and measures for minimising environmental risks and contingency actions for managing environmental problems that may arise. For further information on the content of the EMP refer to section 6.1 of the Guidelines.

- Have you developed an EMP that addresses management of the environmental issues (risk events) identified?