AUSTRALIAN VETERINARY EMERGENCY PLAN

AUSVETPLAN

Disease strategy

Swine vesicular disease

Version 4.0

AUSVETPLAN is a series of technical response plans that describe the proposed Australian approach to an emergency animal disease incident. The documents provide guidance based on sound analysis, linking policy, strategies, implementation, coordination and emergency-management plans.

National Biosecurity Committee

ISBN 0 642 24506 1 (printed version)

ISBN 1 876 71438 7 (electronic version)

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Approved citation

Animal Health Australia (2016). Disease strategy: Swine vesicular disease (Version 4.0). Australian Veterinary Emergency Plan (AUSVETPLAN), Edition 4, National Biosecurity Committee, Canberra, ACT.

DISEASE WATCH HOTLINE: 1800 675 888

The Disease Watch Hotline is a toll-free telephone number that connects callers to the relevant state or territory officer to report concerns about any potential emergency disease situation. Anyone suspecting an emergency disease outbreak should use this number to get immediate advice and assistance.

Publication record

Edition 1
1991

Edition 2
Version 2.0, 1996 (major update)

Edition 3
Version 3.0, 2009 (major update to Edition 3)
Version 3.1, 2012 (major update, including addition of movement control matrices)

Edition 4
Version 4.0, 2016 (incorporation into the Edition 4 format and generic text)

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1 Introduction

1.1 Scope of this manual

This disease strategy for the management of an outbreak of swine vesicular disease (SVD) in Australia is an integral part of the **Australian Veterinary Emergency Plan**, or **AUSVETPLAN (Edition 4)**. AUSVETPLAN structures and functions are described in the [AUSVETPLAN **Overview Document** - in preparation] . The disease strategy provides information about the disease (Section 2); the relevant risk factors and their treatment, and the options for management of a disease outbreak, depending on the circumstances (Section 3); the starting policy and guidelines for agencies and organisations involved in a response to an outbreak (Section 4); declared areas and premises (Section 5); quarantine and movement controls (Section 6); and how to establish proof of freedom (Section 7). The key features of SVD are described in the SVD [**Fact Sheet** - under development].

This manual has been produced in accordance with the procedures described in the [AUSVETPLAN **Overview Document** - in preparation] and in consultation with Australian national, state and territory governments, and the relevant livestock industries, as well as public health authorities, where relevant.

In this manual, text placed in square brackets [xxx] indicates that that aspect of the manual remains contentious or is under development; such text is not part of the official manual. The issues will be worked on by experts and relevant text included at a future date.

1.2 Structure of AUSVETPLAN

Guidelines for the field implementation of AUSVETPLAN are contained in the disease strategies, response policy briefs, operational manuals and management manuals. Industry-specific information is given in the relevant enterprise manuals. The full list of AUSVETPLAN manuals that may need to be accessed in an emergency is shown below. The complete series of manuals is available on the Animal Health Australia website.[1]

Table 1.1a AUSVETPLAN documents

Document type	**Manuals**
Summary document	Background information about AUSVETPLAN rationale, development and maintenance

[1] www.animalhealthaustralia.com.au/programs/emergency-animal-disease-preparedness/ausvetplan/

Table 1.1b AUSVETPLAN documents

Document type	**Manuals**
Disease strategies	Individual disease and policy information for most of the diseases listed in the EADRA
	Bee diseases and pests
Response policy briefs	Summary disease and policy information for each EADRA disease not covered by individual disease strategies (see above)
Operational manuals	Decontamination
	Destruction of animals
	Disposal
	Livestock welfare and management
	Valuation and compensation
	Wild animal response
Enterprise manuals	Artificial breeding centres
	Feedlots
	Meat processing
	Saleyards and transport
	Pig industry
	Poultry industry
	Wool industry
	Zoos
Management manuals	Control centres management (Parts 1 and 2)
	Laboratory preparedness
Outbreak manuals	Collations of individual disease, operational and enterprise information for use in an emergency disease outbreak

EADRA =
Government and Livestock Industry Cost Sharing Deed in Respect of Emergency Animal Disease Responses (see www.animalhealthaustralia.com.au/programs/emergency-animal-disease-preparedness/ead-response-agreement)

1.3 Nationally agreed standard operating procedures

Nationally agreed standard operating procedures (NASOPs)[2] have been developed for use by jurisdictions during responses to emergency animal disease (EAD) incidents and emergencies. These procedures underpin elements of AUSVETPLAN and describe in detail specific actions undertaken during a response to an incident.

1.4 World Organisation for Animal Health listing

The World Organisation for Animal Health (OIE) *Terrestrial Animal Health Code* (2012) includes SVD on its list of notifiable diseases as a swine disease.

OIE-listed diseases are diseases with the potential for international spread, significant mortality or morbidity within the susceptible species, and/or zoonotic spread to humans.[3] OIE member countries that have been free from a notifiable disease are obliged to notify the OIE within 24 hours of confirming the presence of the disease.

The strategies in this document for the diagnosis and management of an outbreak of SVD are based on the recommendations in the OIE *Terrestrial Animal Health Code* (2012) (Chapter 15.4) and the OIE *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals* (Chapter 2.8.9). The strategies and policy guidelines are for emergency situations, and are not applicable to quarantine policies for imported livestock or livestock products.

1.5 Australian emergency animal disease listing

In Australia, SVD is included as a Category 3 emergency animal disease in the *Government and Livestock Industry Cost Sharing Deed in Respect of Emergency Animal Disease Responses* (EADRA).[4] Category 3 diseases are those for which costs will be shared 50% by government and 50% by industry.

1.6 Manner and risk of introduction to Australia

SVD is thought to have originated in Asia but has been reported in the United Kingdom, many European countries and Hong Kong. It has been eradicated from most of the European Union but continues to circulate in southern Italy.

SVD virus persists in frozen tissue, including skin, muscle, rib bone and kidney; and in dried products, including salami, pepperoni and intestinal casings, and some salted, dried ham products.

[2] www.animalhealthaustralia.com.au/programs/emergency-animal-disease-preparedness/nasops

[3] These criteria are described in more detail in Chapter 1.2 of the OIE Terrestrial Animal Health Code (www.oie.int/index.php?id=169\&L=0\&htmfile=chapitre_1.1.2.htm)

[4] Information about the EAD Response Agreement can be found at www.animalhealthaustralia.com.au/programs/emergency-animal-disease-preparedness/ead-response-agreement

These products are the most likely sources of infection. SVD virus has not been detected in cooked, canned ham.

The most significant risk of entry of SVD into Australia is via importation of contaminated equipment or illegal importation — by passengers on aircraft or ships, or via the post — of infected pig products that are swill-fed to domestic pigs or accessed by feral pigs. (Swill feeding is illegal in Australia.) There is also a risk from garbage discarded by fishing vessels or yachts.

SVD has the potential to become established in the feral pig population in remote and rural regions as a result of feral pigs scavenging infected refuse. Secondary spread to outdoor piggeries could introduce SVD to the domestic pig population. Local backyard, small commercial and medium–large piggeries would be most at risk.

In 2004, Australia released a final Import Risk Analysis (IRA) report for pigmeat. Quarantine requirements to manage the risk of SVD include sourcing from pigs that have been kept since birth in a country or zone free from SVD, sourcing from serologically negative herds in areas where SVD is notifiable, heating and canning, and country or zone freedom. There is no policy for importation into Australia of live pigs, porcine genetic material or offal, all of which are illegal.

1.7 Social and economic effects

The extent of the social and economic effects of SVD would depend on how quickly it was differentiated from foot-and-mouth disease (FMD), the severity and location of the outbreak, and the speed with which it was contained and eradicated. The similarity of the disease to FMD is likely to affect the cattle, sheep and goat export industries, at least in the short term until FMD is excluded.

2 Nature of the disease

Swine vesicular disease (SVD) is an acute, highly contagious viral disease of pigs. The disease is characterised by the formation of vesicles on the feet and lower limbs, and to a lesser extent on the snout. These vesicles are clinically indistinguishable from those caused by foot-and-mouth disease (FMD), vesicular stomatitis and vesicular exanthema. SVD virus is highly resistant to inactivation, a feature of major importance in the epidemiology and control of the disease.

2.1 Aetiology and pathogenicity

SVD is caused by an enterovirus of the family *Picornaviridae*. There is only one serotype, although minor antigenic differences have been noted between some isolates. Isolates vary in virulence. Viruses from the recent epidemic of SVD in Europe have been isolated and characterised by antigenic and genetic methods that indicated the likely epidemiological origins of the disease.

2.2 Susceptible species

Clinical disease has been observed only in pigs.

Small amounts of virus may be recovered intermittently from pharyngeal and rectal swabs, and from milk from cattle housed with experimentally infected pigs. There is some indication of virus growth in in-contact sheep, as virus can be recovered from the pharynx for up to 6 days after exposure to infected pigs, and such sheep also develop antibody (Callender 1978). Nervous signs may be produced in infant mice inoculated with the virus (Watson 1981). Mink may also be susceptible to infection (Sahu 1987).

SVD virus is related to human coxsackie B5 virus, and respiratory signs, possibly due to the virus, have been reported in people working with SVD virus in the laboratory. SVD was not reported before 1966 and may represent a human coxsackie B5 variant adapted to swine.

2.3 World distribution and occurrence in Australia

2.3.1 World distribution

The disease was first recognised in Italy in 1966. An outbreak occurred in Hong Kong in 1971, and was followed by simultaneous outbreaks in Britain, Austria and Poland in 1972. Since then, the disease has occurred in several European countries and in Hong Kong, Japan and Taiwan. The World Organisation for Animal Health (OIE) reports that the disease continues to occur in

Portugal and southern Italy. The disease is not present in North, Central or South America. It may be present but has not been confirmed in some countries in Asia.

For the latest information on the distribution of SVD, refer to the website of the OIE World Animal Health Information Database (WAHID).[5]

2.3.2 Occurrence in Australia

There have been no occurrences of SVD in Australia.

2.4 Epidemiology

Key factors in the epidemiology of SVD are as follows:

- The virus is highly resistant to inactivation.
- Pigs are mainly infected by ingestion of infected feedstuff, by direct contact with infected pigs, or by contact with contaminated surfaces.
- The disease may be mild and difficult to detect.

2.4.1 Incubation period

The incubation period in natural outbreaks is 2–7 days. Experimentally infected pigs develop lesions within 48 hours of intradermal inoculation into the foot, and generalisation of the disease occurs within 72 hours.

2.4.1.1 OIE incubation period

The OIE *Terrestrial Animal Health Code* (2012) describes the longest incubation period for SVD as 28 days.

2.4.2 Persistence of agent and modes of transmission

2.4.2.1 General properties

The SVD virus particle is lipid free and highly resistant to inactivation, a feature of great epidemiological significance.

[5] http://web.oie.int/wahis/public.php?page=home

2.4.2.2 Environment (including windborne spread)

SVD virus is:

- relatively stable over a pH range of 2–12, depending on time and temperature (Mann 1981)
- more resistant to heating and desiccation than FMD virus (Geering et al 1995)
- able to withstand freezing, and resistant to heat up to 69 °C (Loxam and Hedger 1983), although it can be inactivated by holding at 60 °C for 10 minutes.

The virus resists treatment with detergents and many commonly used disinfectants. In the presence of organic matter, it resists desiccation. It is protected by manure, fats and other organic matter, which must be completely removed during cleaning. Infective virus has been found in crevices in farm buildings for up to 11 weeks after rigorous cleaning and disinfection.

Unlike FMD, airborne transmission of SVD is not a significant feature. However, the spraying of contaminated effluent onto pastures could result in airborne spread for a short distance downwind.

2.4.2.3 Susceptible animals

Live domestic animals

During viraemia, skin, muscle and lymph nodes contain much virus. Large quantities of virus are shed in vesicular fluids and other body excretions and secretions, including faeces, starting within 1 day of infection (during the incubation period) and peaking within several days. Shedding usually ceases within 14 days, but can continue for up to 3 months, especially in faeces. The infectivity of affected pigs is low after a month.

The virus enters the host pig through damaged epithelia, usually the skin of the feet, and multiplies in epithelial cells. When exposed to large amounts of virus, pigs can also become infected by ingestion, via the tonsils and digestive mucosa.

The disease spreads rapidly by direct contact between pigs. Movement of preclinically infected or mildly affected pigs is the major means of secondary spread of disease during an outbreak.

Infected pigs can readily enter the food chain. Lesions would rarely if ever be observed during processing; in the United Kingdom, the disease has never been reported from abattoirs.

There is no evidence for vertical transmission. There is little evidence that the virus perpetuates in chronically or latently infected pigs, and the disease will eventually disappear from a herd if left to run its course. No reservoir hosts are known.

Although experimental infection of sheep and cattle with SVD virus has been reported, these species do not appear to have played any part in disease transmission in the field (Callender 1978).

2.4.2.4 Animal products

SVD virus is able to survive almost indefinitely in refrigerated or frozen pigmeat and has been shown to persist in the muscle of frozen pig carcases for at least 11 months (MacDiarmid 1991).

In lactic acid–cured smoked salami and pepperoni sausages, SVD virus was still detectable after 400 days (MacDiarmid 1991). In processed intestinal casings, it has survived for at least 780 days (Loxam and Hedger 1983). SVD virus has not been detected in cooked, canned ham.

SVD virus can survive in pig faeces for at least 138 days, and this is a common means of disease transmission.

2.4.2.5 Animal byproducts

Meatmeal

The transmission of SVD virus via meat or meat products is well documented. Eighty of 518 outbreaks of SVD (15%) occurring in Great Britain between 1972 and 1981 were attributed to the feeding of contaminated waste food to pigs (Hedger and Mann 1989).

Outbreaks usually start when pigs are infected by contact with, or ingestion of, feed containing infected pork products. Swill feeding has been responsible for most primary outbreaks, and has also contributed to subsequent spread or recurrent outbreaks of the disease in many countries. The disease entered the United Kingdom in pork from Hong Kong illegally imported via Denmark.

2.4.2.6 Semen and embryos from live susceptible animals

Spread via semen is unlikely.

The International Embryo Transfer Society (IETS) has categorised SVD as a Category 3 disease. This means that preliminary evidence indicates that transmission via in vivo–derived embryos is negligible provided that correct handling and transfer procedures are followed (according to the IETS Manual); however, additional experimental work is necessary to substantiate these findings.[6]

See also the **Artificial Breeding Centres Enterprise Manual**.

2.4.2.7 Waste products and effluent

Most spread within a farm is due to movement of pigs between pens or the existence of a common open drainage system.

Effluent from infected piggeries that drains onto roads or pastures, or into creeks could infect or contaminate animals, vehicles, equipment or people coming into contact with it. Disease could spread via contaminated piggery drinking water supplies.

[6] Manual of the International Embryo Transfer Society, IETS, Savoy, IL, USA (www.iets.org/pubs_educational.asp)

2.4.2.8 Equipment, including personal items

The virus can survive for many months in contaminated buildings and vehicles, and on pastures.

Indirect spread from pen to pen or farm to farm can occur via materials contaminated with infected faeces or urine, but this form of transmission is erratic. However, many outbreaks have been associated with the movement of pigs in contaminated vehicles.

2.4.2.9 Vectors

Mechanical spread by people, rodents, insects and birds can occur but is of relatively minor importance.

2.4.3 Factors influencing transmission

SVD virus is stable over a range of environmental temperatures. However, it survives longer at lower temperatures, so indirect transmission may be increased in cooler weather conditions.

Watson (1981) analysed the origin of 474 outbreaks of SVD in the United Kingdom. The relative importance of different sources of infection were as follows: movement of pigs in contaminated transport (20%), movement of pigs from infected premises (16%), swill (15%), market contacts (12%), movement of personnel (4%), local spread (3%), residual contamination on previously infected but cleaned premises (3%), movement of nonlivestock vehicles (3%), contaminated bakery waste (<1%), and obscure (23%).

2.5 Diagnostic criteria

SVD is clinically indistinguishable from the other vesicular diseases of pigs, notably FMD. Any vesicular disease in pigs must be regarded as suspicious for FMD until proven otherwise. Recent or concurrent disease in other livestock, especially cattle and horses, should be investigated to assist differential diagnosis.

2.5.1 Case definition

For the purpose of this manual, the case definition for SVD is clinical signs of SVD in pigs accompanied by a confirmed laboratory diagnosis.

2.5.2 Clinical signs

The clinical signs of SVD are often mild and easily missed, particularly in muddy yards or in automated piggeries where the animals are infrequently observed. Affected pigs recover rapidly. Lesions develop rapidly after exposure to the virus in an infected environment (Dekker et al 1995).

Lesions might be detected only when animals are individually examined. Signs and lesions tend to be more severe in pigs housed on rough or hard surfaces.

The earliest clinical signs are fever and loss of appetite, which last for 1–3 days. Affected pigs are lethargic and unwilling to stand. Pregnant sows may abort.

Blanched epithelium and blisters (vesicles) appear around the coronary bands of the digits. The vesicles range from small, single lesions to numerous, coalescing blisters encompassing the whole coronary band. The vesicles rupture easily within 36 hours, leaving a shallow ulcer with ragged epithelial edges that quickly granulate. Affected animals may be acutely lame, but this is not a constant feature, even with severe foot lesions. The coronary band, horn and sole may separate from the underlying tissue, but the hoof rarely sloughs. The line of separation appears as a dark horizontal line that progressively moves down the hoof with new horn growth. Cracked walls are common, and the digits may overgrow.

The amount of new horn growth on the claws of recovered animals can provide a guide to how long infection has been present in a herd (Henderson 1947). Following an incubation period of 7 days, and then a further 7 days for lesions to mature and new horn growth to commence, horn growth occurs at 2 millimetres per week in weaners and 1 millimetre per week in sows. All eight (cleaned) claws on several pigs should be examined. If many claws have lesions of similar age, the time of introduction of infection can be estimated.

Lesions may extend to the skin of the lower limb and occasionally the abdomen, thorax and teats. These lesions may appear more necrotic than vesicular. In about 10% of cases, vesicles develop on the snout, but rarely occur in the mouth. Snout lesions are sometimes haemorrhagic in appearance. Tongue lesions rupture and heal quickly. The development and distribution of lesions are related to trauma.

Diarrhoea, central nervous signs, encephalitis and myocarditis have been reported.

Morbidity may approach 100%, but the case mortality rate is negligible.

2.5.3 Pathology

2.5.3.1 Gross lesions

Gross lesions are restricted to vesicle formation and resolution.

2.5.3.2 Microscopic lesions (histopathology)

The histopathology of SVD lesions cannot be differentiated from that of FMD. A mild to moderate diffuse encephalomyelitis with perivascular cuffing and the formation of neuroglia foci has been described in experimentally produced disease (Geering et al 1995).

2.5.4 Differential diagnosis

The following diseases and causes should be considered in a differential diagnosis of SVD:

Other emergency animal diseases

- FMD (refer to the **Disease Strategy** for FMD)
- vesicular stomatitis (refer to the **Disease Strategy** for vesicular stomatitis)
- vesicular exanthema (refer to the **Response Policy Brief** for vesicular exanthema)

Dermatitis

- scalding
- wetting
- contact dermatitis
- photosensitisation

Phytophotodermatitis

- contact with certain plants containing furocoumarins (especially members of the Umbelliferae family — parsnip, celery, parsley), resulting in photosensitisation (Pathak et al 1962, Montgomery et al 1987ab)

Lameness

- laminitis
- bad floors
- new concrete
- mud
- erysipelas.

2.5.5 Laboratory tests

2.5.5.1 Samples required

Specimens required include vesicular fluid, vesicular lesion epithelial coverings or flaps, whole blood and sera. From dead animals, fresh and formalin-treated samples from several tissues, including brain, are required.

2.5.5.2 Transport of specimens

Specimens should be forwarded to the CSIRO Australian Animal Health Laboratory (CSIRO-AAHL), Geelong, for emergency disease testing, after the necessary clearance has been obtained from the chief veterinary officer (CVO) of the state or territory of the suspect case, and after the CVOs of Victoria and Australia have been informed about the case and the transport

of the specimens to Geelong. Sample packaging and consignment for delivery to CSIRO-AAHL should be coordinated by the relevant state or territory laboratory.

For some diseases (bluetongue, Hendra virus infection, influenza (any species), Newcastle disease), the state or territory diagnostic laboratory may conduct initial screening under the Laboratories for Emergency Animal Disease Diagnosis and Response (LEADDR) program. LEADDR is a coordinated laboratory network that provides a collaborative program of test harmonisation and quality assurance. Specimens will be forwarded to CSIRO-AAHL for confirmation of non-negative results and for further testing and characterisation.

For further information, see the **Laboratory Preparedness Manual**.

Packing specimens for transport

Unpreserved tissues and blood specimens should be chilled and forwarded to the laboratory with frozen gel packs. If delays in transit of more than 48 hours are expected, these specimens should be forwarded packed with dry ice. For further information, see the **Laboratory Preparedness Manual**.

2.5.5.3 Laboratory diagnosis

Laboratory tests are essential for rapid confirmation of SVD and exclusion of FMD. Given the importance of FMD exclusion, any submission to CSIRO-AAHL for suspected SVD would be tested for FMD also.

Tests include enzyme-linked immunosorbent assay (ELISA) and quantitative real-time polymerase chain reaction (qPCR) tests, which can rapidly detect viral antigens or RNA in vesicular fluid or homogenates of epithelial tissue from lesions, and electron microscopy to visualise the virus. These tests are used to initially screen samples.

Antibodies to viral antigens appear in the serum 7–10 days after infection.

Virus isolation in cell culture provides the definitive diagnosis and is also useful for specimens with small amounts of virus. This procedure takes around 48 hours, or longer if passaging is required. Sequence analysis of selected genes or gene fragments can be used in molecular epidemiology.

Animal transmission is now rarely used for diagnosis.

CSIRO-AAHL tests

The testing method used by CSIRO-AAHL is shown in Figure 2.1. Further details of tests currently available at CSIRO-AAHL are shown in Table 2.1.

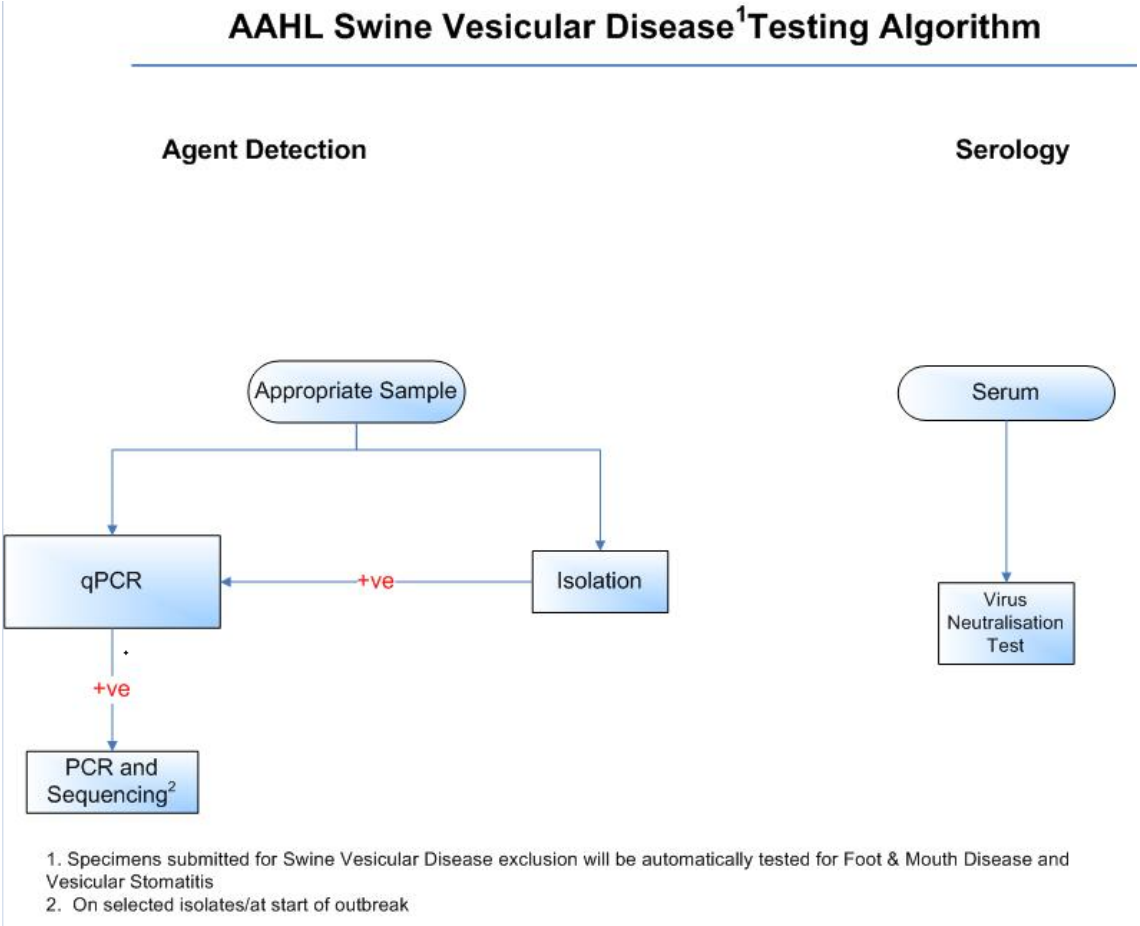

Figure 2.1 The current apprach to diagnostic testing at CSIRO-AAHL

Table 2.1a Laboratory tests currently available at CSIRO-AAHL for the diagnosis of swine vesicular disease

Test	Specimen required	Test detects	Time taken to obtain result
Agent detection			
Antigen ELISA	Vesicular fluid or epithelium	Viral antigen	3–4 hours

Table 2.1b Laboratory tests currently available at CSIRO-AAHL for the diagnosis of swine vesicular disease

Test	Specimen required	Test detects	Time taken to obtain result
qPCR	Tissue or vesicular fluid	Viral RNA	4–6 hours
Agent characterisation			
Electron microscopy	Tissue	Virus	3–4 hours
Virus isolation and identification	Tissue or vesicular fluid	Virus	2–4 days
PCR and sequencing	Fresh tissue, or virus isolate	Viral RNA	2–3 days
Conventional PCR	Tissue or vesicular fluid	Viral RNA	24 hours
Serology			
Serum neutralisation test	Serum	Antibody	3 days

ELISA = enzyme-linked immunosorbent assay; PCR = polymerase chain reaction; qPCR = quantitative real-time polymerase chain reaction
Source: Information supplied by CSIRO-AAHL, 2011 (refer to CSIRO-AAHL for the most up-to-date information)

2.6 Resistance and immunity

2.6.1 Innate immunity

Subclinical infection may occur if pigs are exposed to small amounts of virus, particularly by inhalation or ingestion. Stress may increase susceptibility to infection or the severity of disease. Young pigs tend to show more severe clinical signs than older pigs.

2.6.2 Adaptive immunity

Swine that have recovered from the disease have antibodies that protect them from reinfection (Fenner et al 1987). On some properties, the disease apparently runs its course and, once all animals are infected, peters out. On other properties, two waves of disease approximately 3 months apart have been observed.

2.7 Vaccination and/or treatment of infected animals

Effective experimental vaccines include inactivated adjuvanted vaccines and attenuated ('live') vaccines based on temperature-sensitive mutants (Watson 1981, Panina et al 1983). Since there is only one serotype of SVD, it should be possible to produce an effective vaccine. However, in endemic areas, the disease is too mild to warrant vaccination. Vaccination is not allowed in SVD-free areas of the European Union because it might mask the disease.

There is no known specific treatment for SVD. Palliative treatment may alleviate the signs, but will not prevent the spread of infection and may make the detection of infected animals more difficult.

3 Principles of control and eradication

3.1 Critical factors for formulating response policy

3.1.1 Features of the disease

- Swine vesicular disease (SVD) is an acute, highly contagious viral disease of pigs, characterised by the formation of vesicles on the feet and lower limbs, and to a lesser extent on the snout. These vesicles are clinically indistinguishable from those caused by foot-and-mouth disease (FMD), vesicular stomatitis and vesicular exanthema.
- The clinical signs of SVD are often mild and easily missed, particularly in muddy yards or in automated piggeries where the animals are infrequently observed. Subclinical infection may occur if pigs are exposed to small amounts of virus, particularly by inhalation or ingestion. Young pigs tend to show more severe clinical signs than older pigs.
- Affected pigs may recover rapidly, and there is no carrier state.
- Laboratory tests are available for rapid confirmation of SVD and exclusion of FMD, but the initial diagnosis may be delayed as a result of mild or inapparent clinical signs.
- SVD virus is highly resistant to inactivation. The virus resists treatment with detergents and many commonly used disinfectants; in the presence of organic matter, it resists desiccation. SVD virus is able to survive almost indefinitely in refrigerated or frozen pigmeat, and for many months in contaminated buildings and vehicles, and on pastures.
- There is no evidence of vertical transmission.
- There are no public health implications.
- Market fluctuations due to public health perceptions or product withdrawals would reduce the value of the industry.
- Trade in a wide range of animal products (ruminant and porcine) may be jeopardised because of similarities between the clinical signs of SVD and those of FMD in pigs.

3.1.2 Features of susceptible populations

- Feral pig and smallholder pig populations are not easily identified.
- Animals owned by such smallholders are more likely than those owned by commercial livestock producers to be exposed to emergency animal diseases because of their locations, biosecurity practices, relative lack of quality assurance programs, and so on (Perkins et al 2010).
- Overall, most of the risk of emergency animal disease outbreaks is associated with commercial livestock producers, rather than smallholders, because of their far greater numbers of animals and animal movements (Perkins et al 2010).
- Fear of repercussions may deter smallholders from reporting disease.
- The first infected premises identified may not be the index case.
- Intensive production systems are prone to rapid overcrowding if output is disrupted, with resultant animal welfare issues.

3.2 Options for control and eradication based on the critical factors

Based on the assessed critical factors, managing an incursion of SVD disease may require the use of some or all of the following options:

- registration of all commercial and small pig holdings (or another method of determining the location of domestic pigs, particularly those in smallholdings)
- application of mandatory biosecurity programs
- early determination of the extent of infection through rapid identification of infected and potentially infected premises (including piggeries, saleyards, meatworks and cold stores), using quickly instituted serosurveillance and animal tracing, based on an epidemiological assessment
- early elimination of FMD virus as the causative agent
- swift declaration and effective policing of control areas, and rapid imposition of quarantine and movement controls on infected and potentially infected premises, to prevent the movement of pigs, pig products and fomites carrying virus or potentially carrying virus, to minimise the exposure of susceptible pigs
- heightened swill-feeding prevention and assurance activities to prevent the recycling of infection
- elimination of infection from infected premises and/or infected pig populations by rapid destruction of pigs, sanitary disposal of carcasses and fomites, and decontamination
- implementation of appropriate zones and/or compartments
- recall of pigmeat and offal originating from infected domestic pig premises, and game meat sourced from possibly infected feral pig populations
- gaining of smallholder support
- management of feral pig populations.

The policy options for the control and eradication of SVD are:

- **observation with movement controls** — the disease will eventually disappear from a herd if left to run its course
- **stamping out** — prompt destruction and sanitary disposal of pigs infected with, or exposed to, SVD virus
- **modified stamping out** — to allow some pigs to be slaughtered for human consumption
- **industry program** — recognition of endemic status, using compartmentalisation and enhanced biosecurity in the commercial pig industry.

The policy to be implemented is described in Section 4.

4 Policy and rationale

4.1 Introduction

Swine vesicular disease (SVD) is a World Organisation for Animal Health (OIE)–listed disease that has the potential for rapid spread with significant production losses. It is of major importance in the international trade of pigs and pig products as it can be confused with foot-and-mouth disease (FMD).

4.1.1 Summary of policy

The policy with regard to an initial outbreak of SVD is to eradicate the disease by the most cost-effective method using one or more of the following approaches in infected piggeries:

- ***stamping out*, which involves quarantine, the destruction of all infected and exposed susceptible animals on infected premises, the sanitary disposal of destroyed animals and potentially contaminated animal products, and the decontamination of premises**
- ***modified stamping out*, which involves quarantine, and slaughter of all saleable exposed pigs at approved abattoirs if circumstances allow safe slaughter and processing capacity is available**
- **an industry program.**

These approaches will be supported by a combination of strategies including:

- ***early recognition* and laboratory confirmation of cases, including rapid identification of the virus to differentiate it from FMD**
- ***movement controls* over pigs, pig products and other potentially contaminated items in declared areas to minimise spread of infection**
- ***tracing and surveillance* (based on epidemiological assessment) to determine the source and extent of infection (including, as necessary, in feral pigs) and subsequently to provide proof of freedom from the disease**
- ***disposal* of destroyed pigs and *decontamination* of premises**
- ***destruction and disposal* of animal products likely to be contaminated, to reduce the source of infection**
- ***decontamination* of fomites (facilities, equipment and other items) to eliminate the pathogen**
- ***recall* of suspect pig products**
- ***zoning/compartmentalisation* to define disease-free areas and premises**
- **use of abattoirs for slaughter and disposal, where possible**
- ***industry support* to increase understanding of the issues, to facilitate cooperation, and to address animal welfare issues and on-farm biosecurity**
- ***a public awareness campaign*.**

In a situation in which SVD is considered not to be eradicable, the policy for long-term control (and possible eradication) of the disease will be determined following consultation between the government and the pig industry. The policy adopted may involve increased biosecurity and long-term compartmentalisation under an industry program.

4.1.2 Case definition

For the purpose of this manual, the case definition for SVD is clinical signs of SVD in pigs accompanied by a confirmed laboratory diagnosis.

4.1.3 Cost-sharing arrangement

In Australia, SVD is included as a Category 3 emergency animal disease in the *Government and Livestock Industry Cost Sharing Deed in Respect of Emergency Animal Disease Responses* (EADRA).[7] Category 3 diseases are those for which costs will be shared 50% by government and 50% by industry.

4.1.4 Criteria for proof of freedom

The OIE Terrestrial Code states that a country is considered to be free from SVD when it has been shown that the disease has not been present for at least the past 2 years. This period may be reduced to 9 months where a stamping-out policy has been practised.

According to the Terrestrial Code, an infected zone remains as infected until at least 60 days after the last case, and the completion of a stamping-out policy and disinfection procedures, or 12 months after the clinical recovery or death of the last affected animal if a stamping-out policy is not practised.

See Section 7 for further details on proof of freedom.

4.1.5 Governance

4.1.5.1 Chief veterinary officer

The chief veterinary officer (CVO) in the state or territory in which the outbreak occurs and, where relevant (for zoonotic diseases), the chief medical officer (CMO) are responsible for instituting control action within the state or territory. Where the jurisdiction plans to seek cost sharing of the response under the Emergency Animal Disease Response Agreement (EADRA), the CVO is

[7] Information about the EAD Response Agreement can be found at www.animalhealthaustralia.com.au/programs/emergency-animal-disease-preparedness/ead-response-agreement

also responsible for recommending an Emergency Animal Disease Response Plan (EADRP) for the particular outbreak to the Consultative Committee on Emergency Animal Diseases (CCEAD).

For cost-shared responses, CVOs will implement disease control measures as agreed in the EADRP and in accordance with relevant legislation. They will make ongoing decisions on follow-up disease control measures in consultation with the CCEAD and, where applicable, the National Management Group (NMG), based on epidemiological information about the outbreak.

Unaffected jurisdictions may also need to develop response plans to address jurisdictional activities that are eligible for cost sharing. Overall operational management of the incident rests with the CVO of the affected jurisdiction, with oversight by the CCEAD.

4.1.5.2 Consultative Committee on Emergency Animal Diseases

For diseases covered by the EADRA, the CCEAD, convened for the incident, has specific responsibilities (as per Schedule 8 of the EADRA), as follows:

- Receive formal notifications from governments on suspected emergency animal disease (EAD) incidents.
- Advise the NMG if an EADRP is required.
- Recommend to the NMG an EADRP.
- Consider regular reports on progress of an EAD response and develop a consensus on further actions required.
- Provide regular consolidated reports to the affected governments and industries, and to the NMG, on the status of an EAD response.
- In circumstances where rapid eradication of an EAD is judged no longer feasible, provide advice and recommendations to the NMG on when the EAD response should be terminated, when cost sharing should no longer apply, and options for alternative arrangements.
- Determine when a disease has been controlled or eradicated under an EADRP.
- Recommend when proof of freedom has been achieved following the successful implementation of an EADRP.

The CCEAD reports to the NMG when appropriate.

4.1.5.3 National Management Group

If convened for the specific incident, the NMG decides on whether cost sharing will be invoked (following advice from the CCEAD) (see Section 4.5) and approves the EADRP. It also has responsibility for authorising an order for vaccine (if relevant), on advice from the CCEAD. Also refer to Schedule 8 of the EADRA.

For further details, refer to the **Summary Document**.

For information on the responsibilities of the state coordination centre and local control centre, see the **Control Centres Management Manual (Parts 1 and 2)**.

4.2 Public health implications

SVD has no public health implications.

4.3 Control and eradication policy

The possibility of confusion with FMD would make any outbreak of SVD in Australia of major concern, and eradication of vital importance. Should SVD become endemic, there would be sporadic disruptions to international trade in ruminants, pigs and their products. These would have potentially serious economic consequences that would far outweigh the eradication costs of the disease.

The disease will be quickly controlled and eradicated through a stamping-out policy.

Within this overall policy, the strategies selected will depend on a thorough assessment of the epidemiological situation at the time, and will need to be reassessed during the course of an outbreak and altered if necessary.

Any control measures will need to be thoroughly discussed with the industry and individual producers (including smallholdings) to arrive at strategies that will be complied with. An important factor in success of this policy is knowledge of the location of all commercial and small pig holdings (preferably through formal premises registration). Any premises registration program would need to have been implemented before the outbreak.

4.3.1 Stamping out

All pigs on infected premises (IPs) will be destroyed. Clinical cases should be destroyed first, followed by animals in direct contact, and then animals most removed from clinical cases. The decision to destroy all pigs on dangerous contact premises (DCPs) will depend on the degree of isolation of the dangerous contact animals from other pigs on the premises and the work practices in place.

Although, in some situations, the disease could be eradicated through slaughter (see Section 4.4), pigs should preferably be destroyed and disposed of on-site.

4.3.2 Quarantine and movement controls

See Section 6 for details on declared premises and areas, and recommended quarantine and movement controls.

4.3.2.1 Quarantine

Quarantine will be immediately imposed on all premises and areas on which infection is either known or suspected.

Premises will be declared (see Section 5.2). A restricted area (RA) and control area (CA) will be declared around the infected premises (see Section 5).

4.3.2.2 Movement controls

Movement controls are best implemented through the declaration of declared areas and linking permitted movements to each area. As a general principle, the aim of movement controls is to reduce the spread of disease by preventing the movement of infected animals, infected animal products and infected vectors (where relevant for the disease), and by allowing movements that pose a minimal risk.

Section 6.4 provides details on movement controls for live animals, reproductive material (semen and in vivo–derived embryos), animal products and byproducts, waste products and effluent, and other items that might be contaminated.

4.3.3 Tracing and surveillance

Ongoing and regular tracing and surveillance will be very important because the disease may be present in a mild form and therefore difficult to detect. Inspections of animals on suspect premises (SPs) and dangerous contact premises (DCPs), and wider surveillance to detect subclinical or mild cases will be necessary to ensure that all SPs are identified.

Feral pigs must be included in any investigations.

4.3.3.1 Tracing

Urgent and meticulous trace-back and trace-forward of all contacts with infected pigs, premises, vehicles, equipment, people, pig products and other materials are vital during the period from 28 days before the first clinical signs were observed up to the time that quarantine was imposed.

4.3.3.2 Surveillance

Since SVD has been found on premises even after vigorous attempts at disinfection, restocking should be carried out cautiously. After final disinfection, susceptible pigs (around 10% of full stock numbers) should be placed in contact with all previously contaminated areas and observed closely for 28 days. If there are no signs or serological evidence of infection, full restocking should be allowed. However, monitoring and movement controls should be maintained for a further 28 days.

Following eradication, surveillance of the RA and CA must be sufficient to provide confidence that the virus has been eliminated. Meatworks should be subject to surveillance, taking into consideration the age groups involved.

See the OIE Terrestrial Code[8] and Section 7 for further details on surveillance.

4.3.4 Zoning and compartmentalisation for international trade

4.3.4.1 General considerations

The OIE sets international standards for the improvement of animal health and welfare, and veterinary public health worldwide, including standards for safe international trade in animals and their products.

According to the OIE *Terrestrial Animal Health Code*,[9] establishing and maintaining a disease-free status throughout the country should be the final goal for OIE Members. However, given the difficulty of establishing and maintaining a disease-free status for an entire territory, especially for diseases whose entry is difficult to control through measures at national boundaries, there may be benefits to a Member in establishing and maintaining a subpopulation with a distinct health status within its territory. Subpopulations may be separated by natural or artificial geographical barriers ('zoning') or, in certain situations, by the application of appropriate management practices ('compartmentalisation'). In practice, spatial considerations and good management, including biosecurity plans, play important roles in the application of both concepts.

Compartmentalisation is based on biosecurity provisions of specific enterprises and is a joint industry–government undertaking. Zoning is based on geographic areas and is a government responsibility.

The OIE guidelines for SVD are in Chapter 15.4 of the OIE Terrestrial Code.

If desired, a zoning application would need to be prepared by the Australian Government in conjunction with the relevant jurisdiction(s). The recognition of zones must be negotiated bilaterally with trading partners and is not an overarching international agreement. Zoning will also require considerable resources that could otherwise be used to control an outbreak, and careful consideration will need to be given to prioritising these activities.

Agreements between trading partners will take time to develop, consider and finalise, as a result of the need for provision of detailed information, costing and resourcing, and national frameworks to underpin the approach that is developed. An importing country will need assurance that its animal health status is not compromised if it imports from an established SVD-free zone in Australia. It is not known how Australia's trading partners would react to a zoning proposal; some countries might not accept 'zone freedom'.

Eradication may be achieved before a decision on a free-zone application is reached.

Managing disease-free zones is a responsibility of veterinary authorities.

[8] www.oie.int/index.php?id=169\&L=0\&htmfile=chapitre_1.15.4.htm
[9] www.oie.int/index.php?id=169\&L=0\&htmfile=chapitre_1.4.3.htm

4.3.4.2 Specific considerations

There are no specific standards in the OIE Terrestrial Code for SVD-free zones or compartments.

Because the OIE Terrestrial Code does not make recommendations on zoning for SVD , zoning and/or compartmentalisation are likely to be an advantage only for specific international markets, where individual countries may have certain requirements. The worth of these markets must be balanced against any cost to domestic trade of the zoning restrictions. The same may apply if individual states impose restrictions.

4.3.5 Vaccination

No commercial vaccine is available for SVD. During an eradication campaign, vaccination could hinder the detection of infection by masking clinical signs and interfering with serological investigations. The virus does not spread in a way that would make ring vaccination a useful tool in containing infection.

4.3.6 Treatment of infected animals

There is no treatment for the disease.

4.3.7 Treatment of animal products and byproducts

Pig carcasses, meats, products, offal and wastes from IPs, DCPs and SPs should preferably be disposed of on-site.

Product from infected animals and in-contact animals cannot be used for edible product for either humans or animals without adequate processing and must be disposed of in an approved manner. Swill feeding is illegal in Australia.

Products heated to an internal temperature greater than 70 °C can be considered to pose no risk as a vehicle for SVD virus. However, although heat treatment will effectively inactivate the virus, the movement of infected product will lead to contamination and subsequent difficulty in eradicating the virus.

4.3.8 Disposal of animals, and animal products and byproducts

The preferred method of disposal of carcasses and other contaminated material is by incineration on the property. Another option is the clean removal of carcasses to plants for heat treatment (rendering) and subsequent salvage of animal protein, provided that leakage does not occur during transport, the product does not enter animal or human food chains before adequate processing, and cross-contamination between treated and untreated products is prevented.

The virus remains viable in buried carcasses for many months. If burial is used as a disposal method, care must be taken to ensure that the carcasses are buried deeply, so that they will not

be re-exposed, and that the pit does not discharge effluent. The disposal area should be fenced off to prevent access by feral pigs or dogs.

See the **Disposal Procedures Manual** for further details.

4.3.9 Decontamination

The difficulty in inactivating the virus makes it very important to be thorough in cleaning, disinfection, and disposal of carcasses, products and fomites. It may be necessary to repeat the decontamination program after about 2 weeks, particularly where cracks and crevices are a problem, and cleaning and disinfection are difficult.

The following procedure has been used successfully in the United Kingdom (Mann 1981). Dead pigs and infected pens were sprayed with an alkaline disinfectant, and then carcasses, manure and other debris were removed. All surfaces were thoroughly cleaned with an industrial detergent based on sodium metasilicate, heat-treated with flame guns, and sprayed while still warm with 1% sodium hydroxide. After 48 hours, the surfaces were washed with water. Fourteen days later, a further sodium hydroxide spray was applied, followed by a wash.

Items that cannot be destroyed or treated with corrosive chemicals should be disinfected by less damaging means; they should be treated as possible hazards. Vehicles used to transport infected pigs, carcasses and materials must be thoroughly cleaned and disinfected between loads, using approved chemicals and procedures under supervision.

See the **Decontamination Manual** for further details.

4.3.10 Wild animal control

If the disease is found in feral pigs, these animals will need to be controlled, if possible. It will be necessary to try to prevent the feral pigs from dispersing; eradication methods to prevent dispersal should be used. It may be possible to reduce numbers to a level at which the disease dies out (see the **Wild Animal Response Strategy Manual** for detailed procedures).

Fencing to ensure separation between feral pigs and domestic herds will be necessary. Controls on garbage tips will need to be strengthened to prevent the entry of feral pigs and ensure the correct disposal of waste.

4.3.11 Vector control

Vector control is not applicable to SVD.

4.3.12 Public awareness and media

Outbreaks of SVD should be well publicised, with emphasis on the dangers of feeding animal products to pigs and the fact that unlicensed swill feeding is illegal. A media campaign must emphasise the importance of farmers inspecting susceptible animals regularly, and reporting suspicious lesions and unusual deaths promptly. The need to avoid contact between domestic and feral pigs should be reinforced. The importance of movement controls, and what they mean to individuals, should be strongly emphasised.

Close liaison with the industry will be essential to ensure that it is fully informed of the consequences of the disease to all Australian animal industries and the control strategies to be used. The media can also be useful in advising the public of the safety of products, and in maintaining confidence in the industry by providing honest and correct information. The public must not be panicked into avoiding meat products.

4.4 Other strategies

A decision on the appropriate policy to be adopted following the detection of SVD will be made after an epidemiological investigation has determined whether there is a high likelihood that SVD has become established. It is unlikely that SVD would become endemic in Australia such that, in the long term, eradication was either not feasible or uneconomic.

A **modified stamping-out policy** with slaughter may be applicable to outbreaks in well-isolated piggeries, regardless of size, provided that movement controls can be effectively maintained for a prolonged period. The policy may include:

- quarantine of infected sheds or units from the rest of the property, and destruction and disposal of animals from these sheds
- pigs from isolated 'free' sheds being progressively slaughtered commercially, after an appropriate surveillance and inspection period, and the product being heat processed
- progressive destocking, decontamination and restocking of the farm.

All steps along the chain will be strictly controlled, as this destocking strategy will be risky if quarantine or movement controls break down for any reason. The resistance of SVD virus to heat needs to be taken into account. Modified stamping out is, therefore, not recommended unless strict controls can be imposed and maintained.

The disease is likely to disappear from a herd if reinfection is prevented (through sound biosecurity and movement controls) and decontamination of the premises is thorough. Reservoir hosts are not known to be involved.

The situation could arise, however, where SVD was regarded as an endemic disease in certain areas or in feral pig populations for a period of time, pending the development and application of long-term eradication strategies. Under these circumstances, the **policy for long-term control** (and possible eradication) of the disease will be determined following consultation between governments and the pig and other affected industries. Zoning and/or compartmentalisation could be adopted in an attempt to contain the infection and to regain partial access to markets.

4.5 Funding and compensation

4.5.1 General considerations

Details of the cost-sharing arrangements can be found in the **Summary Document** and the **Valuation and Compensation Manual**.

5 Guidelines for classifying declared areas and premises

5.1 Declared areas

A declared area is a defined tract of land that is subjected to disease control restrictions under emergency animal disease (EAD) legislation. There are two types of declared areas: restricted area (RA) and control area (CA).

Declared areas are risk based, with several areas or premises of higher risk nested within areas of lower risk.

All declared areas need to be clearly identified and easily understood, so that all affected parties can recognise which area they are in, and what regulations and control measures are applicable to them.

Declared areas are declared by a chief veterinary officer (CVO) or their delegate, or a ministerial declaration, according to the appropriate legislation of the states and territories involved.

5.1.1 Restricted area (RA)

An RA is a relatively small legally declared area around infected premises (IPs) and dangerous contact premises (DCPs) that is subject disease controls, including intense surveillance and movement controls.

An RA will be a relatively small declared area[10] (compared with a CA) drawn with at least 3-km radius around all IPs and DCPs, and including as many suspect premises (SPs), trace premises (TPs) and dangerous contact processing facilities (DCPFs) as practicable. Based on risk assessment, the RA is subject to intense surveillance and movement controls. The purpose of the RA is to minimise the spread of the EAD. The RA does not need to be circular but can have an irregular perimeter, provided that the boundary is initially an appropriate distance from the nearest IP, DCP, DCPF, SP or TP. Multiple RAs may exist within one CA.

The boundaries will be modified as new information becomes available, including from an official surveillance program. The actual distance in any one direction will be determined by factors such as terrain, the pattern of livestock movements, livestock concentrations, the weather (including prevailing winds), the distribution and movements of relevant wild (including feral) animals, and known characteristics of the disease agent. In practice, major geographic features and landmarks, such as rivers, mountains, highways and roads, are frequently used to demarcate the boundaries of the RA. Although it would be convenient to declare the RA on the basis of local government areas, this may not be practical, as such areas can be larger than the particular circumstances require.

[10] As defined under relevant jurisdictional legislation

5.1.2 Control area (CA)

A CA is a legally declared area where the disease controls, including surveillance and movement controls, applied are of lesser intensity than those in an RA (the limits of a CA and the conditions applying to it can be varied during an incident according to need).

A CA is a disease-free buffer between the RA and the outside area (OA). Specific movement controls and surveillance strategies will be applied within the CA to maintain its disease-free status and prevent spread of the disease into the OA.

An additional purpose of the CA is to control movement of susceptible livestock for as long as is necessary to complete tracing and epidemiological studies, to identify risk factors, and forward and backward risk(s).

The CA will be a larger declared area around the RA(s) — initially, possibly as large as the state or territory in which the incident occurs — where restrictions will reduce the risk of disease spreading from the RA(s). The CA will have a minimum radius of [XX] kilometres, encompassing the RA(s). It may be defined according to geography, climate and the distribution of relevant wild (including feral) animals. The boundary will be adjusted as confidence about the extent and distribution of the incident increases.

In general, surveillance and movement controls will be less intense in the CA than in the RA, and disease-susceptible animals and their products may be permitted to move under permit within and from the area.

5.1.3 Outside area (OA)

The OA is the area of Australia outside the declared (control and restricted) areas.

The OA is not a declared area but is used to describe the rest of Australia outside the declared areas. The OA will be subject to surveillance. Because it is highly desirable to maintain the OA as 'disease free', the movement of animals and commodities from the RA and CA into the OA will be restricted.

The OA will be of interest for 'zoning' and 'compartmentalisation' for purposes of trade access, as well as for disease control.

5.1.4 Other types of areas

It is possible that other types of areas (eg vaccination area or surveillance area), which are not legally declared, may be used for disease control purposes in some jurisdictions.

5.2 Declared premises

The status of individual premises will be declared after an epidemiological risk assessment has been completed.

Based on the disease risk they present, the highest priorities for investigations are IPs, DCPs, DCPFs, SPs and TPs.

In a disease outbreak, not all classifications may be needed. Premises classifications are mutually exclusive — that is, a given premises can have only one classification at any given time. After an epidemiological investigation, clinical assessment, risk assessment or completion of control measures, a premises may be reclassified.

5.2.1 Infected premises (IP)

An IP is a defined area (which may be all or part of a property) on which animals meeting the case definition are or were present, or the causative agent of the EAD is present, or there is a reasonable suspicion that either is present, and that the relevant CVO or their delegate has declared to be an IP.

A premises with susceptible animals that have met the case definition will be declared an IP. For most diseases, the RA(s) will include **all** IPs.

For most diseases, the classification of a premises as an IP would be followed by the declaration of the areas around it as an RA and a CA.[11] In the case of vector-borne diseases, a transmission area (TA) may also be identified, if required.

Depending on the situation, control measures in accordance with the agreed Emergency Animal Disease Response Plan (EADRP)[12] or the relevant AUSVETPLAN disease strategy or response policy brief may be applied immediately, or may await the outcomes of further investigation of the IP.

When the required control measures for an IP have been completed, the premises would be classified as a resolved premises (RP). After further risk assessment, it may be reclassified as:

- a zero susceptible species premises (ZP), if destocked
- an at-risk premises (ARP) with a vaccination qualifier (ARP-VN), if not destocked, and vaccinated
- an ARP with an assessed-negative qualifier (ARP-AN), if neither destocked nor vaccinated.

If a premises has been classified as an IP on the basis of clinical signs as per the case definition,[13] and subsequently both the EAD and the causative agent are confirmed as absent (ie a 'false' declaration), the premises would be reclassified as an RP. Thereafter, depending on the specific disease and its epidemiology, it would be reclassified as a ZP or an ARP (the qualifiers AN and/or VN may also be used, depending on the actions taken on the premises).

[11] Less contagious diseases (eg Hendra virus, anthrax, Australian bat lyssavirus) do not use declared areas as part of their control measures. See the applicable AUSVETPLAN disease strategies or response policy briefs for details.

[12] An EADRP will usually be prepared for consideration at the first CCEAD meeting, at the start of a disease response.

[13] During the early phase of an EAD response, a comprehensive 'initial case definition' is used — eg individual and herd clinical signs, epidemiological investigation and risk assessment, and laboratory evaluation. Later in the response, the 'response case definition' may be used, which may be only clinical signs and on-site clinical assessment.

5.2.2 Suspect premises (SP)

SP is a temporary classification of a premises that contains a susceptible animal(s) not known to have been exposed to the disease agent but showing clinical signs similar to the case definition, and that therefore requires investigation(s).

For most diseases, the RA should contain as many SPs as practical. Every effort should be made to investigate and reclassify SPs as soon as possible. SPs are considered a very high priority for veterinary investigations. The investigation and risk assessment may produce the following outcomes:

- If the case definition is confirmed, the premises would be classified as an IP.
- If the case definition is not confirmed but suspicion remains, the premises would continue to be classified as an SP, until further investigation determines its reclassification.
- If the case definition is ruled out, the premises would be given the qualifier AN. If it is located in the RA, it would then be reclassified as an ARP with the qualifier AN (ARP-AN). If it is located in the CA, it would be classified as a premises of relevance (POR) with the qualifier AN (POR-AN).

5.2.3 Trace premises (TP)

TP is a temporary classification of a premises that contains a susceptible animal(s) that tracing indicates may have been exposed to the disease agent, or contains contaminated animal products, wastes or things, and that requires investigation(s).

For most diseases, the RA should include as many TPs as practical. Every effort should be made to investigate and reclassify a TP as soon as possible. Exposure may occur from animal movements, contaminated material, vehicles, equipment and fomites, as well as via aerosol, especially if the premises is contiguous with an IP. The investigation and an epidemiological assessment may produce the following outcomes:

- If the case definition is met, the premises would be classified as an IP.
- If it appears highly likely that the disease is present and that the TP is highly likely to contain an infected animal(s) or contaminated animal products, wastes or things, even though there are no visible clinical signs, the premises would be classified as a DCP or a DCPF.
- If the investigation shows no evidence of the EAD, the premises would be assessed as negative. If it is located in the RA and there are susceptible animals remaining, it would then be reclassified as an ARP with the qualifier AN (ARP-AN). If it is located in the CA, it would be classified as a POR with the qualifier AN (POR-AN).
- If the tracing investigation reveals no susceptible animals or risk products, wastes or things on the destination premises, a TP may be reclassified as a ZP.

5.2.4 Dangerous contact premises (DCP)

A DCP is a premises, apart from an abattoir, knackery or milk processing plant or other such facility, that, after investigation and based on a risk assessment, is considered to contain a susceptible animal(s) not showing clinical signs, but considered highly likely to contain an infected

animal(s) and/or contaminated animal products, wastes or things that present an unacceptable risk to the response if the risk is not addressed, and that therefore requires action to address the risk.

During the initial phase of a response, the RA should contain all the DCPs. As the incident develops, epidemiological investigation and tracing from IPs, SPs and TPs within the RA could identify DCPs that are sufficiently distant that they are outside the existing RAs and within the CA. This could trigger an extension of the RA to include them. However, it may prove impractical to extend an RA if the DCP is sufficiently distant from the existing RA. The trigger to declare a separate RA would be the identification of an IP. A DCP on its own does not trigger an RA. In these cases, it is possible that a DCP would be situated within a CA.

Whether an RA is drawn around a DCP depends on whether the transmission risk can be contained on the premises using premises-specific measures, or whether there is a need for RA measures to be applied as well, involving surrounding properties in heightened surveillance and tighter movement controls. The characteristics of the disease and its behaviour will be the major determinant. The risk assessment would consider these, as well as the stage of the response, the animal(s) present and the local situation.

Although susceptible animals on such premises are not showing clinical signs, they are considered to have been significantly exposed to the disease agent — this might be via an infected animal(s); a vector; contaminated animal products, wastes or things; or another transmission mechanism. If susceptible animals on a premises were exhibiting clinical signs that were similar to the case definition, the premises must be classified as an SP.

Since a DCP presents an unacceptable risk to the response if the risk is not addressed, such premises are subjected to appropriate control measures, including ongoing epidemiological monitoring, risk assessment and investigation, as required. Monitoring, risk assessment or investigation of a DCP may produce the following outcomes:

- If the presence of an infected animal or contaminated animal products, wastes or things is confirmed, the premises would be classified as an IP.
- If their presence is not confirmed but the likelihood is considered to remain high, the premises would continue to be classified as a DCP until completion of control measures enables it to be reclassified as an RP. A subsequent risk assessment would allow it to be reclassified as an ARP with an AN qualifier. If animals had been vaccinated as part of the control measures, the premises may also have the qualifier VN.
- If it is considered unlikely that an infected animal or contaminated animal products, wastes or things are present, the premises would be assessed as negative (DCP-AN). If it is located in the RA, it would then be reclassified as an ARP with the qualifier AN. If it is located in the CA, it would be classified as a POR with the qualifier AN.

Once the control measures are completed, the DCP will be reclassified as an RP.

5.2.5 Dangerous contact processing facility (DCPF)

A DCPF is an abattoir, knackery, milk processing plant or other such facility that, based on a risk assessment, appears highly likely to have received infected animals, or contaminated animal products, wastes or things, and that requires action to address the risk.

Particularly for DCPFs, classification provides authorities with a framework for the exercise of legal powers over the premises and to facilitate product tracking, and serves as a communication tool for reporting nationally and internationally on progress in the response.

Since a DCPF presents an unacceptable risk to the response if the risk is not addressed, such premises are subjected to appropriate control measures, including ongoing epidemiological monitoring, risk assessment and investigation, as required. Monitoring, risk assessment and investigation of a DCPF may produce the following outcomes:

- If the presence of an infected animal or contaminated animal products, wastes or things is confirmed, the premises would be classified as an IP.
- If their presence is not confirmed but the likelihood is considered to remain high, the premises would continue to be classified as a DCPF until completion of control measures enables it to be reclassified as an RP. A subsequent risk assessment may allow it to be reclassified as an approved processing facility (APF), if increased biosecurity measures are maintained.
- If it is considered unlikely that an infected animal or contaminated animal products, wastes or things are present, the premises would be assessed as negative (DCPF-AN). It may then be reclassified as an APF, if increased biosecurity measures are maintained.

Once the control measures are completed, the DCPF will be reclassified as an RP.

If, as part of disease control management, a DCPF is used to slaughter suspect or infected animals, it will be reclassified as an IP until it meets the definition for an APF or ZP.

5.2.6 Approved processing facility (APF)

An APF is an abattoir, knackery, milk processing plant or other such facility that maintains increased biosecurity standards. Such a facility could have animals or animal products introduced from lower risk premises under a permit for processing to an approved standard.

Before being classified as an APF, the premises is assessed to confirm that it has not received infected animals, or contaminated animal products, wastes or things, and is operating according to agreed biosecurity standards.

If, during the course of a response, the premises is suspected to have received infected animals, or contaminated animal products, wastes or things, it will be reclassified as a DCPF pending further investigation.

5.2.7 At-risk premises (ARP)

An ARP is a premises in an RA that contains a live susceptible animal(s) but is not considered at the time of classification to be an IP, DCP, DCPF, SP or TP.

The animal(s) on such premises are subject to disease control procedures, such as regular surveillance and movement restrictions, that are appropriate to the RA.

5.2.8 Premises of relevance (POR)

A POR is a premises in a CA that contains a live susceptible animal(s) but is not considered at the time of classification to be an IP, SP, TP, DCP or DCPF.

The animal(s) on such premises are subject to disease control procedures, such as heightened surveillance and movement restrictions, that are appropriate to the CA.

5.2.9 Resolved premises (RP)

An RP is an IP, DCP or DCPF that has completed the required control measures and is subject to the procedures and restrictions appropriate to the area in which it is located.

Later in a response, as control measures on IPs, DCPs and DCPFs are completed, the premises are reclassified to RP, and their risk status is progressively reviewed.

After appropriate investigation and risk assessment, an RP will become an ARP, POR, ZP or APF.

5.2.10 Unknown status premises (UP)

A UP is a premises within a declared area where the current presence of susceptible animals and/or risk products, wastes or things is unknown.

If an investigation and epidemiological risk assessment on a UP confirmed:

- the presence of an infected animal or contaminated animal products, wastes or things, the premises would be classified as an IP
- that it contained no susceptible animals and/or risk products, wastes or things, the UP would be reclassified as a ZP
- the presence of susceptible animals and excluded the presence of an EAD or the causative agent of the EAD, the UP would be reclassified as an ARP if in the RA, or a POR if in the CA
- clinical signs similar to the case definition, the UP would be reclassified as an SP
- an epidemiological link to a risk premises, the UP would become a TP
- a high-risk epidemiological link but without clinical signs of an EAD, the UP would be reclassified as a DCP or DCPF.

5.2.11 Zero susceptible species premises (ZP)

A ZP is a premises that does not contain any susceptible animals or risk products, wastes or things.

5.2.12 Qualifiers

The following qualifying categories may be added to a property status.

5.2.12.1 Assessed negative (AN)

AN is a qualifier that may be applied to ARPs, PORs and premises previously defined as SPs, TPs, DCPs or DCPFs that have undergone an epidemiological and/or laboratory assessment and have been cleared of suspicion at the time of classification, and can progress to another status. The animals on such premises are subject to the procedures and movement restrictions appropriate to the declared area (RA or CA) in which the premises is located.

This classification is a description to document progress in the response and in the proof-of-freedom phase. The AN qualifier is a temporary status and only valid at the time it is applied. The time that the AN qualifier remains active will depend on the circumstances and will be decided by the jurisdiction. One day is considered a reasonable guideline. The AN qualifier should also provide a trigger for future surveillance activity to regularly review, and change or confirm, a premises status.

The AN qualifier can also function as a counting tool to provide quantitative evidence of progress, to inform situation reports in control centres during a response. It provides a monitor for very high-priority premises (SPs and TPs) as they undergo investigations and risk assessment, and are reclassified, as well as a measure of surveillance activity overall for ARPs and PORs.

The AN qualifier can be applied in a number of ways, depending on the objectives and processes within control centres. The history of each premises throughout the response is held in the information system; the application of the AN qualifier is determined by the jurisdiction, the response needs and the specific processes to be followed in a local control centre.

5.2.12.2 Vaccinated (VN)

VN is a qualifier that can be applied in a number of different ways. At its most basic level, it can be used to identify premises that contain susceptible animals that have been vaccinated against SVD . However, depending on the legislation, objectives and processes within a jurisdiction, the VN qualifier may be used in different ways to track a range of criteria and parameters. The details would need to be developed and tailored to meet individual needs of jurisdictions and circumstances.

Some of the issues that could be included for consideration are detailed below.

Definition and monitoring of vaccination

The vaccination status of a population of animals or premises might be important when considering movement controls and the proof-of-freedom phase.

For the purposes of AUSVETPLAN, the following guidance should be followed.

To be referred to as a vaccinated population, the population must have been vaccinated in accordance with:

- the Australian Pesticides and Veterinary Medicines Authority (APVMA) registered label particulars, or
- APVMA-approved permit instructions relating to an approved EADRP for off-label use or use of an unregistered immunobiological product(s), or
- instructions of the relevant CVO.

Monitoring vaccination programs

A mechanism for recording and monitoring primary and booster vaccinations for all vaccinated animals should be part of the disease control monitoring system, to provide information on the control of the outbreak as well as evidence for proof of freedom. For example, jurisdictions may choose to add numbers to the qualifiers to indicate primary (VN1) or booster (VN2) vaccinations.

Incomplete vaccination programs

Vaccination programs during emergency responses are not always completed by the time a response is terminated. Therefore, there may be populations of animals present in the proof-of-freedom phase that are only partially vaccinated and will need to be accounted for, particularly if serology is used for proof of freedom.

Vaccination records and identification of vaccinated animals

The key requirement in an EAD response in which vaccine is used will be to identify animals that have been vaccinated (fully or partially) so they can be disposed of or tested in the proof-of-freedom phase. Records of the number of doses administered and their timing can be kept to identify fully vaccinated premises and premises that have not completed the planned vaccination program (partially vaccinated) or are overdue for booster vaccinations.

In cattle, the National Livestock Identification System (NLIS) can record the animals vaccinated. For other species, the NLIS still relies on mob identification. Where appropriate, individual animal identification by means other than the NLIS (eg individual animal management tags, microchips [radio-frequency identification], collars) may be necessary.

5.3 Guidelines for reclassifying previously declared areas

Maintaining movement restrictions on areas for long periods has important implications for resource management, animal welfare, business continuity, and socioeconomic impacts on producers and regional communities.

During the course of an EAD response, it may become necessary for a CA or RA to be expanded, as additional geographic areas or new foci of infection are identified. Later in the response, as control is achieved, mechanisms for gradually reducing the size of the CA and RA can be introduced.

An EAD may involve multiple foci of infection, with several jurisdictions potentially involved. Since disease might be controlled at different rates in different areas, there may be the opportunity to progressively lift restrictions on an area basis. This would involve reclassifying previously declared areas (RAs and CAs), with a staged approach to lifting of movement restrictions. This is a key step in the recovery process and will have positive benefits on the community.

The lifting of restrictions in declared areas is managed by jurisdictions according to their local legislation, regulations and processes.

The key principles for reclassifying a previously declared area during a response should include the following, noting that not all will be relevant for some diseases:

- The area should be epidemiologically distinct from other declared areas.
- All TPs and SPs have been investigated and reclassified, and all IPs, DCPs and DCPFs in the area have been reclassified as RPs.
- All tracing and surveillance associated with EAD control has been completed satisfactorily, with no evidence or suspicion of infection in the area.
- A minimum period of [xxx] days[14] has elapsed since pre-determined disease control activities and risk assessment were completed on the last IP or DCP in the area.
- An approved surveillance program (including the use of sentinel animals, if appropriate) has confirmed no evidence of infection in the RA (see below).
- For vector-borne diseases, vector monitoring and absence of transmission studies indicate that vectors are not active.

Lifting of restrictions is a process managed by the combat CVO under jurisdictional legislation and consistent with the most current agreed EADRP. When the appropriate conditions are satisfied, a combat jurisdiction can, in consultation with the Consultative Committee on Emergency Animal Diseases (CCEAD), reduce the size of the RA or lift all restrictions. The previous part of the RA would then become part of the CA. Jurisdictions should be able to present documented evidence that the appropriate conditions have been met.

When an RA is lifted and becomes part of the CA, it will have a lower risk status, and the movement restrictions that apply will be consistent with those applying within the CA. Over time, all of the RAs will be reduced and lifted.

If there is more than one combat jurisdiction involved, each will use its own appropriate legal jurisdictional mechanisms to lift the declaration of the RA or CA, coordinating with each other and consulting with the CCEAD to ensure wide communication and coordination.

After a further period of surveillance and monitoring, and provided that the additional surveillance and monitoring find no evidence of infection, a jurisdiction, in consultation with the CCEAD, could lift the CA. This would result in the lifting of all the remaining regulatory controls associated with the response, and a return to business as usual.

[14] The minimum period uses, or is based on, the disease-specific incubation periods defined by the OIE — two incubation periods is a common guideline.

6 Quarantine and movement controls

6.1 General principles

The principles for the recommended quarantine practices and movement controls are as follows:

- Containment and eradication of swine vesicular disease (SVD) is the highest priority. Therefore, 'normal business movements' are not allowed.
- Live animals pose the greatest risk of disease spread; therefore, their movements from all premises within the restricted area (RA) and control area (CA) must be strictly controlled.
- The outside area (OA) should remain as 'clean' as possible. Therefore, movement of animals from the RA to the OA is prohibited, and movement of products is generally prohibited. Movement of animals and products from the CA to the OA will also be restricted.
- Trace premises (TP) and suspect premises (SP) are temporary classifications, and every effort should be made to resolve the status of these premises as soon as possible.
- The numbers of susceptible animals within the RA should be minimised. Therefore, movements of animals into the RA will be limited and usually for slaughter only.
- Movement restrictions are more stringent within the RA than within the CA, and will be more stringent in the early stages of the response.
- Movement controls may be varied during a response from those listed here. However, this will involve a variation to the agreed Emergency Animal Disease Response Plan, with endorsement by the Consultative Committee on Emergency Animal Diseases (CCEAD) and the National Management Group (NMG).
- Recommended movement controls apply to any movement off a premises, whether on foot or by vehicle, that involves either public or private land.

6.2 Guidelines for issuing permits

When assessing risk for the purposes of issuing a permit, the elements to consider may include:

- sources of risk
  - species of animal
  - type of product
  - presence of disease agent on both the originating and destination premises
  - current vector activity, if relevant
  - organisation and management issues (ie confidence in animal tracing and surveillance, biosecurity)
  - proposed use of the animals or products
  - proposed transport route
  - vaccination status of the animals (if relevant)
  - treatment of animals and vehicles to prevent concurrent movement of vectors, if relevant
  - security of transport
  - security and monitoring at the destination
  - environment and natural events

  - community and human behaviour
  - risk of sabotage
  - technology
  - regulations and standards
  - available resources for compliance and enforcement
- areas of impact
  - livestock health (health of affected species, including animal welfare)
  - human health (including work health and safety)
  - trade and economic impacts (including commercial and legal impacts)
  - environmental impacts
  - organisational capacity
  - political impacts
  - reputation and image
- proposed risk treatment measures
  - vaccination
  - processing of product
  - disinfection or other treatment of animals, vehicles and fomites
  - vector control, if relevant
  - security
  - communication.

6.3 Types of permits

Permits are either general or special. They are legal documents that describe the animal(s), commodities or things to be moved, the origin and destination, and the conditions to be met for the movement. Either type of permit may include conditions. Once permit conditions have been agreed from an operational perspective, all permit conditions must be met for every permit. Both general and special permits may be in addition to documents required for routine movements between or within jurisdictions (eg health certificates, waybills, consignment notes, National Vendor Declarations).

6.3.1 General permit

General permits (GPs) are used for lower risk movements, and create a record of each movement to which they apply. They are granted without the need for direct interaction between the person moving the animal(s), commodity or thing and a government veterinarian or gazetted inspector of stock. The permit may be completed via a webpage or in an approved place (such as a government office or commercial premises). A printed version of the permit must accompany the movement. The permit may impose preconditions and/or restrictions on movements. GPs may not be available until the relevant chief veterinary officer (CVO) gives approval for general movements, and this may not be available in the early stages of a response.

6.3.2 Special permit

Special permits (SpPs) are issued by the relevant government veterinarian or gazetted inspector of stock. They are used for higher risk movements, and therefore require formal application and

individual risk assessment. SpPs describe the requirements for movement of an animal (or group of animals), commodity or thing, for which a specific assessment has been conducted by the relevant government veterinarian or gazetted inspector of stock. A printed version of the permit must accompany the movement. The permit may impose preconditions and/or restrictions on movements.

6.3.2.1 Emergency permit

An emergency permit is a special permit that specifies strict legal requirements for an otherwise high-risk movement of an animal, to enable emergency veterinary treatment to be delivered, to enable animals to be moved for animal welfare reasons, or to enable any other emergency movement under exceptional circumstances. These permits are issued on a case-by-case basis under the authorisation of the relevant CVO.

6.4 Recommended quarantine practices and movement controls

6.4.1 Live susceptible animals

Pigs

Because of the risk of transmitting SVD, **movement of live pigs from high-risk premises** (IPs, DCPs, SPs and TPs) is prohibited. Movement of live pigs into an RA is restricted, to minimise the number of susceptible animals within the RA.

Table 6.1 describes the recommended movement controls for live pigs within and between declared areas.

Table 6.1 Recommended movement controls for live pigs

To→ From ↓		**RA**		**CA**		**OA**
		IP/DCP/SP/TP	**ARP/DCPF**	**SP/TP**	**POR**	
RA	**IP/DCP/SP/TP**	Prohibited	Prohibited	Prohibited		Prohibited
	ARP		Prohibited, except under SpP1			
CA	**SP/TP**	Prohibited		Prohibited		Prohibited
	POR	Prohibited	Prohibited, except under SpP2	Prohibited	Prohibited, except under GP1	
OA	**OA**	Prohibited	Prohibited, except under SpP2	Prohibited	Prohibited, except under GP1	Allowed

ARP = at-risk premises; CA = control area; DCP = dangerous contact premises; DCPF = dangerous contact processing facility; GP = general permit; IP = infected premises; OA = outside area; POR = premises of relevance; RA = restricted area; SP = suspect premises; SpP = special permit; TP = trace premises

Notes for Table 6.1

The **transit** of live pigs is allowed under a transit permit, provided that the origin and destination of the pigs are both outside the declared area, and the pigs are not unloaded en route.

SpP1 conditions — emergency permit for exceptional circumstances only (ie primarily for welfare reasons):

- For slaughter, or to an ARP for other purposes if a risk analysis indicates that the risk associated with movement is acceptable within the response.
- Travel by approved route only, and no stopping en route.
- Appropriate biosecurity standard at receiving premises.
- Appropriate decontamination of equipment and vehicles.
- Absence of clinical signs before and on day of travel.
- Single consignment per load.
- Physical identification of individual animals (eg ear tag, brand), with accompanying movement documentation (eg National Vendor Declaration, waybill, PigPass).

SpP2 conditions:

- For slaughter only, if the RA contains the only available abattoir.
- Travel by approved route only, and no stopping en route.
- Appropriate biosecurity standard at receiving premises.
- Appropriate decontamination of equipment and vehicles.
- Absence of clinical signs before and on day of travel.

- Single consignment per load.
- Physical identification of individual animals (eg ear tag, brand), with accompanying movement documentation (eg National Vendor Declaration, waybill, PigPass).

GP1 conditions:

- For slaughter, movement within an approved compartment or movement to other PORs.
- Absence of clinical signs before and on day of travel.
- Appropriate decontamination of vehicles and equipment.
- Travel by approved route only, and no stopping en route.
- Physical identification of individual animals (eg ear tag, brand), with accompanying movement documentation (eg National Vendor Declaration, waybill, PigPass).

Cattle and sheep

Movement of **cattle and sheep** is allowed after disease confirmation is received. However, cattle and sheep housed in direct contact with infected pigs should not be moved to other properties, but should either be moved to an abattoir for slaughter, destroyed on-site, or monitored for serological or virological evidence of infection for up to 28 days, after which time they may be retained on the property or moved elsewhere.

6.4.2 Semen and embryos from live susceptible animals

Pig semen

Although it is highly unlikely that SVD will be transmitted by semen, the movement of semen from high-risk premises and out of the RA will be prohibited. To enable business continuity, semen sourced from properties in the CA and OA can be moved into the RA and the CA under permit.

Table 6.2 describes the recommended movement controls for pig semen within and between declared areas.

Table 6.2 Recommended movement controls for pig semen

To→ From ↓		**RA**		**CA**		**OA**
		IP/DCP/SP/TP	**ARP**	**SP/TP**	**POR**	
RA	**IP/DCP/SP/TP**	Prohibited		Prohibited		Prohibited
	ARP					
CA	**SP/TP**	Prohibited		Prohibited		Prohibited
	POR	Prohibited, except under SpP3		Prohibited, except under SpP3		Prohibited
OA	**OA**	Prohibited, except under SpP3		Prohibited, except under GP2		Allowed

ARP = at-risk premises; CA = control area; DCP = dangerous contact premises; GP = general permit; IP = infected premises; OA = outside area; POR = premises of relevance; RA = restricted area; SP = suspect premises; SpP = special permit; TP = trace premises

Notes for Table 6.2

SpP3 conditions:

- Owner declaration and evidence that the boars have been tested twice in the previous 14 days, at least 5 days apart, with negative results, with the second test occurring less than 72 hours before collection of semen.
- Evidence of an operational biosecurity manual, including maintenance of biosecurity procedures, accurate record keeping, and semen containers being adequately clean and biosecure.
- Absence of clinical signs before and on the day of collection, and since that time.

GP2 conditions:

- Owner declaration that the boars have been tested twice in the previous 14 days, at least 5 days apart, with negative results, with the second test occurring less than 72 hours before collection of semen.
- Absence of clinical signs before and on the day of collection, and since that time.
- Accurate record keeping of all semen movements off the property.
- Evidence of an operational biosecurity manual, including maintenance of biosecurity procedures.

In vivo-derived pig embryos

The risk of transmission of SVD by embryos is negligible if the embryos are collected and handled appropriately.

Table 6.3 describes the recommended movement controls for pig embryos within and between declared areas.

Table 6.3 Recommended movement controls for in vivo–derived pig embryos

To→ From ↓	**RA**	**CA**	**OA**
RA	Prohibited, except under GP3	Prohibited, except under GP3	Prohibited, except under GP3
CA	Prohibited, except under GP3	Prohibited, except under GP3	Prohibited, except under GP3
OA	Allowed	Allowed	Allowed

CA = control area; GP = general permit; OA = outside area; RA = restricted area

Notes for Table 6.3

GP3 conditions:

- Embryos collected and handled in accordance with the procedures detailed in the International Embryo Transfer Society manual (4th edition, 2010).
- Absence of clinical signs before and on the day of collection, and since that time.
- Accurate record keeping of all embryo movements off the property.
- Evidence of an operational biosecurity manual, including maintenance of biosecurity procedures.

6.4.3 Meat and meat products

The risks from pigmeat are addressed primarily through movement controls on live pigs going to slaughter, and the fact that swill feeding to pigs is illegal. Since severe restrictions have been placed on movements of live pigs (due to the risk presented), fewer restrictions need to be placed on pigmeat. Because SVD is not a zoonosis, disease concerns are limited to SVD in pigs arising from the diversion of pigmeat or offal for pig feed.

Table 6.4 describes the recommended movement controls for fresh and frozen pigmeat and offal, from registered, commercial abattoirs and commercial meat processing enterprises, within and between declared areas.

Table 6.4 Recommended movement controls for fresh/frozen pigmeat and offal

To→ From ↓	**RA**	**CA**	**OA**
RA (DCPF)	Prohibited, except under SpP4	Prohibited, except under SpP4	Prohibited, except under SpP4
CA	Allowed	Allowed	Allowed
OA	Allowed	Allowed	Allowed

CA = control area; DCPF = dangerous contact processing facility; OA = outside area; RA = restricted area; SpP = special permit

Notes for Table 6.4

SpP4 conditions:

- Biosecure transport to an approved biosecure disposal facility or rendering facility, or biosecure disposal on-site; approved route only.
- The material is not brought into direct or indirect contact with susceptible animals.
- Every precaution is taken to ensure that effluent, other fluids or aerosols do not leak out of the transport vehicle.
- Transport vehicle and containers are decontaminated under supervision between loads.

6.4.4 Waste products and effluent

Pig effluent can transmit SVD virus because the virus persists in the environment for long periods; therefore, movement of piggery wastes from high-risk premises and out of the RA is generally prohibited. The exception is from IPs, after depopulation, to properties without susceptible livestock (ZP) and under permit. To maintain business continuity, piggery wastes are allowed to move into the RA and CA onto properties without susceptible animals (ZP), under permit.

Table 6.5 shows the recommended movement controls for pig waste products and effluent within and between declared areas.

Table 6.5 Recommended movement controls for waste products and effluent

To→ From ↓		**RA**		**CA**		**OA**
		IP/DCP/SP/TP	**ZP/ARP**	**SP/TP**	**POR**	
RA	**IP**	Prohibited	Prohibited, except under SpP5	Prohibited		Prohibited
	DCP/SP/TP		Prohibited			
	ARP		Prohibited, except under SpP6			
CA	**SP/TP**	Prohibited		Prohibited		Prohibited
	POR	Prohibited	Prohibited	Prohibited	Prohibited, except under GP4	Prohibited, except under GP4
OA	**OA**	Prohibited	Allowed	Allowed		Allowed

ARP = at-risk premises; CA = control area; DCP = dangerous contact premises; GP = general permit; IP = infected premises; OA = outside area; POR = premises of relevance; RA = restricted area; SP = suspect premises; SpP = special permit; TP = trace premises; ZP = zero susceptible species premises

Notes for Table 6.5

SpP5 conditions:

- Biosecure transport to a composting facility; approved route only.
- The material is not brought into direct or indirect contact with susceptible animals.
- Every precaution is taken to ensure that effluent, other fluids or aerosols do not leak out of the transport vehicle.
- Transport vehicle and containers are decontaminated under supervision between loads.
- Transport is after a minimum of 30 days following depopulation.

SpP6 conditions:

- Only to a ZP (such as a broadacre farm) for use as fertiliser, or to a composting facility.
- The material is not brought into direct or indirect contact with susceptible animals.
- Every precaution is taken to ensure that effluent, other fluids or aerosols do not leak out of the transport vehicle.
- Transport vehicle and containers are decontaminated under supervision between loads.
- Use of an approved transport route.

GP4 conditions:

- Only to a ZP (such as a broadacre farm) for use as fertiliser, or to a composting facility.
- The material is not brought into direct or indirect contact with susceptible animals.
- Every precaution is taken to ensure that effluent, other fluids or aerosols do not leak out of the transport vehicle.
- Transport vehicle and containers are decontaminated between loads.

6.4.5 Empty livestock transport vehicles and associated equipment

SVD virus can survive in the environment for long periods; therefore, appropriate decontamination of vehicles that have carried pigs and equipment used with pigs is essential.

Table 6.6 shows the recommended movement controls for empty pig transport vehicles and associated equipment within and between declared areas.

Table 6.6 Recommended movement controls for empty pig transport vehicles and equipment

To→ From ↓	**RA**	**CA**	**OA**
RA	Prohibited, except under SpP7	Prohibited, except under SpP7	Prohibited, except under SpP7
CA	Prohibited, except under GP5	Prohibited, except under GP5	Prohibited, except under GP5
OA	Allowed	Allowed	Allowed

CA = control area; GP = general permit; OA = outside area; RA = restricted area; SpP = special permit

Notes for Table 6.6

SpP7 conditions:

- Vehicles that have carried pigs and equipment that has been used with pigs are appropriately decontaminated as soon as possible after use, at an appropriate site (eg truck wash-down facility at an abattoir), and are dry before reuse.

GP5 conditions:

- Vehicles that have carried pigs and equipment that has been used with pigs are appropriately decontaminated as soon as possible after use, at an appropriate site (eg truck wash-down facility at an abattoir), and are dry before reuse.

6.4.6 People and nonsusceptible animals

Movement of **people** is restricted to essential visitors who use protective clothing, including boots, on the premises, including between sections containing pigs of different health status, and decontaminate their hands before leaving the premises.

6.4.7 Crops, grains, hay, silage and mixed feeds

Movement of **crops** and **grains** is allowed, subject to appropriate decontamination. Crops and grains grown on paddocks that have been sprayed with piggery effluent at any time during the 28 days preceding the likely onset of SVD on the property must be disposed of on-site. Other crops may be removed from IPs and DCPs after the completion of decontamination, and from SPs after quarantine has been lifted (28 days). The crops must not be fed to pigs or used as bedding or litter for pigs.

6.4.8 Sales, shows and other events

Events such as**sales** and **shows** are prohibited if pigs are involved. Hunting of feral pigs should be actively discouraged during a response to SVD.

6.4.9 Other movements

Movement of **equipment** is allowed, subject to appropriate decontamination (especially for veterinary instruments).

7 Procedures for surveillance and proof of freedom

In determining an effective and efficient program to prove freedom after an outbreak of swine vesicular disease (SVD), the following elements should be considered:

- the potential for defining the livestock within the restricted, control and free areas into discrete populations for the purposes of surveillance
- the number of properties detected as infected during the outbreak, and the degree of spread this indicates
- the estimated time the virus could have been present in Australia
- for surveillance planning, the World Organisation for Animal Health (OIE)–designated period of 28 days for the incubation period of SVD
- the accuracy, cost and availability of laboratory tests to examine a large number of animals
- whether vaccine has been used
- the resources available to undertake surveillance testing. Close cooperation between the epidemiologist and resources manager is essential. However, limited resources should not compromise achieving a scientifically acceptable result. For example, savings may be accomplished by collecting material from abattoirs, even though material can only be selected from specific age groups of pigs
- organising the program over a slightly longer period.

All these factors will influence the statistically acceptable sample size of testing required for Australia to claim freedom from disease. The pattern and timing of testing will depend on the specific circumstances, but should aim at extending the free area. A country must demonstrate that an effective surveillance program has been implemented and there has been no clinical, epidemiological or other evidence of SVD during the 9 months after a stamping-out policy has been implemented.

Glossary

Disease-specific terms

Corona	Band around the top of the hoof. Also called the coronary band.
Porcine material	Includes pig carcases, meat, products, offal and wastes.
Salvage	Recovery of some (but not full) market value by treatment and use of products, according to disease circumstances.
Serum neutralisation test	A serological test to detect and measure the presence of antibody in a sample. Antibody in serum is serially diluted to detect the highest dilution that neutralises a standard amount of antigen. The neutralising antibody titre is given as the reciprocal of this dilution.
Vesicular disease	Any disease in which intact, ruptured or healing blisters, papules or ulcers may be evident on skin or mucosal surfaces.

Standard AUSVETPLAN terms

Term	**Definition**
Animal byproducts	Products of animal origin that are not for consumption but are destined for industrial use (eg hides and skins, fur, wool, hair, feathers, hooves, bones, fertiliser).
Animal Health Committee	A committee whose members are the Australian and state and territory CVOs, the Director of the CSIRO Australian Animal Health Laboratory, and the Director of Environmental Biosecurity in the Australian Government Department of the Environment. The committee provides advice to the National Biosecurity Committee on animal health matters, focusing on technical issues and regulatory policy (formerly called the Veterinary Committee). *See also* National Biosecurity Committee

Term	Definition
Animal products	Meat, meat products and other products of animal origin (eg eggs, milk) for human consumption or for use in animal feedstuff.
Approved processing facility	An abattoir, knackery, milk processing plant or other such facility that maintains increased biosecurity standards. Such a facility could have animals or animal products introduced from lower risk premises under a permit for processing to an approved standard.
At-risk premises (ARP)	A premises in a restricted area that contains a live susceptible animal(s) but is not considered at the time of classification to be an infected premises, dangerous contact premises, dangerous contact processing facility, suspect premises or trace premises.
Australian Chief Veterinary Officer	The nominated senior veterinarian in the Australian Government Department of Agriculture who manages international animal health commitments and the Australian Government's response to an animal disease outbreak. *See also* Chief veterinary officer
AUSVETPLAN	*Aus*tralian *Vet*erinary Emergency *Plan*. A series of technical response plans that describe the proposed Australian approach to an emergency animal disease incident. The documents provide guidance based on sound analysis, linking policy, strategies, implementation, coordination and emergency-management plans.
Chief veterinary officer (CVO)	The senior veterinarian of the animal health authority in each jurisdiction (national, state or territory) who has responsibility for animal disease control in that jurisdiction. *See also* Australian Chief Veterinary Officer

Term	Definition
Compartmentalisation	The process of defining, implementing and maintaining one or more disease-free establishments under a common biosecurity management system in accordance with OIE guidelines, based on applied biosecurity measures and surveillance, in order to facilitate disease control and/or trade.
Compensation	The sum of money paid by government to an owner for livestock or property that are destroyed for the purpose of eradication or prevention of the spread of an emergency animal disease, and livestock that have died of the emergency animal disease. *See also* Cost-sharing arrangements, Emergency Animal Disease Response Agreement
Consultative Committee on Emergency Animal Diseases (CCEAD)	The key technical coordinating body for animal health emergencies. Members are state and territory CVOs, representatives of CSIRO-AAHL and the relevant industries, and the Australian CVO as chair.
Control area (CA)	A legally declared area where the disease controls, including surveillance and movement controls, applied are of lesser intensity than those in a restricted area (the limits of a control area and the conditions applying to it can be varied during an incident according to need).
Cost-sharing arrangements	Arrangements agreed between governments (national and states/territories) and livestock industries for sharing the costs of emergency animal disease responses. *See also* Compensation, Emergency Animal Disease Response Agreement
Dangerous contact animal	A susceptible animal that has been designated as being exposed to other infected animals or potentially infectious products following tracing and epidemiological investigation.

Term	Definition
Dangerous contact premises (DCP)	A premises, apart from an abattoir, knackery or milk processing plant (or other such facility), that, after investigation and based on a risk assessment, is considered to contain a susceptible animal(s) not showing clinical signs, but considered highly likely to contain an infected animal(s) and/or contaminated animal products, wastes or things that present an unacceptable risk to the response if the risk is not addressed, and that therefore requires action to address the risk.
Dangerous contact processing facility (DCPF)	An abattoir, knackery, milk processing plant or other such facility that, based on a risk assessment, appears highly likely to have received infected animals, or contaminated animal products, wastes or things, and that requires action to address the risk.
Declared area	A defined tract of land that is subjected to disease control restrictions under emergency animal disease legislation. There are two types of declared areas: restricted area and control area.
Decontamination	Includes all stages of cleaning and disinfection.
Depopulation	The removal of a host population from a particular area to control or prevent the spread of disease.
Destroy (animals)	To kill animals humanely.
Disease agent	A general term for a transmissible organism or other factor that causes an infectious disease.
Disease Watch Hotline	24-hour freecall service for reporting suspected incidences of exotic diseases — **1800 675 888**.
Disinfectant	A chemical used to destroy disease agents outside a living animal.
Disinfection	The application, after thorough cleansing, of procedures intended to destroy the infectious or parasitic agents of animal diseases, including zoonoses; applies to premises, vehicles and different objects that may have been directly or indirectly contaminated.

Term	Definition
Disinsectation	The destruction of insect pests, usually with a chemical agent.
Disposal	Sanitary removal of animal carcasses, animal products, materials and wastes by burial, burning or some other process so as to prevent the spread of disease.
Emergency animal disease	A disease that is (a) exotic to Australia or (b) a variant of an endemic disease or (c) a serious infectious disease of unknown or uncertain cause or (d) a severe outbreak of a known endemic disease, and that is considered to be of national significance with serious social or trade implications. *See also* Endemic animal disease, Exotic animal disease
Emergency Animal Disease Response Agreement	Agreement between the Australian and state/territory governments and livestock industries on the management of emergency animal disease responses. Provisions include participatory decision making, risk management, cost sharing, the use of appropriately trained personnel and existing standards such as AUSVETPLAN. *See also* Compensation, Cost-sharing arrangements
Endemic animal disease	A disease affecting animals (which may include humans) that is known to occur in Australia. *See also* Emergency animal disease, Exotic animal disease
Enterprise	*See* Risk enterprise
Enzyme-linked immunosorbent assay (ELISA)	A serological test designed to detect and measure the presence of antibody or antigen in a sample. The test uses an enzyme reaction with a substrate to produce a colour change when antigen–antibody binding occurs.
Epidemiological investigation	An investigation to identify and qualify the risk factors associated with the disease. *See also* Veterinary investigation
Epidemiology	The study of disease in populations and of factors that determine its occurrence.

Term	Definition
Exotic animal disease	A disease affecting animals (which may include humans) that does not normally occur in Australia. *See also* Emergency animal disease, Endemic animal disease
Exotic fauna/feral animals	*See* Wild animals
Fomites	Inanimate objects (eg boots, clothing, equipment, instruments, vehicles, crates, packaging) that can carry an infectious disease agent and may spread the disease through mechanical transmission.
General permit	A legal document that describes the requirements for movement of an animal (or group of animals), commodity or thing, for which permission may be granted without the need for direct interaction between the person moving the animal(s), commodity or thing and a government veterinarian or inspector. The permit may be completed via a webpage or in an approved place (such as a government office or commercial premises). A printed version of the permit must accompany the movement. The permit may impose preconditions and/or restrictions on movements. *See also* Special permit
In-contact animals	Animals that have had close contact with infected animals, such as noninfected animals in the same group as infected animals.
Incubation period	The period that elapses between the introduction of the pathogen into the animal and the first clinical signs of the disease.
Index case	The first case of the disease to be diagnosed in a disease outbreak. *See also* Index property
Index property	The property on which the index case is found. *See also* Index case

Term	Definition
Infected premises (IP)	A defined area (which may be all or part of a property) on which animals meeting the case definition are or were present, or the causative agent of the emergency animal disease is present, or there is a reasonable suspicion that either is present, and that the relevant chief veterinary officer or their delegate has declared to be an infected premises.
Local control centre (LCC)	An emergency operations centre responsible for the command and control of field operations in a defined area.
Monitoring	Routine collection of data for assessing the health status of a population or the level of contamination of a site for remediation purposes. *See also* Surveillance
Movement control	Restrictions placed on the movement of animals, people and other things to prevent the spread of disease.
National Biosecurity Committee (NBC)	The NBC was formally established under the Intergovernmental Agreement on Biosecurity (IGAB). The IGAB was signed on 13 January 2012, and signatories include all states and territories except Tasmania. The NBC provides advice to the Agriculture Senior Officials Committee and the Agriculture Ministers' Forum on national biosecurity issues, and on the IGAB.
National management group (NMG)	A group established to approve (or not approve) the invoking of cost sharing under the Emergency Animal Disease Response Agreement. NMG members are the Secretary of the Australian Government Department of Agriculture as chair, the chief executive officers of the state and territory government parties, and the president (or analogous officer) of each of the relevant industry parties.
Native wildlife	*See* Wild animals

Term	Definition
OIE Terrestrial Code	OIE *Terrestrial Animal Health Code*. Describes standards for safe international trade in animals and animal products. Revised annually and published on the internet at: www.oie.int/international-standard-setting /terrestrial-code/access-online
OIE Terrestrial Manual	OIE *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals*. Describes standards for laboratory diagnostic tests and the production and control of biological products (principally vaccines). The current edition is published on the internet at: www.oie.int/international-standard-setting/terrestrial-manual/access-online
Operational procedures	Detailed instructions for carrying out specific disease control activities, such as disposal, destruction, decontamination and valuation.
Outside area (OA)	The area of Australia outside the declared (control and restricted) areas.
Owner	Person responsible for a premises (includes an agent of the owner, such as a manager or other controlling officer).
Polymerase chain reaction (PCR)	A method of amplifying and analysing DNA sequences that can be used to detect the presence of viral DNA.
Premises	A tract of land including its buildings, or a separate farm or facility that is maintained by a single set of services and personnel.
Premises of relevance (POR)	A premises in a control area that contains a live susceptible animal(s) but is considered at the time of classification not to be an infected premises, suspect premises, trace premises, dangerous contact premises or dangerous contact processing facility.
Prevalence	The proportion (or percentage) of animals in a particular population affected by a particular disease (or infection or positive antibody titre) at a given point in time.
Primary case	The first actual case of the disease.

Term	Definition
Quarantine	Legal restrictions imposed on a place or a tract of land by the serving of a notice limiting access or egress of specified animals, persons or things.
Resolved premises (RP)	An infected premises, dangerous contact premises or dangerous contact processing facility that has completed the required control measures and is subject to the procedures and restrictions appropriate to the area in which it is located.
Restricted area (RA)	A relatively small legally declared area around infected premises and dangerous contact premises that is subject to disease controls, including intense surveillance and movement controls.
Risk enterprise	A defined livestock or related enterprise that is potentially a major source of infection for many other premises. Includes intensive piggeries, feedlots, abattoirs, knackeries, saleyards, calf scales, milk factories, tanneries, skin sheds, game meat establishments, cold stores, artificial insemination centres, veterinary laboratories and hospitals, road and rail freight depots, showgrounds, field days, weighbridges, garbage depots.
Sensitivity	The proportion of truly positive units that are correctly identified as positive by a test. *See also* Specificity
Sentinel animal	Animal of known health status that is monitored to detect the presence of a specific disease agent.
Seroconversion	The appearance in the blood serum of antibodies (as determined by a serology test) following vaccination or natural exposure to a disease agent.
Serosurveillance	Surveillance of an animal population by testing serum samples for the presence of antibodies to disease agents.

Term	Definition
Serotype	A subgroup of microorganisms identified by the antigens carried (as determined by a serology test).
Serum neutralisation test	A serological test to detect and measure the presence of antibody in a sample. Antibody in serum is serially diluted to detect the highest dilution that neutralises a standard amount of antigen. The neutralising antibody titre is given as the reciprocal of this dilution.
Slaughter	The humane killing of an animal for meat for human consumption.
Special permit	A legal document that describes the requirements for movement of an animal (or group of animals), commodity or thing, for which the person moving the animal(s), commodity or thing must obtain prior written permission from the relevant government veterinarian or inspector. A printed version of the permit must accompany the movement. The permit may impose preconditions and/or restrictions on movements. *See also* General permit
Specificity	The proportion of truly negative units that are correctly identified as negative by a test. *See also* Sensitivity
Stamping out	The strategy of eliminating infection from premises through the destruction of animals in accordance with the particular AUSVETPLAN manual, and in a manner that permits appropriate disposal of carcasses and decontamination of the site.
State coordination centre (SCC)	The emergency operations centre that directs the disease control operations to be undertaken in that state or territory.
Surveillance	A systematic program of investigation designed to establish the presence, extent or absence of a disease, or of infection or contamination with the causative organism. It includes the examination of animals for clinical signs, antibodies or the causative organism.

Term	Definition
Susceptible animals	Animals that can be infected with a particular disease.
Suspect animal	An animal that may have been exposed to an emergency disease such that its quarantine and intensive surveillance, but not pre-emptive slaughter, is warranted. *or* An animal not known to have been exposed to a disease agent but showing clinical signs requiring differential diagnosis.
Suspect premises (SP)	Temporary classification of a premises that contains a susceptible animal(s) not known to have been exposed to the disease agent but showing clinical signs similar to the case definition, and that therefore requires investigation(s).
Swill	Also known as 'prohibited pig feed', material of mammalian origin, or any substance that has come in contact with this material; it does not include: • milk, milk products or milk byproducts, either of Australian provenance or legally imported for stockfeed use into Australia • material containing flesh, bones, blood, offal or mammal carcases that is treated by an approved process • a carcass or part of a domestic pig, born and raised on the property on which the pig or pigs that are administered the part are held, that is administered for therapeutic purposes in accordance with the written instructions of a veterinary practitioner • material used under an individual and defined-period permit issued by a jurisdiction for the purposes of research or baiting.

Term	Definition
Swill feeding	Also known as 'feeding prohibited pig feed', includes: • feeding, or allowing or directing another person to feed, prohibited pig feed to a pig • allowing a pig to have access to prohibited pig feed • the collection and storage or possession of prohibited pig feed on a premises where one or more pigs are kept • supplying to another person prohibited pig feed that the supplier knows is for feeding to any pig.
Trace premises (TP)	Temporary classification of a premises that contains susceptible animal(s) that tracing indicates may have been exposed to the disease agent, or contains contaminated animal products, wastes or things, and that requires investigation(s).
Tracing	The process of locating animals, persons or other items that may be implicated in the spread of disease, so that appropriate action can be taken.
Unknown status premises (UP)	A premises within a declared area where the current presence of susceptible animals and/or risk products, wastes or things is unknown.
Vaccination	Inoculation of individuals with a vaccine to provide active immunity.
Vaccine	A substance used to stimulate immunity against one or several disease-causing agents to provide protection or to reduce the effects of the disease. A vaccine is prepared from the causative agent of a disease, its products, or a synthetic substitute, which is treated to act as an antigen without inducing the disease.
– adjuvanted	A vaccine in which one or several disease-causing agents are combined with an adjuvant (a substance that increases the immune response).

Term	Definition
– attenuated	A vaccine prepared from infective or 'live' microbes that are less pathogenic but retain their ability to induce protective immunity.
– gene deleted	An attenuated or inactivated vaccine in which genes for non-essential surface glycoproteins have been removed by genetic engineering. This provides a useful immunological marker for the vaccine virus compared with the wild virus.
– inactivated	A vaccine prepared from a virus that has been inactivated ('killed') by chemical or physical treatment.
– recombinant	A vaccine produced from virus that has been genetically engineered to contain only selected genes, including those causing the immunogenic effect.
Vector	A living organism (frequently an arthropod) that transmits an infectious agent from one host to another. A *biological* vector is one in which the infectious agent must develop or multiply before becoming infective to a recipient host. A *mechanical* vector is one that transmits an infectious agent from one host to another but is not essential to the life cycle of the agent.
Veterinary investigation	An investigation of the diagnosis, pathology and epidemiology of the disease. *See also* Epidemiological investigation
Viraemia	The presence of viruses in the blood.
Wild animals	
– native wildlife	Animals that are indigenous to Australia and may be susceptible to emergency animal diseases (eg bats, dingoes, marsupials).
– feral animals	Animals of domestic species that are not confined or under control (eg cats, horses, pigs).
– exotic fauna	Nondomestic animal species that are not indigenous to Australia (eg foxes).

Term	Definition
Zero susceptible species premises (ZP)	A premises that does not contain any susceptible animals or risk products, wastes or things.
Zoning	The process of defining, implementing and maintaining a disease-free or infected area in accordance with OIE guidelines, based on geopolitical and/or physical boundaries and surveillance, in order to facilitate disease control and/or trade.
Zoonosis	A disease of animals that can be transmitted to humans.

Abbreviations

Disease-specific abbreviations

FMD	foot-and-mouth disease
SVD	swine vesicular disease

Standard AUSVETPLAN abbreviations

Abbreviation	**Full title**
AAHL	Australian Animal Health Laboratory
AN	assessed negative
APF	approved processing facility
ARP	at-risk premises
AUSVETPLAN	Australian Veterinary Emergency Plan
CA	control area
CCEAD	Consultative Committee on Emergency Animal Diseases
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CVO	chief veterinary officer
DCP	dangerous contact premises
DCPF	dangerous contact processing facility
EAD	emergency animal disease
EADRA	Emergency Animal Disease Response Agreement
EADRP	Emergency Animal Disease Response Plan
EDTA	ethylenediaminetetraacetic acid (anticoagulant for whole blood)
ELISA	enzyme-linked immunosorbent assay
GP	general permit
IETS	International Embryo Transfer Society

Abbreviation	Full title
IP	infected premises
LCC	local control centre
NASOP	nationally agreed standard operating procedure
NMG	National Management Group
OA	outside area
OIE	World Organisation for Animal Health
PCR	polymerase chain reaction
POR	premises of relevance
RA	restricted area
RP	resolved premises
SCC	state coordination centre
SP	suspect premises
SpP	special permit
TP	trace premises
UP	unknown status premises
ZP	zero susceptible species premises

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Training resources

See the **Summary Document** for a full list of training resources.