Attachment E

Review of the Generic Import Risk Analysis for Pig Meat

Draft Import Risk Analysis Report

Australian Pork Limited

13 October 2003

Executive Summary

Australian Pork Limited (APL) is a significant stakeholder in the Import Risk Assessment for Pig Meat, representing the interests of Australian pork producers.

The continuation of our unique high health status is the principle competitive advantage of the Australian pig industry. It is a marketable commodity; it is this health status that makes Australian pigs and pig products desirable. With growing global consumer concern for food safety in the wake of increasing disease outbreaks, this high health status becomes even more desirable and an increasing competitive advantage.

In the Draft Import Risk Analysis Report for pig meat ("Draft IRA") Biosecurity Australia (BA) has proposed changes to quarantine policies for Pig Meat Imports. While APL agrees with the risk management proposed for some of these diseases notably FMD, African Swine Fever, Classical Swine Fever, Rinderpest, Swine Vesicular Disease, Nipah Virus and Vesicular Exanthema, we are seriously concerned and object to the measures proposed for PMWS and PRRS on the basis that the revised protocols do not limit the level of quarantine risks to an acceptably low level i.e. Australia's "low risk categorization".

APL has significant concerns about several aspects of the proposed importation of pig meat, including:

- The substantial risk of introduction of PMWS in the context of the limited knowledge available about this disease and its current rapid and uncontrolled spread in several other countries
- Inadequate proposed risk management procedures due to deficiencies of understanding of PMWS
- Inadequate proposed risk management procedures for PRRS; without consideration of on shore cooking as a control measure *separate* from off shore cooking and deboning, there is no basis to conclude that risks will be acceptably managed through on shore cooking.
- Apparent errors in the estimate of the likelihood of entry for some diseases which has led to R4 estimates at a lower than justified level
- Unsound methodology regarding the quantitative approach applied to consequence assessment and risk estimation
- Underestimation of the total impact of diseases due to the annualised calculation methodology used to assess the likelihood of entry and exposure.
- Underestimation of the volume and market penetration levels used in simulations affecting the overall annual risk
- Insufficient explanation as to why likelihood distribution models were based on the 50th percentile instead of the 95th percentile; the effect of choosing 50th percentile is to move away from the use of conservative assumptions which is inappropriate
- Difficulties in applying the rules of the Impact Score Tables to reach the outcomes identified in the draft IRA
- The appraisal of the execution of risk management is as important as design of the risk management measures and should be addressed in the draft IRA.

APL contends that there continue to be significant risks inherent in the importation of pig meat that have not been adequately addressed by the Draft IRA. These must be addressed if the industry is to have confidence that that the estimates and calculations and resulting risk management measures do indeed provide an appropriate level of protection (ALOP) to the Australian pork industry, the environment, economic activity and human life. APL, therefore, continues to oppose the importation of uncooked pig meat from PMWS and/or PRRS affected herds as these pose a significant threat to the future viability of the Australian pork industry due to its threat to the health status of the Australian pig herd.

APL acknowledges and is appreciative of Biosecurity Australia's (BA) previous consultation with the industry and is keen to continue and build on this relationship. APL seeks assurance that it will be consulted before any major change to the final IRA Report is implemented.

1. Australian Pork Industry

APL wishes to take this opportunity to correct certain information and data reported in the Draft Import Report. The errors in each of the following matters contained in the Draft IRA affect the modelling, analysis of the outcomes and proposed risk management measures proposed in the Draft IRA.

- According to the latest ABS statistics (30 June 2002) the industry comprises 2,642 pig farmers not 2,500 as reported on pp19-20.
- According to APL analysis of ABS data per capita consumption in Australia has increased from December 2001 to June 2003 from 18.99kg/head to 21.46kg/head. That is an increase of 13% in an 18 month period. That is a very significant change and not "little changed" as reported on p20.
- In the Exposure Assessment on p36, according to APL figures sourced from the ABS [1]:
    - Pig meat imports were 49,000 tonnes in the year ending August 2003 (APL figures) and not as reported at approximately 40,000 tonnes.
    - Total pig meat production in 2001 was 378,530 tonnes and not as reported 377,889 tonnes and has increased to 421,750 tonnes in the year ending August 2003. That is significantly more than 400,000 tonnes.
    - APL have been advised by the NZ Pig Industry Board that the most recent NZ Customs records identified imports last year as comprising 36% of total product consumed in that market and not 28% as reported.
- The proportion of pig meat purchased by households and discarded as waste as reported on p40 refers to an informal survey of government personnel. APL questions the statistical validity of this survey and requests that details be provided as to the number of households surveyed, the survey methodology, whether the households were located within cities or in areas in which piggeries are located and whether there was anything that might suggest that the government personnel who responded might have been more aware of food processing and handling issues than the population in areas in which piggeries operate. APL contends that a more thorough scientific study must be conducted before valid conclusions can be made regarding waste, particularly in respect of the assertion that processing reduces waste to one tenth.
- APL believes that smallgoods manufacturers should not be excluded as a source of waste. Up to 5% of imported pork would be discarded as trim, some before and some after processing. As acknowledged by BA, this trim finds its way into composite product (ie. sausage). It then becomes subject to wastage in either the food service establishments or household sectors. It therefore seems inappropriate that this source of waste is not factored into the waste estimates.
- APL considers that the maximum value for a waste unit reported on p42 is underestimated. Lactating sows may consume as much as 10kg of feed per day, based on industry standards (R Smits, pers comm.), and not the 5kg reported. It is therefore a reasonable inference that the most likely value, at 250 g, is too low, with a value of at least 500 g being more logical.
- APL also questions the estimates used for illegal swill feeding. APL asks that BA provide a more substantiated reasoning as to why the estimate of "very low" for illegal swill feeding should be viewed as a conservative estimate.

[1] ABS Export Document #00473 & ABS Import Document # 01763

2. Appropriate Level of Protection (ALOP)

Under the current approach adopted by BA, the ALOP is defined as very low risk and is set by a reference to a semi-qualitative, and in some respects arbitrary, risk analysis – rather than by an identifiable objective standard. However, a qualitative risk assessment cannot effectively take account of variation or uncertainty in the probability it assigns to an event. This is especially so in a situation of scientific uncertainty as to aetiology and epidemiology of particular diseases.

Australia has stated that its appropriate level of protection is 'very conservative'.[2] A qualitative risk assessment, by not taking into account variation and uncertainty, does not provide for a conservative approach to be adopted in the management of risk.[3]

As noted by APL in previous submissions and as a matter of record, APL reiterates that the approach used in the Draft IRA to setting the ALOP is problematic. The Draft IRA purports to define and derive the content of the term through the IRA process itself. It is suggested that this approach is inconsistent with Australian law – or at the very least results in procedural unfairness for parties who are affected by and may wish to challenge the setting of the ALOP.

Under the current approach, it is almost impossible for stakeholders to determine what the ALOP actually is or means in concrete terms. Stakeholders are therefore prevented from being able to determine what the potential implications of the ALOP are for them. This also creates difficulty for stakeholders to respond effectively to the Draft IRA. It is impossible to calculate whether any of the proposed risk management measures will in fact reduce the risks to meet any objective or defined or clearly described risk level, since no risk level has been defined (objectively or otherwise) or clearly described.

APL notes that the Import Risk Analysis (IRA) for Pig Meat on the whole has been a more transparent process than previous IRAs with opportunities provided for all stakeholders to comment on an Issues Paper, a Technical Paper and a Draft Methods Paper. It also attempts to be more quantitative in its approach to assessments, although as noted in the Section 4.2 below, this attempt breaks down in the consequence assessment which in turn impacts on the estimation of overall annual risk and the method of risk management proposed.

3. Methodological problems

There are a number of methodological problems with the Draft IRA which impact on the outcome of the risks assessed. APL has already identified many of these in its submissions on the Issues Paper and Draft Methods Paper. There are numerous instances where the Draft IRA does not adequately address specific points raised in APL's submissions leading APL to question whether those points have been considered by BA. APL continues to rely on those submissions. For convenience some of our concerns are raised again in the following sections.

3.1 Likelihood of entry

APL's analysis indicates that within the Draft IRA Report there are errors in respect of the estimates of R4. Within the Draft Report, R4 is defined as the likelihood that a "pathogenic agent is present in the meat harvested from an infected pig". Nowhere in this definition is there

[2] Australia – salmon case.

[3] Senate Rural and Regional Affairs and Transport Committee Interim Report on the Proposed Importation of Fresh Apple Fruit from New Zealand at 8.9

any reference to the volume of pathogenic agent (e.g. the number of pathogens in the carcase). R4 is simply the likelihood that some units of the pathogen, no matter how few, are present in an infected carcass.

Using this definition, it is generally invalid to apply factors such as carcass bleeding or removal of the respiratory tract to reduce R4. These processes reduce the volume of the pathogen, but do not eliminate it. Consequently they do not significantly reduce the probability that a small volume of pathogen remains in a carcass. The only parameter that can be modified by the application of these processes is L2, the likelihood of a sufficient dose to initiate infection.

It appears that for the risk analysis of some diseases, this error has led to R4 estimates at a lower than justified level. On this basis APL requests that BA review R4 estimates. For example in the risk analysis for swine influenza it is stated that removal of the respiratory tract and "bleeding the carcass should remove, to a large extent, the virus contaminating muscle due to viraemic pigs (i.e. reduce R4). It is therefore questionable whether BA's assessment of "extremely low" (less than 1:1000) for R4 is reasonable for this disease.

Of even more concern to APL are R4 errors relating to risk management. We question the estimate of the impact of removing lymphatic tissue on R4 for PMWS and PRRS, whereby R4 is reduced from "moderate" to "low". We believe this measure does not reduce R4, although it does reduce L2.

APL also questions the supposition that the removal of the head and neck for risk management of Aujeszky's Disease does in fact reduce R4. If the disease has a predilection for neurological tissue, as stated in the Draft IRA Report, then there seems no reason why peripheral nerve tissue that is inseparable from muscle is less likely to be infected than trigeminal nerve tissue. Whilst virus numbers will be higher in trigeminal tissue, this will bear on L2 and not R4.

APL requests that BA review the R4 estimates, particularly in respect of risk management.

More generally, regarding the total likelihood (R_tot) distribution, APL has difficulty in identifying the scientific justification for building a model to make precise estimates, then making the estimates less precise by converting them to semi-qualitative figures and in turn feeding them back into the model to produce more precise estimates.

APL believes that there has been an unnecessary approximation of the total release likelihood. In the draft report, a semi-quantitative estimate of the total release likelihood (R-tot) distribution has been carefully obtained. However, following from this BA only use the category (for example 'low') into which this R-tot falls in subsequent annual likelihood calculations. In so doing, they lose both accuracy and information about the spread of the distribution around the R_tot likelihood.

In preference APL recommends that all simulations are performed using the calculated R_tot. This calculated R_tot, with its associated expected value and distribution resulting from the simulation, can then be carried though to the risk assessment for the three exposure groups (i.e. feral pigs, backyard pigs and small commercial piggeries).

3.2 Calculation of 'annual' likelihood of entry and exposure

The likelihood of 'entry and exposure" calculated in the Draft IRA are annualised. APL's submission in response to the Draft Methods Paper drew attention to the fact that this has the potential seriously to distort the outcome of the risk assessment. APL argues that both logically and statistically this has the potential to have a significant and major impact on the likelihood and consequence assessments. It fails to consider the totality of the impact of diseases.

In addition the Quarantine Act and the Quarantine Proclamation do not confine any likelihoods or risks on an annual basis. Consideration of the requirements of section 5D of the Quarantine Act does not limit the estimation of likelihood in this way, further reinforcing APL's position on this point.

Section 5D of the Quarantine Act 1908 defines a "level of quarantine risk" as:

(a) the probability of:
    (i) a disease or pest being introduced, established or spread in Australia or the Cocos Islands; and
    (ii) the disease or pest causing harm to human beings, animals, plants, other aspect of the environment, or economic activities.
(b) The probable extent of harm.

Consideration of annual likelihoods of exposure or uncontained outbreaks can convey a false sense of security. The methodology is flawed in failing to extrapolate annual exposure or outbreak risks to the risks attendant on long periods of imports. Instead, the approach of the Draft IRA is to directly combine annual exposures with a qualitative methodology of consequence assessment. It follows that the Draft IRA has not, and could not consider the risk implications of the implementation of the measures considered beyond a time frame of one year.

There is a failure in the Draft IRA to take the next logical step forward from an estimate of annual risk. An annual likelihood of exposure of 0.027 is categorised as "very low". This looks disarmingly reassuring until one considers the likelihood of an uncontained outbreak over time; over a period of 10 years the likelihood of at least one incursion is 0.24, (low) over a period of 15 years the likelihood is 0.31 (moderate) and over a period of 50 years the likelihood is 0.75 (high).

In the case of the major diseases of pigs, expectations of acceptable low risk over time frames of 50 to 100 years are quite justifiable historically. Australia freed itself of FMD in the 19th century and classical swine fever for some 50 years or so, without reinfection. It would therefore compromise historical norms of ALOP if pig meat were allowed entry without assurance that risk still remains acceptably low after similar long periods of imports. To achieve this, calculated likelihoods of uncontained outbreaks for the major diseases over a 50 year period should fall into the "very low" range. That would require that the calculated annual likelihoods should fall into the "extremely low" or "negligible categories".

Analysis conducted by the CSIRO highlights our concerns regarding the potential longer-term risks. Taking the example of PMWS, the CSIRO analysis has shown that the likelihood of one or more outbreaks (considering the median predicted values) over the next ten years as being 99%, with the corresponding figure for 25 years or more being 100%[4].

[4] Refer to Table 1 in Appendix A

The disease outbreak expectations results indicate that under the Draft IRA Australia's existing quarantine measures will not meet Australia's Appropriate Level of Protection. The results show that on the balance of probability there will be one or more outbreaks within the next two years under the proposed protocols.

3.3 Likelihood distribution models based on 50th percentile instead of 95th percentile

It is unclear from the Draft IRA as to why the approach stated in the Draft Methods Paper (p18) which adopts "a conservative (95th) percentile" is changed to the "median value (50th) percentile" in the draft Report (p30). APL argues that the explanation provided by Biosecurity Australia (BA) in Annex B (p59) is inadequate. The explanation is not clear as to why it was decided to reconsider this approach, although APL does note the objection raised in the US submission, "…that the proposed approach seems to promote the use of conservative assumptions" (Annex B p47). APL requests that an explicit explanation be provided as to why this approach was reconsidered. APL also contends that at least where considering a disease in respect of which there is substantial uncertainty as to aetiology and epidemiology the effect of choosing the 50th percentile has been to move away from "the use of conservative assumptions" and that that is inappropriate.

The Draft IRA demonstrates that using the 50th percentile as opposed to the 95th percentile in the case of PRRS has the effect of reducing the estimated overall annual risk from 'Low' to 'Very Low'. [5]

3.4 Impact Score Tables

The Impact Score Table attempts to "quantify" the combined local, district, state and national consequences of scores as illustrated in Table 12 (p63) in the Guidelines, and Table 8 (p63) in the draft IRA (with rules on p66).

APL continues to maintain and as originally stated in its response to the Draft Methods Paper that the rules of the Impact Score Tables are arbitrary and therefore it is not possible to reach the outcomes proposed by BA from applying the 'rules'. For example, the outcomes from applying both Rules 3 and 5 appear not to be possible in terms of the table provided.

This raises serious doubts about the methodology generally and must be addressed by BA.

4. Risk Management for Quarantine Diseases

4.1 PRRS

The position taken by BA on the measures to prevent the entry of PRRS virus is in general supported by APL. Analysis conducted by the CSIRO, however, does show that the overall annual risk level from PRRS increases from 'very low' to 'low' when errors detailed in Section 2 with respect to pig meat import volumes and total imports consumed are corrected.[6]

In the case of countries in which both PRRS virus and porcine circovirus Type 2 (PCV2) are present as manifested by PMWS, APL strongly supports the position of off-shore cooking as

[5] Refer to Table 2 and Table 3 in Appendix A
[6] Refer to Table 4 in Appendix A

necessary to protect Australia from both diseases. Both disease conditions can lead to significant production losses within a pig herd and this is borne out but observations in the EU, Canadian and US pig herds. The absence of effective vaccines means that control measures, as currently practised in those countries, are costly and in many cases of questionable value.

BA should require exporting countries to demonstrate that pig meat being sent to Australia is free from porcine circovirus and PRRS virus. In the absence of known protocols, the exporting country must show the cooking method will lead to the total inactivation of porcine circovirus. It is not sufficient, nor acceptable as argued by the Panel that, "the direct effect of processing PCV2 was not examined, however, it was recognised that there may be some reduction in virus titre after curing for long periods or cooking" Draft IRA Vol 2 (p743). APL contends that further research work needs to be undertaken if we are to have assurance and confidence that the risk management procedures proposed by BA are effective in reducing the risk of this disease to the industry.

There is no justification provided in the Draft IRA for on-shore processing. The key risk modification sought to be achieved through deboning and cooking is a reduction of waste in the Australian environment. That impact cannot be achieved as effectively if the deboning and cooking occurs in Australia. As freedom from both PRRS and PMWS is important for the industry's future, APL contends from these first principles that cooking and deboning on shore cannot be equivalent to off shore processing. Without express consideration of on shore cooking as a control measure separate from off shore cooking and deboning, the Draft IRA provides no basis to conclude that risks will be acceptably managed through on shore cooking.

If there is to be any on shore processing it will be essential that there be protocols such as incineration and covered drains which ensure that waste from the onshore processing plants cannot be accessed by feral pigs, birds, insects, rodents or other animals.

While APL welcomes the tightening of the security arrangements surrounding the movement of uncooked imported pork into a rural area, we continue to contend as stated in past representations that the treatment of all imported pork should be restricted to the urban area of the port at which it is imported.

4.2 PMWS

Recent developments worldwide indicate that PMWS is becoming a disease of major significance and of even greater concern than originally estimated. Reports have emerged that potentially PWMS is of similar economic magnitude to PRRS. While PMWS has been prevalent in the US and Canadian pig herds for some time, the current epidemic in the UK and France and it's virulence raises questions concerning the epidemiology, infection and transfer of this disease. More recently, there appears to be evidence in NZ of how less than conservative import policies, for both pig meat and semen, may be failing to protect local industry. An epidemic of PMWS in Australia of similar proportion to our northern counterparts would add 15% to the cost of pig meat production in affected herds.

A study carried out in Ireland in 1994 (GM Allan et al J. Vet. Med. B 41 (1) 17-26) has shown that porcine circovirus is extremely resistant to the effects of high temperatures. No reduction of infective titers was shown after a 15 minute period at 70C. Personal communications from researchers at Murdoch University and the Elizabeth Macarthur Agricultural Institute indicate

that this class of virus is very heat resistant and able to withstand prolonged periods of temperatures in excess of 70C.

The aetiology of PMWS is still not completely understood and currently there is no specific treatment for PMWS. APL notes that while a strain of PCV2 has been identified in Australia the disease PMWS has not been observed in Australia. While it is understood that the virus PCV-2 is involved in the disease, other factors are required to lead to the manifestation of the disease PMWS. More important, however, is critical emerging evidence that suggests not all PCV2 strains are of equal pathogenicity and that strains from different countries vary in their virulence.

APL interprets the risk management measure proposed for the processing of pig meat (cooking or curing) from PMWS affected countries as being undertaken solely offshore. Similar interpretations have been expressed to APL by other stakeholders including the National Farmers Federation. This interpretation is sustained in the Executive Summary (p6) and in the Draft Report (pp743-744) where references to the cooking or curing process fail to distinguish between onshore and offshore, especially when compared to the explicit statements made by BA with respect to PRRS, that "imported pig meat may be cooked off-shore or in Australia on shore…" Executive Summary (p5).

As stated above there is no justification provided in the Draft IRA for on-shore processing. The key risk modification sought to be achieved through deboning and cooking is a reduction of waste in the Australian environment. That impact cannot be achieved as effectively if the deboning and cooking occurs in Australia. Cooking and deboning on shore cannot be equivalent to off shore processing. As stated in previously in Section 4.1, *without express consideration of on shore cooking as a control measure separate from off shore cooking and deboning the Draft IRA provides no basis to conclude that risks will be acceptably managed through on shore cooking.*

Further the Draft IRA makes clear that cooking will not appreciably inactivate the PCV2 virus. APL requests that BA provide a definition of the cooking schedule required for risk management of PMWS. APL contends that if the cooking process is to be 70C for 11 minutes, then this does nothing to inactivate PCV2 virus, and consequently R4 for PMWS should be "moderate" rather than "low" (as argued by APL in section 4.1 "Likelihood of Entry.")

APL believes that there is too high a risk involved in allowing onshore transportation and processing of PMWS infected product. Australia and the Australian pork industry is justified in expecting greater caution in applying adequate risk management to pig meat imports to ensure that highly pathogenic strains of PCV2 are not introduced.

With respect to the Outbreak Scenario 4, as reported on page 400 of the Draft IRA, APL cannot verify or understand the conclusion of the panel rating PMWS as a "D" for its impact at national and state level. Where it acknowledges that "mortality rates can be high as in the case of the United Kingdom" how does the Draft IRA conclude that "the direct impact on animal health is unlikely to be discernible at the national level"? APL questions this categorisation. Is there a more direct impact on animal health than high mortality rates? APL asks that BA either change the rating or provide reasons for it.

As PMWS is not an OIE notifiable disease, the Draft Report fails to address a number of critical issues that will impact on how the proposed risk management measures will operate in practice. APL requests that BA publish draft protocols to address this problem, in particular:

- How BA plans to identify PMWS affected countries?
- How BA will ensure that Australia is immediately notified of a PMWS outbreak?
- What constitutes freedom from PMWS?
- What guidelines does BA plan to put in place to demonstrate area freedom from PMWS?

4.3 Other comments

For a number of diseases namely African Swine Fever, Classical Swine Fever, Swine Vesicular Disease and PRRS, Parma type hams and/or Iberian type hams, loins or shoulders and/or Serrano type hams are proposed depending on the disease as appropriate risk management measures. However the Report fails to explain the difference in curing times for each disease and the source of this information.

APL is surprised that the unrestricted annual risk for TGE is estimated as "very low". While we have no specific suggestions, APL would like assurance from BA that its assumptions are soundly based. Moreover if cooking of imported pork were ever abandoned, we would request reassessment of the risk management for TGE.

5. Risk management in practice

APL remains concerned that if the protocols proposed in the Draft IRA come into effect that the execution of risk management is adequate in practice. For example, are import protocols properly executed, are foreign governments reporting findings of disease, and are assumptions in the protocols justifiable, eg are countries making invalid claims of freedom or equivalence?

There is a natural tendency to focus on the principles of risk management, and then to assume that the finalised principles will be competently observed. There have been examples in recent years where countries with supposedly advanced veterinary services have failed in some of these respects, for varying reasons. This system places heavy reliance in the veterinary standards and surveillance of exporting countries, official notifications and public statements and the ability of AQIS to monitor and audit regularly.

Australia needs to guard against the non-general or unusual situation. Once the IRA is approved, appraisal of risk management in practice will become as important as scrutiny of the risk management measures.

Appraisal of the execution of risk management is therefore as important as the design and should be addressed in the Draft IRA so that sufficient resources are made available by AQIS to ensure that the proposed protocols are effective in minimising the risk to the Australian pig herd.

The US Food Safety and Inspection Service (FSIS) a division of the USDA carries out inspections of abattoirs in Australia that are currently approved to export to the USA and abattoirs that have been identified by AQIS as being up to FSIS standards. (The last inspection was carried out in May 2003; the latest report on the FSIS web site is for 2002). Australia's program effectiveness was assessed by evaluating five areas of risk: (1) sanitation controls, including the

implementation and operation of Sanitation Standard Operating Procedures (SSOPs), (2) animal disease controls, (3) residue controls, (4) slaughter/processing controls, including the implementation and operation of Hazard Analysis and Critical Control Point (HACCP) systems and the E. coli testing program, and (5) enforcement controls, including the testing program for Salmonella species. Exports of pork products to the USA are minimal with one shipment being made in the past 18 months.

APL believes that in the interests of equivalency, standards the same as or procedures shown to be equivalent to current Australian standards must be in place in establishments approved to export to Australia. APL seeks verification from BA how it intends to satisfy itself that overseas abattoirs and processing plants conform to Australian standards and that audits by Australian authorities are of an equivalent and intensity expected of Australia by its competitors, especially Canada, the US and the EC, and how it intends to address the issues of identification and segregation.

APL also requests that BA provide advice in the Draft Report on whether there is a zero tolerance for lymphatic tissue in meat. In particular, if inspection of a consignment demonstrates any lymphatic tissue, would that consignment be ineligible for export to Australia?

6. Conclusion

While APL agrees with the proposed risk management changes to BA's Draft IRA for pig meat imports regarding FMD, African Swine Fever, Classical Swine Fever, Rinderpest, Swine Vesicular Disease, Nipah Virus and Vesicular Exanthema, we do not believe that the revised protocols limit to an acceptably low level the quarantine risks relating to PMWS and PRRS. There continues to be significant risks inherent in the importation of pig meat, as detailed above, that have not been adequately addressed by the Draft IRA Report.

APL has specific methodological concerns regarding the quantitative approach applied to consequence assessment and risk estimation and also the apparent underestimation of the total impact of diseases due to the annualised calculation used to assess of likelihood of entry and exposure. In addition, we believe that there has been underestimation of the volume and market penetration levels used in simulations and that this in turn impacts on the overall annual risk. The use of the 50th percentile instead of the 95th percentile is also inappropriate, while the rules for of the Impact Score Tables appear arbitrary and it is therefore not possible to reached the outcomes identified in the Draft Report. The final report should also document the appraisal techniques intended to be used to ensure proper execution of risk management procedures.

APL is particularly concerned about substantial risk of introducing PMWS in the context of the limited available knowledge about the disease and its current rapid and uncontrolled spread in several other countries. We are of the view that the proposed risk management procedures are inadequate due the deficiencies of understanding about PMWS. Similarly for PRRS, APL believes that the proposed risk management procedures are insufficient. Without consideration of on shore cooking as a control measure separate from off shore cooking and deboning, APL see no basis for concluding that risks will be acceptably managed through on shore cooking.

Until these issues are resolved and the revised protocols minimise risk to the Australian pig industry to an acceptably low and 'very conservative' level, as defined by Australia's

appropriate level of protection[7], APL will continue to oppose changes to the risk management measures particularly as they relate to PMWS and PRRS.

[7] Australia – salmon case.

Appendix A

Table 1 - Disease outbreak expectations for 1, 10, 25 and 50 years
Restricted risk (assuming cooking and 10 fold reduction in waste) for PMWS

	Annual Likelihood		
Exposure group	5th %ile	50th %ile	95th%ile
Feral pigs	5.77%	31.43%	97.62%
Backyard pigs	0.02%	0.11%	1.06%
Small piggeries	2.42%	10.07%	27.60%
Overall	8.07%	38.41%	98.29%

	Likelihood of one or more outbreaks		
Years	5th %ile	50th %ile	95th%ile
1	8%	38%	98%
10	57%	99%	100%
25	88%	100%	100%
50	99%	100%	100%

Table 2

Summary -Components of the restricted risk for cured PRRS Virus with BA tonnes Pert (41569, 75580, 151160) & using 50th percentiles

Exposure group	Likelihood of entry	Annual likelihood	Likely Conseq.	Annual Risk
Feral pigs	Very low	Low	Low	Very low
Backyard pigs	Very low	Very low	Low	Negligible
Small piggeries	Very low	Low	Low	Very low
			Overall annual risk	**Very Low**

Table 3

Summary -Components of the restricted risk for cured PRRS Virus with BA tonnes Pert (41569, 75580, 151160) & using 95th percentiles

Exposure group	Likelihood of entry	Annual likelihood	Likely Conseq.	Annual Risk
Feral pigs	Very low	High	Low	Low
Backyard pigs	Very low	Low	Low	Very low
Small piggeries	Very low	High	Low	Low
			Overall annual risk	**Low**

*Note that there is an **additional release step (R7).** This step reduces the entry (release) likelihood and therefore also influences the three exposure group annual likelihoods.

Table 4

Summary of Restricted risk calculations – Comparing CSIRO & BA's results

Disease	Who's simulation	Overall annual risk	Explanatory Notes
PRRS cured & median	BA CSIRO	Very low Low	1 strategy applied- using median **cured** (R7=very low, L2=low)
		Different	**due to different tonnes only**
PRRS head & neck off	BA CSIRO	Low Moderate	1 strategy applied **head & neck off** (R4 low, L2=mod)
		Different	**due to 95th percentile** likelihoods
PRRS cured	BA CSIRO	Very low Low	1 strategy applied **cured** (R7=very low, L2=low)
		Different	**due to 95%ile & APL tonnes**
PRRS cured & head off	BA CSIRO	Very Low Low	2 strategies, **cured+head/neck** (R4 low, R7=very low, L2=low)
		Different	**due to 95th percentile** likelihoods