

AVA Policy on Electronic Identification Of Animals -

Microchips

Preamble

This document constitutes the AVA's overall policy position on electronic identification of animals. It is recognised that there are many different methods of application of radiofrequency identification (RFID) and varying requirements for different categories of animals, industries, species and uses. The AVA believes that the effective functioning of these different systems involves different specific technical and operational considerations.

Objective

The objective of this Policy is to facilitate the establishment of efficient, practical and functional RFID systems that identify animals and their owners for the purposes of animal recovery, control and management.

Standards and procedures for the application of this policy in different situations are described in the suite of "AVA Protocols for Electronic Identification of Animals" developed to underpin this policy. The AVA will develop additional protocols for other categories and uses as the need arises.

Policy

The AVA regards Radio Frequency Identification (RFID) as the preferred form of permanent identification for animals.

The AVA is committed to working with regulatory authorities, industry bodies and other interested parties to facilitate the development of efficient national RFID systems. The AVA recognises that for some categories of animals, organisations or bodies other than the AVA will be the more appropriate source of animal identification standards.

AVA members should comply with industry guidelines or standards that have been formally endorsed by the AVA. In all other cases the AVA Protocols for Electronic Identification of Animals shall apply.

The AVA believes that effective electronic identification of animals is dependent on the integration and control of four essential elements:

1. The RFID device (transponder) - microchip implant, rumen bolus, ear tag etc.
2. The reader (scanner) network
3. Database operation and management
4. Defined operating procedures.

In implementing the four essential elements the AVA firmly believes:

1. RFID is a national concern and, whilst recognising local legislative requirements, a national perspective must be maintained at all times.
2. Standards for Australian RFID systems should be based on the International Standards Organization (ISO) standards ISO 11784 and ISO 11785, with significant modifications to suit Australian conditions.
3. The significant installed base of earlier non-ISO FDX-A microchip technologies in some species must be acknowledged and protected by policies and protocols. However, continued use of non-ISO compliant devices in these species should not be accepted after December 31 2001. Any new RFID schemes should employ ISO-compliant FDX-B devices from inception.
4. The RFID device must cause no harm to the animal, be durable enough to function for the intended identification period and meet the performance requirements of the Australian Veterinary Association.
5. To ensure readability of installed devices it is imperative that a comprehensive network of compatible readers is established prior to widespread application of transponders. In relation to implanted transponders in dogs and cats, practitioner members should have readers capable of reading ISO-compliant FDX-B microchips as well as FDX-A transponders by December 31 2001. The AVA is committed to working with state and local governments to facilitate the development of an ISO compliant FDX-A and FDX-B capable network in all pounds, shelters and other places where animals are handled.
6. The database registry has a central role in all aspects of management, security and accountability of electronic identification systems. Proper registry management is the only assurance of uniqueness of numbers of RFID devices. Integral to this is the management of records of transponders in the country and audit trails of installed devices.
7. The AVA will only endorse database registry systems that comply with AVA protocols for the species involved and where identification and listing in the database system are for the life of the animals involved.
8. To ensure maximum effectiveness there must be strict adherence to defined operational procedures and protocols for implantation/application of devices, recording of information and scanning procedures.

AVA PROTOCOLS FOR ELECTRONIC IDENTIFICATION OF ANIMALS

PART A - COMPANION ANIMALS

1. INTRODUCTION

These protocols underpin the AVA Policy on Electronic Identification of Animals and form the basis for the system for electronic identification of companion animals in all cases. They contain technical and operational considerations required for the realisation of the AVA policy in relation to companion animals.

For the purposes of these protocols companion animals are taken to be any animals other than horses that are normally kept as pets. It is not intended to include reptiles, zoo animals or wildlife that are not normally kept as pets.

The objective of the AVA Policy and Protocols is to facilitate the establishment of efficient, practical and functional Radio Frequency Identification (RFID) systems that permanently identify companion animals and their owners for two purposes;

- (a) to enable the prompt reunion of lost companion animals with their owners, and
- (b) to serve as a tool in urban animal management.

Radio Frequency Identification (RFID) is a method of identification that utilises a radio-frequency signal transmitted between an electronic device ("transponder" or "microchip") and a reading device ("scanner"). The information provided by the transmitted signal identifies the transponder and, by cross reference to stored data (in a "database" or "registry"), identifies the animal carrying that transponder

The AVA identifies four essential elements that must be integrated and controlled in order to provide effective and reliable RFID systems. In the context of companion animals these elements are:

1. The electronic device (i.e. the microchip implant or transponder),
2. The reader (scanner) network,
3. Database (registry) operation and management, and
4. Defined operational procedures for implantation and scanning.

2. THE IDENTIFICATION DEVICE (MICROCHIP IMPLANT / TRANSPONDER)

The identification device ("microchip") is a small transponder that is designed to pick up energy from the electrical field created by a scanner. The transponder uses the energy to power an integrated circuit attached to its antenna. The integrated circuit (the actual microchip) creates a signal of specific characteristics including the transponder's identification data and transmits it to the scanner, using the same antenna. This signal can be read by a suitable scanner and translated into an identification number on a visual electronic display.

All electronic animal identification devices for companion animals must conform to the following criteria:

- a. The life span of the device and the transponder must be compatible with the expected maximum life span of the animal being identified.
- b. In recognition of the current transition from the use of older non-ISO compliant FDX-A technologies (Destron 125 kHz, AVID 125 kHz non-encrypted and Trovan 128 kHz) to FDX-B devices compatible with ISO 11784, these existing FDX-A technologies may continue to be used until 31 December 2001 to enable sufficient time to upgrade the reader network to ISO capability. After that date only ISO compliant FDX-B transponders should be used for companion animals.
- c. Subject to part b above, the transponder used must carry a unique, unalterable identification number (bits 27 - 64 of the data stream as defined in ISO 11784) and an International Committee of Animal Recording (ICAR) issued manufacturer code number (bits 17 - 26). Thus the unique number is made up of a 15 digit number, where the first three digits are the manufacturer code.
- d. Devices -that can be reprogrammed after implantation should not be used for the identification of companion animals.
- e. Microchip implants must also conform to the following criteria as detailed in the Australian Standard AS 5019:
 - i. The implant and transponder shall be robust enough to withstand the anticipated traumas at its implantation site (maximum acceptable failure rate 0.1%) and shall have an expected lifespan compatible with the expected maximum lifespan of the implanted dog or cat i.e. 20 years.
 - ii. Transponders in implants for use in companion animals must not utilise HDX technology irrespective of whether the implant is compatible with ISO 11784.
 - iii. The implant shall be biologically inert and come pre-sterilised and individually packaged ready for implantation via a delivery system that maintains sterility of the device and the implantation process
 - iv. Transponders shall be designed and manufactured to minimise migration once implanted.
 - v. The transponder shall have an effective real-life situation minimum (worst orientation) read range of 50mm with the appropriate reader.
 - vi. The instrument used for implantation shall be designed in such a way that the sterility of the implant or implantation process is not compromised.
 - vii. All adverse reactions should be reported to the AVA on the approved form.

3. THE READER (SCANNER) SYSTEM

When the scanner is activated it creates an energy field that powers the transponder. The scanner simultaneously receives the signal transmitted by the transponder, either by the same antenna that created the energy field or by a separate receiving antenna. The scanner interprets the signal, converting it from binary data to decimal or other format, and then sends it to a visual display, a computer, or other device.

Microchip implants will not be detected in animals unless there is a network of competent and compatible readers installed in pounds and shelters, animal welfare agencies, veterinary clinics and other places where animals are handled.

The following general requirements apply to the reader system for microchip implants:

- a. Pounds and shelters, animal welfare agencies, veterinary clinics and other places where animals are handled must have the capacity to read all types of acceptable RFID transponder implants used in companion animals.
- b. The reader/transponder interface must be responsive enough to enable the identification details to be read when the reader is passed over the site of implantation to meet the requirements of Australian Standard AS 5019 as detailed below.
- c. Suppliers of readers should have readily available replacement equipment and an efficient repair service.

Reader systems for microchip implants must meet the following requirements as detailed in the Australian Standard AS 5019:

1. For dogs, cats and other small animals with microchip implants the reader/transponder interface must be able to respond to a scan involving two steady sweeps along the long axis of the animal and two sweeps perpendicular to the long axis from elbow to elbow, at a distance of 50mm and a speed of 0.5 m/s. It should be able to produce the identifying number in that time, or at least identify the presence of a microchip and register the need for further scanning.

2. For other animals with microchip implants the reader/transponder interface must be able to respond to a scan involving two steady sweeps along the area of the animal that implantation takes place at a distance of 50mm and a speed of 0.5 m/s. It should be able to produce the identifying number in that time, or at least identify the presence of a microchip and register the need for further scanning.

3. Capability of reading the following types of transponders used in microchip implants:

- i. FDX-A implants used in Australia (Destron 125 kHz, AVID 125 kHz non-encrypted and Trovan 128 kHz), and
- ii. FDX-B implants compatible with ISO 11784.

Pounds and shelters, animal welfare agencies, veterinary clinics and other places where animals are handled can achieve this by using:

- An ISO Multireader that reads both ISO compliant FDX-B microchips and all types of FDX-A microchips (this is the preferred option).

OR

- An ISO-only reader that only reads ISO compliant FDX-B microchips in combination with an FDX-A Multireader that reads all three types of existing FDX-A technologies used in Australia (Destron 125 kHz, AVID 125 kHz non-encrypted and Trovan 128 kHz).

OR

- An ISO-only reader that only reads ISO compliant FDX-B microchips in combination with three separate single technology FDX-A readers for each of the existing FDX-A technologies used in Australia (Destron 125 kHz, AVID 125 kHz non-encrypted and Trovan 128 kHz).
4. Only backwards compatible multireaders that read both ISO compliant FDX-B microchips and all types of FDX-A microchips should be supplied in Australia until FDX-A microchip implants have been out of use for at least 20 years (i.e. 2021).
 5. The reader should display the complete unique identification number, namely the manufacturer code followed by the microchip identification number.

4. THE REGISTRY SYSTEM

This section covers the minimum systems requirements for the operation, management and control of registers of data regarding owners and their companion animals that have been permanently identified by implanted RFID technology.

Animal identification and the linking of identified animals to owners can only be effected by reference to information stored in a database registry. The information retrieval system must be designed to ensure efficient practical performance of the registry to enable both;

- a. the prompt reunion of lost companion animals with their owners; and
- b. the use of RFID technology as a means of permanent identification of companion animals as an aid for animal management.

Transponder number uniqueness and recognition are the basis for the usefulness of RFID as a method of permanent identification for companion animals. Number uniqueness cannot be guaranteed by either the transponder or the reader alone, but only in conjunction with national management of RFID device numbers via database registries.

Database management is fundamental to system performance and detection of system failures. All electronic animal identification registries containing information on companion animals must conform to the following general criteria:

4.1 REGISTRY OPERATIONS AND PREVENTION OF NUMBER DUPLICATION

To ensure no duplication of numbers occurs, skeleton numbers of all transponders to be sold in Australia should first be registered on the national network of interlinked database registries and be verified as unique for use in Australia. The onus and cost for this rests with the transponder distributors/manufacturers.

As detailed in section 2, transponders used must identify manufacturer by code as prescribed in Australian Standard AS 5018. The manufacturer must only use their ICAR-granted manufacturer code and is responsible for the uniqueness of the individual transponder identification numbers in transponders carrying their manufacturer code.

Suppliers of microchip transponders should maintain an audit trail of their products including skeleton records of imported devices, together with details of batch numbers, sales and implanting centre. In addition, where known, the audit trail should include the registry actually holding animal and owner information.

Distributors must provide approved registries with skeleton records in suitable electronic format (or electronic access to skeleton records) appropriate for instantaneous validation at the time of data entry. Skeleton records should include transponder number and linkage to manufacturer and/or distributor and implanter purchasing the transponder.

4.2 INFORMATION CAPTURE

4.2.1 Initial recording of information

Using the approved application form, the implanter should authenticate animal, owner and transponder details. Both the implanter and owner or agent should sign the form.

4.2.2 The implanter

Microchips should only be implanted by authorised implanters.

The implanter is to ensure that information is forwarded to a registry complying with these protocols and that the information supplied conforms to AS 5019. The information is to reach the registry within five working days from date of implantation.

4.2.3 Updating of recorded information.

- a. There should be provision for change of information such as owner name, address, contact number, animal desexed status, transponder status, death of animal, etc. Records should only be changed on receipt of the prescribed form, issued by the registry and signed by the listed owner or the rehousing agency.
- b. 'Confirmation of Recorded Information' certificates and approved change of information/ownership forms should be provided to animal owners following the initial recording of data on the registry and any subsequent changes.

4.3 DATA ENTRY AND ACCURACY

4.3.1 Recording of information

- a. Initial details and any amendments should be supplied to the registry on an approved application form, which should be signed by the owner and the implanter.
- b. Data should be recorded onto the database within two working days of receipt.
- c. Animal information database fields are to include the type of implanted RFID technology used, external transponder tag identification number (where applicable), municipal external tag identification number and date of expiry (where applicable), name of the animal, age or date of birth, colour, sex, reproductive status, breed, and species.

- d. Owner information database fields to include title, first and other names, surname, address (residential and postal), telephone and/or fax contact details, second contact name and telephone number, year and municipality and State / Territory of residence.
- e. Implanting details to include transponder number and type, implanting veterinarian, implanting date, and number of external transponder tag issued (where applicable).
- f. (Cross link provisions for one owner to have several animals, and for joint ownership of animals. History of previous owner/animal links should be maintained active for two years, after which they can be archived.

4.3.2 Accuracy of Information

- a. Accuracy is critical, as information may be used for infringement notices etc. as well as for recovery of animals.
- b. Consideration needs to be given to ways of reducing errors, such as multiple peel off labels of microchip numbers to avoid transcription errors, computer comparisons between council records and Registry database to ensure accurate updates, etc.
- c. Accuracy and performance of the Registry will be greatly enhanced by end point validation of microchip numbers at the point of data entry by comparison with skeleton numbers.

4.4 CAPACITY TO RETRIEVE INFORMATION

4.4.1 General

In the event of a positive scanning, authorised persons should be able to use the security code to access the registry and retrieve owner details. (See Security of information item 4.7)

- Authorised users include
- Local government authorities
- Animal welfare organisations
- Scanning and implantation centres – and registered veterinarians
- Police in the conduct of investigation

4.4.2 Access

The Registry Service Provider should ensure the following is adhered to:

- a. Telephone access to owner/animal information must be available at all times. The registry must be accessible 24 hours a day, 365 days per year to permit retrieval of information by authorised persons.
- b. Access to information by authorised persons on shire or council basis by way of computer files, etc. for purposes other than immediate identification of individual animals need only be available during normal business hours.

4.5 DATA OWNERSHIP, CONFIDENTIALITY & REGISTER CONTINUITY

4.5.1 Proprietorship of information

- a. Subject to any relevant legislation to the contrary, information in the database registry is owned by the animal owner and is held in custodial care or trusteeship rather than individual or corporate ownership by the Service Provider, registry or the implanter.
- b. Proprietary rights of owners regarding recorded data should be maintained. Data must not be sold to other parties under any circumstances. Apart from individual animal retrievals to persons with authorised access, information must not be provided to other parties except with the prior written consent of the Supervisory Authority (ref 4.10).c)
- c. The supervisory authority may also permit municipal and shire councils access to details that are submitted by that council.

4.5.2 Registry confidentiality

Data collected is to remain confidential; privacy issues are to be addressed and commercial exploitation of the data prevented. Explanatory information to this effect should be provided by the Service Provider to the animal owner.

4.5.3 Continuity of register activity

Continuity of register activity is to be assured in the event of default by the Service Provider (refer 4.8).

4.6 GENERAL CONSIDERATIONS

4.6.1 Data acceptance

The Registry Service Provider should accept and record the required details from any approved implanter or implantation centre using any implanted RFID technology conforming to Australian Standards AS 5018 and AS 5019, providing the appropriate fee is paid.

This linking information may arise from implantation either obligatory or enabled under any current or future legislation; from municipalities deciding to use RFID technology as their means of identification of companion animals; and from dog and cat owners choosing to use this form of identification.

4.6.2 Lifetime recording

Database recording should only be accepted on the basis of recording the relevant information in the registry for the life of the animal.

4.6.3 Cost of recovery of data

Cost of recovery of data should be at the expense of the database Service Provider and should be built into the registry fees for data recording

4.7 SECURITY OF INFORMATION

4.7.1 Security

- a. Animal identification and registration details should be available to owners and authorised persons only on an individual animal basis using Personal Identification Numbers (PIN) or similar security codes.
- b. The security of data control (such as data entry, data amendment) is the responsibility of the operator of the registry and they must maintain absolute and strict confidentiality at all times.
- c. The operator of the database registry should provide and observe a multilevel security system amongst its employees and anyone else with access to the database, and provide security of the database itself, to the satisfaction of the Supervisory Authority (ref 4.10).
- d. There may be a need to retrieve large volumes of information for other purposes; e.g. as entire lists for municipalities for updating/checking of data, for statistical or research studies; or information required for investigations such as lists of data supplied by particular implanters or regarding particular brands of transponders. This type of data retrieval will only be permissible following specific consideration by and with written instructions from the Supervisory Authority (ref 4.10).
- e. Apart from the situations outlined in (a) to (d) above, no person or organization is to be permitted access to the data for any reason whatsoever without the clear and written consent of the Supervisory Authority (ref 4.10).
- f. Employees or their agents must not make any copy or copies of the confidential information except for and in the course of the approved registry providing the services.

4.8 BACKUP OF REGISTRY DATA

4.8.1 Backup

- a. There is a need for at least one level of electronically maintained backup together with hard copy of original record documents. Hard copy should be kept for 5 years.
- b. There must also be provision for communications backup systems that will operate when normal communication channels fail e.g. receiving requests on recorded messages when the telephone system fails.
- c. An electronic backup of the total database is to be provided and deposited in a bank deposit box in the Service Provider's bank on a monthly basis. At the discretion of the Supervisory Authority an independent auditor will be given access to the backup from time to time in order to compare with the Service Provider's database and provide certification that the backup is accurate and contemporary.
- d. Access to these backup records will be available to the Supervisory Authority (refer 4.10) only in the event of termination of the contract with the Service Provider (refer 4.10.1).
- e. In the event of an approved registry termination the backup data held must be transferred to another approved registry by the Supervisory Authority.

4.9 INTEGRATION WITH OTHER SYSTEMS

4.9.1 Integration and availability

- a. The database registry must interface and communicate with all other AVA approved registries to accept or provide information 24 hours a day every day of the year.
- b. The form of communication, which will be approved by the Supervisory Authority, may range from telephone to the Internet or equivalent as communication technologies develop.

4.10 REGISTRY SUPERVISION

4.10.1 Supervision

The Registry Service Provider must accept legally binding supervision of Registry operations and management by an independent Supervisory Authority to ensure compliance with these Protocols.

4.10.2 Supervisory Authority

'The Supervisory Authority' is the entity that, through commercial service providers, controls the management and operation of registries of data relating to companion animals that have been permanently identified by implanted RFID technology, to ensure that these registries perform satisfactorily and have the confidence of the public.

Where the State Government requirements are at least equivalent to AVA protocols, they would be the preferred supervisory authority. Where this is not possible, other groups representing community interests that meet the AVA protocols may perform the supervisory role. The AVA endorses the principles stated in Appendix 1, as a model for supervisory authority operation.

4.11 COMPLAINTS AND DIFFICULTIES

4.11.1 Complaints and difficulties

The registry Service Provider should have a system for recording and addressing complaints about registry activities both from the general public and also from persons using RFID technology such as implanters and those accessing the registry for data retrieval.

(a) The registry Service Provider should have a reporting mechanism identifying implanters and/or distributors with problems such as:

- i. Failure to link to owner details from microchip number
- ii. Not submitting data within the accepted time frame;
- iii. Inaccuracies in forwarded data;
- iv. Implant failure;
- v. No skeleton records available

- vi. Implant sepsis; and
- vii. any other adverse reaction.

(b) The Supervisory Authority should be kept fully apprised of complaints and difficulties arising out of 4.11.1. (a) and 4.11.1. (b) by the registry Service Provider operating the registry and should act in conjunction with the Service Provider to attempt to resolve them.

5. OPERATIONAL PROCEDURES FOR MICROCHIP IMPLANTS

5.1 The Operator

In respect of the person implanting the microchip.

- a. For companion animal implantation, the operator should preferably be a veterinarian due to the knowledge of sterility, anatomy and pain relief required. The accountability of registered veterinarians fosters accuracy, confidentiality and expertise in record keeping.
- b. Where state legislation permits implantation by laypersons, this should only be permitted after a suitable training course and under the supervision of a registered veterinarian.
- c. Where implantation needs accompanying certification of identification, this must be performed by a registered veterinarian.

5.2 Implantation Procedure

When implanting a microchip the operator must adopt the following procedure:

- a. Prior to implantation with a microchip the animal to be implanted should be thoroughly scanned to ensure a microchip is not already in place. If a microchip is detected the details should be recorded and the owner advised the animal has already been identified. The incident should be followed up with the appropriate authorities.
- b. The microchip to be implanted should be scanned to ensure it is functioning and that the number corresponds to its accompanying documentation.
- c. The microchip implant must be implanted at the correct site in the animal (see 5.3)
- d. A sterile technique should be used to implant the microchip.
- e. Following implantation the animal should be scanned for the presence of the microchip to ensure implantation has been successful.
- f. Using the approved application form, the implanter should complete animal, owner and transponder details (see 5.5 below). The microchip number labels provided should be used to avoid transcription errors. Both the implanter and the owner or agent must sign the form and the information is then forwarded to the registry.
- g. All adverse reactions should be reported to the AVA on the approved form.

5.3 Correct Implantation Sites for Microchips

The correct implantation sites for animals are listed below:

- a. Dogs and cats must be implanted subcutaneously in the dorsum between the scapulae with the chip lying at an angle to the skin plane using sterile technique. Use of local anaesthetic is at the discretion of the implanting veterinarian.
- b. Birds should be implanted intramuscularly in the left pectoral muscle. Small species to be implanted subcutaneously in the same region.
- c. Alpacas implanted subcutaneously midway on the left neck or top of head, behind left ear.
- d. Other species - sites and technique need to be researched. Refer to the appropriate AVA protocols as they are developed and published.

5.4 Scanning of Animals for Microchip Implants

Scanning of animals for the presence of microchips should follow a standard procedure that takes into account reader design and function, scanning pattern, implantation sites and the scanning environment. In general the procedure below should be followed:

- a. Prior to scanning the animal check that the scanner is working properly by running it across a known functional microchip on a bench or held in the hand at a distance of at least 50 mm from the scanner and at a speed of 0.5 m/s.
- b. For dogs, cats and other small animals with microchip implants the scan should include two steady sweeps along the long axis of the animal and two sweeps perpendicular to the long axis from elbow to elbow, at a distance of 50mm and a maximum speed of 0.5 m/s.
- c. For other animals with microchip implants the reader/transponder interface must be able to respond to a scan involving two steady sweeps along the area of the animal that implantation takes place at a distance of 50mm and a maximum speed of 0.5 m/s. It should be able to produce the identifying number in that time, or at least identify the presence of a microchip and register the need for further scanning.

5.5 Registry Notification and Documentary Controls

The following notification and documentation requirements must be complied with:

- a. The implanting centre must maintain comprehensive records of the owner and animal details for animals implanted. Keeping file copies of the details sent to the registry or in the case of veterinary practices as a record kept as part of the client recording system are satisfactory ways of meeting this requirement.
- b. All required owner/animal information on implanted companion animals should be forwarded by the operator, preferably within 24 hours and no longer than 5 days from the time of implantation, to ensure data can be incorporated on the nationally integrated registry system.
- c. The implanting centre and the operator should be identifiable from the data contained on the registry and the documentation. (This enables corrective measures to be taken should an operator have faulty technique/high failure rates/poor sterility etc.).

- d. Registration documentation should give the owner the opportunity to refuse the release of data to others.
- e. Provision for updating the database should be facilitated for the owners of implanted animals, eg. provision of reply paid postcard at time of implantation/initial registration for notifying changed ownership/address or death of the implanted animal.

5.6 Other Recommended Procedures

The following procedures are also recommended for pounds and shelters, animal welfare agencies, veterinary clinics and other places where animals are identified with, or examined for, microchip implants:

- a. All unidentified animals should be scanned for all technologies before sale or euthanasia and all deceased animals before disposal.
- b. It is highly recommended that internal identification be supplemented by external identification, such as a collar and tag.
- c. Implantation should include lifetime registration on an integrated national register accessible by authorised persons including veterinarians 24 hrs/day 365 days /year.

5.7 Suppliers of Microchip Implants

Suppliers of microchip transponders shall maintain an audit trail of their products including skeleton records of imported devices, together with details of batch numbers, sales and implanting centres holding transponders. In addition, where known, the audit trail should include the registry actually holding the relevant animal and owner information.

Distributors must provide approved registries with skeleton records in suitable electronic format (or electronic access to skeleton records) appropriate for instantaneous validation at the time of data entry

6. DEFINITIONS

The following definitions apply:

- a. 'AS 5018 and AS 5019' means the Australian Standard for animal identification.
- b. 'Distributor' means commercial distributor of RFID technology compliant with AS 5018 and AS5019 in Australia.
- c. 'ICAR' means the International Committee on Animal Recording.
- d. 'Implanter' means an approved person implanting the transponder as per the implanter's code.
- e. 'ISO' means the International Standards Organisation.
- f. 'Manufacturer' means manufacturer of RFID technology conforming to AS5018 and AS5019.
- g. 'Reader' (transceiver) means the device used to interrogate the implanted transponder and read its unique identification number in accordance with AS 5018 and AS 5019.
- h. 'Registry' (database registry,) means a store of data about companion animals that have been permanently identified by implanted RFID technology and their owners.
- i. 'RFID' means Radio Frequency Identification.
- j. 'Service Provider' means the commercial entity that operates the registry in accordance with these Protocols.
- k. 'Skeleton Record' means an electronic record of the number of an unused transponder within Australia, linked to a manufacturer or a distributor and an implanter that is provided to a registry operator to validate transponder numbers at the time of data entry.
- l. 'Supervisory Authority' means the entity that, through commercial service providers, controls the management and operation of registries of data about companion animals that have been permanently identified by implanted RFID technology to ensure that these registries perform satisfactorily and have the confidence of the public.
- m. 'Transponder' (microchip) means the implanted RFID device in accordance with AS 5018 and AS 5019.

Appendix A: SUMMARY of Domestic Animals Registry Inc. (DAR) MANAGEMENT and OPERATION PROTOCOLS.

1. Preamble

- i. Domestic Animal Registries Inc (DAR) is a Registry Watchdog organisation comprised of representatives from AVA, RSPCA Victoria, Cat Protection Society Victoria and the Dog and Cat Management Board of South Australia. It is a separate legal entity set up for the specific purpose of supervising microchip registries on behalf of the community.
- ii. DAR has developed protocols to ensure the performance of registries of data concerning owners and their domestic animals that have been permanently identified by implanted radio frequency identification (RFID) technology ("microchipping") and to inspire public confidence in these registries.

- iii. Registry Service Providers (RSP) agree to enter into a legally binding contract with DAR to abide by the DAR protocols
- iv. DAR monitors and enforces the protocols via regular auditing of all operations.
- v. Where state governments enact laws or regulations to control microchip identification systems it is hoped that they will institute similar protocols or subcontract DAR to perform registry control and auditing functions

2. Objectives

- i. To ensure registry performance so that RFID technology can be used to enable the prompt reunion of lost pets with their owners and as a tool for urban animal management.
- ii. To help guarantee transponder number uniqueness in conjunction with management of transponder skeleton records and audit trails.
- iii. To protect owners' rights regarding recorded data where no specific legislation enacted.
- iv. To guarantee RSP performance and ensure continuity of registry activity if RSP defaults.
- v. To address confidentiality and privacy issues and prevent commercial exploitation of the data.
- vi. Ensure RSP does not favour one technology or commercial entity over another.

3. General Considerations

- i. The Registry is to accept and record information regarding owners and animals identified by implanted RFID.
- ii. Information is only accepted on the basis of recording this data for the life of the animal.
- iii. The registry must accept data from any approved implanter using appropriate microchips providing the fee is paid.
- iv. In the case of ISO compliant FDX-B microchips, the registry must only accept registration of microchips where the numbering sequence complies with AS 5018 and commences with a manufacturer code.
- v. The registry must only accept linking data about microchips where relevant distributors maintain skeleton records of their products in Australia and provide details to RSP of audit trail through sales outlets and implanting centres to registries.
- vi. Cost of recovery of data is at the expense of the RSP and should be built into registry fees for data recording.
- vii. The registry must interface, accept or provide information from all other DAR approved registries.

4. Proprietorship of Information

- i. Unless there is relevant legislation to the contrary, information in the database registry is owned by the animal owner and is held in trusteeship only by the RSP.
- ii. No information is to be sold or passed on to other parties other than for individual animal retrievals.

5. Security of Information

- i. Only authorized persons with security codes (PIN) can be given information, and only for individual pet retrieval.
- ii. All data security and control (data entry, amendment) is the responsibility of the RSP.
- iii. Effective and approved multi level security system must be in use at all time
- iv. Retrieval of information for other purposes is permissible only after special written instructions from DAR.
- v. Apart from the situations detailed above, no person or organization is to be permitted access to the data without specific written consent from DAR.

6. Recording of Information

- i. All details submitted must be on the approved forms and signed by the animal owner and the implanter.
- ii. Data must be recorded onto the database within two working days of receipt.
- iii. Minimum data fields on the animal, the owner and the implanter are specified in the protocols and must be completed.
- iv. Cross link provisions of owners and animals must be maintained

7. Updating of Recorded Information

- i. There must be provision for change of recorded information.
- ii. Change in ownership must only be effected on receipt of a signed form.
- iii. Confirmation of recorded information or changes must be provided to owners.

8. Access to Information

- i. The registry must be staffed 24 hours a day, 365 days per year for retrieval of information by authorised persons (local government authorities, animal welfare organisations, scanning and implanting centres eg veterinarians, and police) on an individual animal basis.

9. Accuracy of Information

- i. Accuracy of information is critical.
- ii. All efforts be employed to minimize errors of any kind
- iii. A multi-level validation process on microchip numbers, telephone numbers, addresses etc must be in use to ensure accuracy.

10. Backup

- i. Maintain an approved electronic and hard copy backup of the entire system.
- ii. Maintain backup communication systems when normal channels fail.
- iii. Deposit monthly electronic backup of total database in a bank deposit box and have it available for DAR audit as required.
- iv. DAR does not have access to registry records except to ensure continuity of registry activity in the event of termination of contract with the RSP as detailed in the contract/agreement.

11. Integration With Other Systems

- i. Registry must communicate and interface with other registries approved / endorsed by DAR.
- ii. Use of DAR approved communication technologies via computer, by telephone or the internet.

12. Difficulties and Complaints

- i. RSP must have a reporting mechanism listing failures to link to owner details from microchip number, and identifying implanters and/or distributors with problems.
- ii. RSP must have a system for recording and addressing complaints about registry activities both from the general public and also from users such as implanters and those accessing the registry for data retrieval.
- iii. DAR must be kept fully appraised of complaints and difficulties arising out of i and ii by the RSP and will act in conjunction with the RSP to attempt to resolve them.

13. Service Provider

- i. Directors of the RSP must be of proven integrity, with no criminal record or breach of ASX guidelines.
- ii. RSP must have proven technical competence in the areas of information storage and distribution and RFID technology.
- iii. Must have computer hardware and software and procedures adequate to the task.
- iv. Compliance with all protocols, performance criteria and guidelines prescribed by DAR

NOTE:

The DAR protocols have become the industry standard in for RFID registry operation and management in Australasia (April 2002). They form the basis for the Informative Annex ZB Companion Animal Registry Considerations of the Australian Standard AS5019 Electronic Identification of Animals; the Quality Assurance Programme for Companion Animal Microchipping associated with the New Zealand standard; the Urban Animal Management group's position paper on microchips and the proposed state government RFID schemes in Victoria and South Australia.

October 2002

Appendix 2 AVA Accredited Microchip Centres

One of the objectives of the AVA is to promote the veterinary profession to the community.

As part of this objective, veterinarians, as the primary providers for the health and welfare of animals should be the prime implanters of microchip in companion animals.

AVA Accredited Microchip Centres are promoted to State and local government and the community as the preferred location for animal owners to have their companion animals implanted with an identification microchip.

AVA Accredited Microchip Centres agree to comply with the following protocols in order to achieve accreditation.

Protocols

AVA member practices seeking AVA Accreditation must agree to abide by the AVA protocols. The detailed protocols can be accessed by [clicking here](#).

In Summary

- Accredited practices must keep an acceptable inventory of microchips to meet normal demands.
- Must possess a transceiver (reader) or transceivers capable of detecting the FDX-A chips as well as the ISO compatible FDX-B chips.
- Must scan the animal before implantation to ensure that it does not already carry a microchip.
- Must scan the chip prior to and following implantation to ensure it is effective and functioning.
- Must forward registration details of the owner to the nominated registry within a maximum of five days of implantation, but preferably on the following working day.
- Must register animals on registries that meet the AVA protocols for companion animal microchip databases. In those States, such as NSW, where microchip identification is an integral part of the registration process, the practice must also comply with all legal requirements imposed by the registering authority.
- Members should note that in NSW, the use of FDX-B (ISO) microchips is a requirement of NSW Companion Animals Legislation.

Note: *The Companion Animal Registry of the NSW Dept of local government and a number of private microchip registries do not currently comply with AVA guidelines for the operation of microchip registries. Please contact the AVA for a list of registries that do comply.*

- The registry chosen, must offer lifetime registration on the microchip database for the fee charged.

- The accredited practice must keep records (statistics) of the numbers of animals implanted for audit purposes (to help assess the effectiveness of the scheme).
- The accredited practice must use microchips that are individually packaged and sterile.
- The accredited practice must report all adverse reactions to the AVA. A [form](#) is available for this purpose in .pdf format.

Please read the [full list of AVA protocols relating to microchip identification of Companion animals](#) and the operation of microchip registries

Member practices which agree to abide by the [full protocols](#) will be entitled to use the AVA Accredited Microchip Centre logo and advertise as an AVA Accredited Microchip Centre. AVA non-members can contact the AVA for a full copy of the protocols.

Appendix 3

Domestic Animal Registries

PRINCIPAL GUIDELINES OF DOMESTIC ANIMAL REGISTRIES INC.

1. The name of the Association is **Domestic Animal Registries Incorporated.**
2. The purposes for which the Association is established are:
 - (a) to enable the establishment and, through commercial service providers, to control the management and operation of registries of data about domestic animals that have been permanently identified by permanently implanted RFID technology (“microchips”) to ensure that these registries perform satisfactorily and have the confidence of the public,
 - (b) to establish a mechanism for the repository of implanted RFID technology information identification convenient or necessary for the purposes of the Victorian Domestic (Feral and Nuisance) Animals Act or for any other relevant state, territory or local legislation regarding animal management,
 - (c) to develop a legally binding framework of operation and management protocols to specify the minimum performance standards required of domestic animal database registry service providers. These protocols are to ensure that practical performance is guaranteed and the interests of animals, the pet owning public and local government are addressed and protected. In particular, to ensure that;
 - (i) Rights of owners regarding recorded data are maintained by community trusteeship rather than ownership by a commercial entity.
 - (ii) Adequate performance of the service provider is guaranteed.
 - (iii) Data collected remains confidential, privacy issues are addressed and commercial exploitation of the data prevented.
 - (iv) Continuity of register activity is assured in the event of default by the service provider.
 - (v) There is no favouritism of one technology or commercial entity over another.
 - (d) to promote microchipping as the preferred form of permanent identification for companion animals,

- (e) to promote the concepts of identification as early as possible in the life of the animal and the recording of details for the life of the animal at the time of implantation, and
- (f) to do all such other things as may be appropriate for or incidental to the attainment of such purposes.

3. The income and property of the Association shall be used and applied solely in promotion of its purposes and the exercise of its powers as set out in the Rules and in these Statement of Purposes, and subject to Rule 33.1(c), no income or property of the Association is to be distributed, paid or transferred directly or indirectly as a dividend, bonus or profit to any member of the Association.

- 4. There will be no use whatsoever of the data in the registry or registries under the control of the Association by any of the members of the Association.

SCHEDULE TO REGISTRY MANAGEMENT AGREEMENT

DOMESTIC ANIMAL REGISTRIES INC

MANAGEMENT AND OPERATION PROTOCOLS

1. Preamble

- i. These Protocols, which set out the minimum conditions for the design, management, Control and operation of a registry of data regarding owners and their domestic animals that have been permanently identified by implanted RFID technology, have been developed by the Domestic Animal Registry Inc (the Association) to ensure that the registry performs satisfactorily and has the confidence of the public.
- ii. The Registry Service Provider (the Company) is entering into a legally binding Agreement (to which this Schedule is appended) with the Association to abide by these protocols for the operation of the database registry. These Protocols should be read in conjunction with the Agreement between the Company and the Association.
- iii. The Association will oversee\audit operations of the database registry according to these Protocols, including acting as a conduit for any complaints. It is hoped that ultimately these Protocols will be approved by government and that the database registry may operate under government control

2. Objectives

- i. Ensure efficient practical performance of the database registry to enable the prompt reunion of lost domestic animals with their owners and the use of RFID technology as an animal management tool.
- ii. Subject to any relevant legislation to the contrary, proprietorial rights of owners regarding recorded data are to be maintained by community trusteeship or government control rather than ownership by a commercial entity.
- iii. Adequate performance of the service provider is to be guaranteed.
- iv. Data collected is to remain confidential, privacy issues are to be addressed and commercial exploitation of the data prevented,
- v. Continuity of register activity is to be assured in the event of default by the Service Provider
- vi. There is no favoritism of one technology or commercial entity over another.

General Considerations

- i. The database registry will accept and record information regarding owners and their animals that have been identified by implanted RFID technology.
 - a) Either required or enabled under any current or future Act of parliament;
 - b) From municipalities deciding to use RFID technology as their means of identification of domestic animals; and
 - c) From owners choosing to use this form of identification.
- ii. Microchip transponders should only be implanted and details only accepted by the Database registry on the basis of recording the relevant information in the registry for the life of the animal.
- iii. The database registry must interface to accept or provide information from or to any other database registry approved by the Association.
- iv. The service provider shall observe the principle of charging the same fee for the same service to different manufacturers and suppliers.

3. Proprietorship of Information

- i. Subject to any relevant legislation to the contrary, information in the database registry is owned by the animal owner and is held in custodial care or trusteeship rather than individual or corporate ownership by the Service Provider.
- ii. Proprietary rights of owners regarding recorded data must be maintained. Data must not be sold to other parties under any circumstances, and apart from individual animal retrievals, information may be provided to other parties only with the prior written consent of the Association.

4. Security of Information

- i. Animal identification and registration details are public domain information and must be generally available to authorised persons (such as veterinarians, Council officers) on an individual animal basis using Personal Identification Numbers (PIN) or similar security codes.
- ii. The security of data control (such as data entry, data amendment) is the responsibility of the Company.
- iii. The Company shall provide and observe a multi level security system amongst its employees and anyone else with access to the database and provide security of the database itself to the satisfaction of the Association.
- iv. There may be a need to retrieve large volumes of information for other purposes eg as entire lists for municipalities for updating/checking of data, for statistical or research studies. This type of data retrieval will only be

permissible following specific decisions and written instructions from the Association.

- v. Apart from the situations outlined above, no person or organisation is to be permitted access to the data for any reason whatsoever without the clear and written consent of the Association.

5. Recording of Information

- i. Initial details and any amendments must be on the approved application form and signed by the owner and the implanter.
- ii. Data must be recorded onto the database within two working days of receipt.
- iii. Animal information data base fields to include implanted RFID technology type, external tag identification (where applicable), name/s, date of birth, colour, sex, reproductive status, breed, and species.
- iv. Owner information data base fields to include title, first and other names surname, address (residential & postal), phone, second contact, year and municipality.
- v. Implanting details to include microchip transponder number, implanting veterinarian, implanting date, and number of external tag issued and its date of expiry where applicable.
- vi. Cross link provisions for one owner to have several animals, and for joint ownership of animals. History of previous owner-animal links may also be required.

6. Updating of Recorded Information

- i. There must be provision for change of information such as owner name, address, contact number, animal desexed status, microchip status, death of animal, etc.
- ii. In the case of death or change in ownership of an animal records must only be changed on receipt of the prescribed form signed by the listed owner or the rehousing agency.
- iii. Confirmation of recorded information certificates and appropriate change of information/ownership forms approved by the Association must be provided to animal owners following the initial recording of data on the registry.

7. Access to Information

- i. Easy to use access to owner/animal information at all times is imperative. The database registry must be staffed 24 hours a day, 365 days per year to permit updating and retrieval of information by authorised persons.

- ii. Access for information by authorised persons on shire or council basis by way of computer files etc. for purposes other than immediate identification of individual animals need only be available during normal business hours.

8. Accuracy of Information

- i. Accuracy is critical, as information may be used for infringement notices etc. as well as for recovery of animals.
- ii. Consideration needs to be given to ways of reducing errors, such as multiple peel off labels of microchip numbers to avoid transcription errors, computer comparisons between council records and Registry database to ensure accurate updates, etc.
- iii. Accuracy and performance of the Registry will be greatly enhanced by end point validation by microchip suppliers ie. providing the registry with a list of numbers prior to sale and recording the microchips supplied to each implantation centre.

9. Backup

- i. There is a need for at least one level of electronically maintained backup with or without hard copy of records.
- ii. There must also be provision for communications backup systems which will operate when normal communication channels fail eg receiving requests on recorded messages when telephone system fails.
- iii. The Company will provide an electronic backup of the total database which is to be deposited in a bank deposit box in the Company's bank on a monthly basis. At the discretion of the Association an independent auditor will be given access to the backup from time to time in order to compare with the Company's database and provide certification that the backup is accurate.
- iv. Access to these records will be available to the Association only in the event of the termination circumstances detailed in Clause 6.2 of the Agreement.

10. Integration With Other Systems

- i. The database registry must interface and communicate with other registries approved by the Association.
- ii. The form of communication will be approved by the Association. As communication technologies develop functions such as computer assisted multiple rapid speed dialling and the internet or equivalent may be utilised.

11. Service Provider

- i. The Directors of the Company must be of proven integrity. The Directors must not have a criminal record, be bankrupt or be in breach of ASX guidelines.
- ii. The service provider must have proven technical competence in the areas of information storage and distribution and RFID technology.
- iii. The service provider must have computer hardware and software adequate to the task.
- iv. The service provider must comply with the protocols, performance criteria and guidelines prescribed by these Protocols.