

## Australian Animal Welfare Standards and Guidelines

### **Submission presented by Glan Lines.**

I am Glan Lines, the son of the inventor of the use of electro-immobilisation ( EI) in animals who took out the first world patents on EI in animals 1976. I was present when the discovery was made 37 years ago and I am the Chairman of Stockstill Ltd, the Australian (South Australian) company that is responsible for the design, manufacture and sales of the Stockstill Animal Restraint Unit.

Over the years more than 6,000 units have been sold worldwide.

Mr Lines, the inventor was an Industrial Chemist and responsible for a section of the bomb making factory in Ballarat during World War Two. He was an animal breeder and spent many years as the Stud Master of the oldest registered Merino Stud in South Australia, Gum Hill, registered 1885, now with the 5<sup>th</sup> generation at the helm. With a long history of animal production he was the innovator of fleece measurement in Merino sheep in 1956 and recognised for his work in the animal field as a Life member of the South Australian Agricultural Bureau, was made a fellow of the Australian Society of Animal Production (ASAP) and awarded an Australian Medal. His concern for the future of the wool industry and in particular the shearing process that led to the discovery of EI after being challenged to keep an animal still for wool harvesting by robots which was successfully achieved.

**There are many facets of the EI area that I believe that you should be aware of and are applicable to your decision making.**

1 In 1986 a Senate Enquiry took place which examined in deep detail the use of EI. This is a public document and available for your scrutiny. Senator George Georges was the Government representative.

2 The use of the EI method and in particular Stockstill, has saved thousands of animals from cruelty and suffering throughout the isolated areas of Australia. I have witnessed horns on large station animals that have grown around and into the eye area, sometimes into the eye, where immobilisation has allowed a pain free removal of the horn with no injury to the animal or operator. Likewise sticks and wire in hoofs, pink eye where urgent treatment is critical to stop suffering. A Vet could be many many kilometres and hours away and the cattle also a distance from yards, making a Vets attendance impractical because of isolation. If EI was not available this could result in cattle suffering and being crippled by these problems.

3. Despite the so called controversy that surrounds EI (Stockstill) our Company has never in it's 37 years of existence had a written complaint, nor evidence presented from either RSPCA or Animal Welfare authorities, nor has there been a prosecution of any person/handler for misuse of the EI Stockstill. The Stockstill is sold with a DVD (previously a cassette) that clearly explains the methods of use, along with a precise clear handbook

4 In 1994 the South Australian legislation made the operator very aware of his/her obligations and responsibilities for the use of the EI method. It also required the study of the handbook and the answering of a set of questions, approved by the RSPCA and Animal Welfare authorities, along with a hands on demonstration compulsory before purchase and use of the Stockstill. This we believed to be a progressive move on behalf of all authorities involved.

5 A unique feature of EI or Immobilisation is that, unlike anaesthetics it is reversible. If an animal is not standing correctly or it slips or shows signs of distress the unit can be switched off, the animal allowed to return to a comfortable position and the unit is then switched on again and the procedure being undertaken can be resumed.

6. Stockstill Ltd has continued, throughout it's existence, to further the science of it's products. The original Stockstill unit was very basic and the manufacture of it has ceased. The Super Stockstill allowed far more flexibility and an easier control for the handler. The calm shear model only immobilises the lower part of the sheep for control during shearing. This therefore allows the sheep the opportunity to show distress if it is feeling uncomfortable

7 As the innovator of the use of mirrors in shearing sheds to make the penning of sheep less stressful for the animal and operator I believe that I have a great knowledge of aversion. Prior to this use older ewes in particular were reluctant to enter the catching pen in a shearing shed, knowing what awaited them. Therefore I believe that I understand aversion and it's effects. From our experience where EI is used the return of animals through races is equal to that of those where EI has not been used.

8 A well known Scientist has stated that "Science is a Progression of the Truth, not always the truth". Stockstill Ltd has at all times had the welfare of the animal as its first priority, followed by the OH&S of the handler. Our unit's voltages are far less than any other similar unit on the market which backs up this statement. Please refer to attachment that explains currents and voltages.

9 Having been involved with the development of the Stockstill units and being aware of the value of instant return to normality I am concerned that judgements on EI are made by people coming from an anaesthetics background and have not experienced the instant return. To return to a normal state in such a short period is a benefit compared to other practices.

### **Historical Facts about EI (Electrical immobilisation)**

1. Mr Lance Lines, when he made the discovery of immobilization of vertebrates was referred to Dr Reece Jennings, an Adelaide Dentist with a background in electro anaesthesia . Dr Jennings immobilised the jaw of Mr Lines with the original Standard Stockstill. Needles were inserted into Mr Lines' jaw which was numb and he had no feeling of the needle insertion. Next day his jaw was quite relaxed with no after effect.
2. Initial EI experiments were done on dairy cows with blood cortisol levels being monitored. Following immobilisation these cows willingly returned to the milking bales with no signs of aversion. Professor Victor McFarlane oversaw these experiments but unfortunately passed away due to a heart attack before completing the written reports of these experiments. The dairy farmer noted no changes in the milk production of the cows that were immobilised .
3. Due to EI being a new field Professor Mcfarlane sought an opinion from Dr Patrick Wall, often referred to as the Father of Pain. Professor Wall had also pioneered the Gate Theory of Pain. He gave a very positive reply to this work.

4. Following the granting of a provisional patent , which was the first in the world for EI, Mr Lines sought out the person who had made an application for a similar method , Upon making contact with this person he was told by him that he could not discuss his work as he was being paid a retainer by a large drug company to discontinue. Perhaps this is evidence that the use of drugs would be reduced with the use of EI.
5. Initially clips were used instead of needles for contact, however the Police Dept requested that these be replaced with needles to avoid any opportunity for abuse with humans (eg: Bucks Parties fun) as all vertebrates can be immobilised with EI
6. Dr Tim Kuchel, when a junior Vet at the practice of Dr Wilson at Clare SA. spent many paid hours interpreting the data the effects of immobilisation. This payment was made to the practice of Dr Wilson, and Dr Kuchel was only paid from the practice at his normal hourly rate. Dr Kuchel progressed in his work and became a leader in the commercial Production of snake venom using sheep blood. We, Stockstill Ltd hold Dr Kuchel in the highest regard as EI and now venom production was and is a new science. Dr Kuchel would have continued his work but rumour and innuendo to the effect that he was being paid for his work by Stockstill Ltd became too much and he discontinued his work. He and we were left questioning the agenda of the people behind these rumours.
7. Dr Peter Carter, a veterinarian and farmer from Wellington NSW and a leader for many years with the NSW Farmers Assoc, representing them on Animal Welfare and Exotic Disease Committees has also given many voluntary hours in the research of EI and it's effects, short and long term to animals. He spent many hours assisting in the preparation of manuals and papers to get legislation passed approving the use of EI for humane use and to alleviate the potential for continuing suffering and pain of countless animals in New South Wales and beyond..
8. Dr Neville Gregory, Chair of the University of London Animal Faculty has studied and is a world authority on the use of Electrical energy through animals and maintains the use of EI to be a humane and acceptable form of control
9. An example of the reaction to animals under EI can be the following case. Dr Kuchel selected 2 bull calves, same weight and age for castration. The immobilised one, following castration returned to grazing within less than 5 minutes. The anaesthetised one took 2 hours to recover for the effect of drugs and it was 24 hours before it's former grazing pattern was resumed.
10. When the law was passed in NSW requiring training and demonstration. Before any one in NSW could purchase or use EI, I personally, along with Dr Peter Carter (Veterinarian) trained, at my expense personnel from the far north coast , Mclean to the southern highlands Khancoban, to the far west, Wilcannia. These persons were competent and capable having passed the accreditation criteria. Three months later, due to a change of Government the law was changed to permit use of Ei only by Veterinarians. This was an unfair situation as the Veterinarian did not need to have any form of training and therefore did not understand the correct use of this particular form of EI.

With over 6,000 units sold worldwide and **no written reports** of misuse to us or the SA animal Welfare Dept the place for Ei in Australia and especially the more remote areas must be considered

an asset to rural animal husbandry. The only reports of deaths to us have been at the hands of an untrained Vet, using Stockstill who after killing one sheep continued to use the EI in the same manner on 4 more occasions before seeking assistance from us. This took place at the University of New South Wales, Prospect Division about 30 years ago. When the Veterinarian reported to our Company that deaths had occurred he freely admitted that he had not referred to or read the instruction manual.

#### **Future use of EI (Stockstill)**

Following recent controversy in relation to non humane practices being used in the live export cattle trade to Indonesia in particular, I believe that the Stockstill EI is a safe form of "Stunning " which would release the endorphins in the animals brain giving them a good feeling and taking any form of fear away as they are slaughtered in the regional areas. This EI would allow the Indonesian's to follow their traditional practices of slaughter in a primitive environment. This too would show that we respect their culture. With the threat of importation from other countries, should open trade cease, Australia could be exposed to exotic diseases as the borders are so close to our shores.

I therefore ask your endorsement to allow us to demonstrate and train Indonesia in the use of EI and in particular the Stockstill.

#### **Current Frequency**

Please find attached a detailed and comprehensive report of the current that is used to restrain animals. If this is closely studied it will become evident that the amount of electrical current required would fail to light a torch battery.

*L. Alan Lines*  
*26-4-2013.*

WARNING - THIS DOCUMENT MAY CONTAIN INFORMATION WHICH IS OF COMMERCIAL VALUE

Stockstill Ltd. currently manufactures four products all of which are designed to restrain animals of one type or another in a humane way purely through the application of tiny electrical impulses, similar in power to those produced by a T.E.N.S. device but more carefully controlled. The original product from which all the others evolved was conceived, developed and finally patented by its inventor Lance Lines in the mid-1970's and became known simply as the "Stockstill". That basic unit has undergone many refinements in its design since those early days (the equivalent current model is the "Standard Stockstill" Mark 4) in order to incorporate certain safety features and further enhance its reliability, ease of use and durability in the field. However its basic principal of operation and output characteristics remain the same. Details of the four different products, designed for different purposes and with differences in their outputs or delivery of it, are given below.

NOTE: If attempting to assess the "strength" of the electrical impulses any of the following devices may be able to deliver and the possible effect on an animal, two factors should be considered: First, the voltage applied, which in any animal can cause a violent reaction even at low currents. The socket of a typical phone line has about 50 volts across its terminals but you are unlikely to get a shock from it. It is the combination of voltage and current, i.e power, and the time for which it is applied, that can cause physical damage. Electrical power is measured in watts - a 2 kilowatt fire gives out twice the heat of a 1 kilowatt. However, if you switch either of them on just for a split second they are unlikely to burn you. There is a parameter to cover this - watts per second, or joules. A joule is a measurement of energy and in electrical terms represents the work done to deliver one watt of power for one second. To put this into context, electric fences typically use voltages well in excess of 3,000 volts However because the pulses are very short compared to the time between them, their quoted energy ratings are usually between 0.5 and 3 joules. A typical 1.5V single cell penlight globe requires 0.75 joules to light it up for one second.

STANDARD STOCKSTILL: Designed primarily for use on cattle but suitable for use on both smaller and larger livestock with suitable adjustment of desired output.

Waveform: Square wave, 1 millisecond on, 19 milliseconds off.

Absolute maximum voltage output: 48 volts\* (depending on placement of electrodes. Typically 10 to 15 volts with proper placement)

Amplitude of current pulse: Variable from 0.02 to 0.24 amps as calibrated into 100 ohms\* (set by operator according to size and weight - typically 0.18 amps for a large bull)

Duration of pulse: 1 millisecond (one thousandth of a second.)

Pulses per second: 50

Energy output at absolute maximum setting and poorest electrode placement: 0.6 joules (typically 0.4 joules for large bull).

Safety features: Visual and loud audible warning for operator if an electrode becomes displaced or the selected pulse amplitude cannot be maintained. Pulsing visual and audible warning if battery is running low and may be unable to maintain immobilisation of the animal for more than 15 to 20 minutes (Occupational Health and Safety feature unique to Stockstill)

SUPER STOCKSTILL: Designed primarily for use on a wider variety of livestock especially those which might have more sensitivity to the sudden application of immobilising impulses, such as sheep, deer etc. An additional control on the front plate allowing the operator to first set the desired amplitude of the pulse according to size and weight, and then slowly increase the duration of each pulse from zero to 1 millisecond, or anything in between. This eliminates any sudden reaction from the animal. Extra accessories in the kit also. All other functions and figures are as per the STANDARD

BREATHE-EASY: This is a variant manufactured in limited quantities, aimed at the wool industry and specifically designed to interface as a fixed unit to a shearing table and to address the problem of a small percentage of sheep which occasionally experience difficulty breathing whilst being electronically immobilised for shearing. It was found that by momentarily interrupting the immobilising pulses for a split second it would cause the animal to take a deep breath. Many tests were done to establish optimum timings whilst monitoring blood oxygen levels, and this was added as a switchable function on the BREATHE-EASY. At the same time, since this was specifically designed for sheep, far less maximum current (and thus power) was required and these parameters were significantly reduced. However, other very significant discoveries have since been made which virtually render this design obsolete.

Waveform: as per SUPER STOCKSTILL

Absolute maximum voltage output: 48 volts

Amplitude of current pulse: Variable from 0.01 to 0.12 amps into 100 ohms (N.B. urgent audible warning initiated if operator exceeds 0.08 amps)

Duration of pulse: Variable between zero and 1 millisecond (one thousandth of a second) per pulse. 50 pulses per second.

Energy output at absolute maximum setting and poorest electrode placement: 0.3 joules - audible warning if operator exceeds setting of 0.2 joules.

CALM SHEAR: This is the latest variant, once again designed for interfacing to a shearing table and thus not intended for sale to the general public. It has similar controls and output characteristics to the Breathe-Easy but there are some major differences:

1. Since it is designed to be used with very specific electrode placements which immobilise purely the rear legs of the sheep, breathing is not affected in any way so the auto-breathe function of the Breathe-Easy has been removed.
2. The main control unit has been designed to fit underneath the table out of the way and is connected to a small remote control mounted within easy reach of the operator. This is complete with alarms and indicators and allows the operator to turn it on and off quickly and easily between operations.
3. Whilst the main control unit has the same controls on it for presetting both the pulse amplitude and its duration per pulse, additional circuitry has been incorporated so that each time the unit is switched on via the remote control, the pulses slowly increase in width from zero to 1 millisecond, or whatever setting has been selected on the main unit. This ensures that immobilisation of the animal's hindquarters occurs smoothly and without any sudden reactions.
4. The CALM SHEAR is powered by an internal rechargeable battery which is capable of operating it continuously at full output for up to 24 hours, thus making it fully portable. Alternatively it can be powered via a small plug-in mains adaptor which will recharge the internal battery at the same time. A suitable adaptor is supplied with the unit.
5. Since a charge regulator circuit has been incorporated within the unit, it can be powered up and/or recharged using any available 12VDC source.