LiveCorp Submission

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Comments on proposed changes to ASEL v3.2

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Table of contents

1 Introduction

This submission by the Australian Livestock Export Corporation Limited (LiveCorp) is written in response to an invitation by the Department of Agriculture, Fisheries and Forestry (the department) to provide input into proposals to update the Australian Standards for the Export of Livestock (ASEL).

The current ASEL came into effect on 18 November 2021. The last set of amendments to ASEL were made on 23 November 2021 to produce ASEL version 3.2 (hereafter referred to as ASEL 3.2). In June 2023, the department distributed to stakeholders 16 proposals to change ASEL 3.2 (with the updated version to be referred to as ASEL 3.3).

In this submission, LiveCorp provides comments on changes proposed to ASEL with an aim to assisting the department in its final decisions regarding formation of ASEL 3.3. Although LiveCorp will comment on all ASEL change proposals (arranged in numerical order of the standards in ASEL), in recognition of LiveCorp's role and expertise, the most extensive comments are reserved for changes where relevant research is available or where LiveCorp can provide evidence based technical input or relevant industry knowledge.

LiveCorp is a not-for-profit industry body, funded through statutory levies collected on the livestock export of sheep, goats and cattle (beef and dairy). It is one of the 15 Australian Rural Research and Development Corporations (RDCs). LiveCorp is the only RDC focused solely on the livestock export industry, and works closely with exporters, industry stakeholders and the Australian Government to support Australian livestock exporters attain world leading animal welfare outcomes, gain market access and improve supply chain efficiency. A key aspect of this is to inform and provide support to industry in the implementation of new and existing regulation.

LiveCorp also works in partnership with other RDCs, industry bodies and research providers to achieve strategic outcomes for the industry and leverage higher returns for investments. In recognition of the benefit of livestock exports to businesses throughout the entire supply chain, including producers, much of LiveCorp's investment occurs in partnership with Meat and Livestock Australia (MLA), through the joint Livestock Export Program (LEP). The partnership with MLA to deliver the LEP is widely recognised as the most efficient mechanism for delivering research, development and extension (RD&E) and in-market technical support.

LiveCorp does not engage in agri-political activity and the positions on departmental / government policy adopted by industry are determined by the Australian Livestock Exporters' Council (ALEC). ALEC will provide a policy / commercial perspective on all proposed changes to ASEL.

2 Changes to Standard 1.1.3, Livestock identification requirements in laboratory test reports – Sea

From discussions with ALEC and exporters, LiveCorp understands that changes proposed for ASEL Standard 1.1.3 may present some practical difficulties. The department is referred to the ALEC submission for further information on proposed changes to Standard 1.1.3.

3 Changes to Standard 1.1.6, Table 1: Rejection criteria for all species by sea

Comments are made by LiveCorp below on three aspects of the rejection criteria for all species by sea, these being:

- Proposed changes to rejection criteria for animals with horns.
- Proposed amendment of the rejection criteria related to wool length.
- Retention of the rejection criteria of 25mm for hair sheep.

3.1 Changes to rejection criteria for horn animals

LiveCorp is concerned that proposed changes to the rejection criteria for horned cattle and sheep, as specified in Standard 1.1.6, Table 1, will lead to inconsistent interpretation and uncertainty in the export process.

There are three proposed changes to the rejection criteria related to horned cattle and sheep, in particular, that embody significant subjectivity giving rise to likely inconsistencies in interpretation and exporter uncertainty. The first two of the rejection criteria falling into this category, as listed below, are new, while the third is a rejection criterion that has been widened.

- *"Horns that would endanger the animal or other animals"* (a new rejection criteria);
- "*Horns that would restrict access to feed or water*" (a new rejection criteria); and
- *"Horns that would cause damage to the head or eyes of the animal or other animals"* (a changed rejection criteria).

The three rejection criteria above potentially entail significant generalisation of relatively unambiguous and specific standards that are contained in other areas of ASEL (e.g. see Standard 1.4.8). Extensive subjectivity is likely to occur in determining rejection of cattle and sheep involving all three of the above criteria.

To avoid inconsistent interpretations and exporter uncertainty there may be merit in either removing the above rejection criteria or replacing them with direct reference to the specific species standard for horns (e.g. the rejection criteria for horns should be: cattle with horns not meeting Standard 1.4.8).

If new rejection criteria are to be introduced, particularly if these involve significant elements of subjectivity, it will be imperative, before regulatory enforcement occurs, to update the species-specific Rejection Guidelines[1], produce new images for acceptable and unacceptable livestock, update training courses and notes, and conduct widespread training.

3.2 Amendment of the rejection criteria related to wool length

A new criterion proposed to be included in the ASEL Table 1, '*Rejection criteria for all species by sea*', is that animals are to be rejected with "*Sheep wool or hair longer than 25mm*".

The department notes that this new Table 1 rejection criterion reflects the contents of EAN 2022-21, '*ASEL amendment – sheep management plans*'[2]. The effect of EAN 2022-21 was to change the requirements of ASEL Standards 3.7.2 and 3.7.3 to provide for the use of management plans. Following EAN 2022-21, ASEL clause 3.7.3 states:

[1] See Department of Agriculture, Fisheries and Forestry, 2023, *Australian Standards for the Export of Livestock: Rejection Criteria Guidebook, Species: Sheep and Goats*, Canberra, April and Department of Agriculture, Fisheries and Forestry, 2023, *Australian Standards for the Export of Livestock: Rejection Criteria Guidebook, Species: Cattle and Buffalo*, Canberra, April.
[2] Note this EAN was incorrectly referenced as EAN 2022-20 in the Department's ASEL change proposals.

"Sheep sourced for export must have wool or hair no longer than 25mm in length at the time of loading for transport to the port of embarkation, unless otherwise provided in a Northern Hemisphere winter sheep shearing management plan approved in writing by the department".

In terms of the inclusion in ASEL Table 1 of this rejection criterion, three points can be made:

- First, under clause 3.7.3 a wool length of 25mm is not an absolute condition for rejection, since 3.7.3 explicitly provides an exception (approval in a Northern Hemisphere winter sheep shearing management plan). However, it is presented as an absolute rejection criterion in the proposed amendments to Table 1. If this rejection criterion is to be included in Table 1 (LiveCorp's recommendation is that it should not be), the exception through the use of an approved management plan should be noted in the table (e.g. directly against the criterion or by way of footnotes to the table).

- Second, it is not clear why some rejection criteria are included in both Table 1 as well as in the ASEL standards. Under the proposed amendments to Standard 3.1.15, for instance, the following provisions are made:

  "*Any animal must be rejected from the consignment if they:*

  a) are, identified as being distressed, or injured, or

  b) have a condition that could be defined as an infectious or contagious disease, or

  c) have a condition where the animal's health or welfare could decline, or

  d) *could suffer distress during the export process, or are otherwise unsuitable for export (including the rejection criteria outlined in Standard 1 Table 1) or*

  e) *Do not meet importing country requirements.*"

  yet Table 1 contains similar conditions to b) and e) above:

  - *"Animals displaying clinical signs of infectious or contagious disease or external parasites"* and
  - *"Failure to meet importing country requirements".*

  Reasons for this duplication are not clear.

- Third, LiveCorp recognises the importance of wool length in managing heat stress, but also recognises that individual inspection of animals for wool length in itself risks welfare issues. While a correlation exists between wool length and heat stress, as is evident from Independent Observer reports (see Appendix A), the risk is relatively low. Of particular note is that on one shipment where "*the observer identified that up to 8,000 sheep were loaded with wool or hair over 25mm*", the observer also concluded that "*sheep with wool or hair lengths over 25mm were not overrepresented in mortalities*". LiveCorp concludes that the welfare risk of heat stress from wool of a longer length must be balanced against the welfare risk of individual inspection for length. LiveCorp is uncertain that this balance is reflected in the regulation. It may be best, for instance, for an exporter to demonstrate compliance through a risk management plan or the Registered Establishment operations and governance manual on how wool length requirements will be met, rather than imposing a rejection regulation that may be interpreted as requiring inspection of individual animals.

Given some of the points made above, wool longer than 25mm may be more appropriately addressed within relevant management plans rather than being listed as a ASEL rejection criterion.

3.3 Retention of the rejection criterion of 25mm for hair sheep

It is also noted that the 25mm rejection criterion applies to hair sheep, as well as wool sheep.

ALEC, in submissions on the development of ASEL v3.0, noted that there was no evidence for a ban on the export of sheep with hair in excess of 25 mm. LiveCorp is not aware of any subsequent research or evidence presented since the ALEC submissions. In this context the following observations are made:

- Hair breed sheep have been shown in a number of international studies to be more heat tolerant than wool breed sheep under farming conditions in hot and humid environments[3]. It is to be noted that almost all hair sheep breeds originated in hot climatic regions.
- There is no data on heat tolerance effects of shearing hair breed sheep, as they are not typically shorn[4]. However, given the fleece characteristics and length of the naturally short haired sheep types, it is difficult to identify a benefit that would accrue from shearing such animals.

LiveCorp would caution the department against retaining a criterion to reject sheep for export with hair in excess of 25 mm without evidence that such rejection is warranted. The standard enforces unnecessary handling events on sheep with hair (with well-known negative welfare implications).

As for wool, it is noted that a length of 25mm for hair on sheep is not an absolute condition for rejection, since standard 3.7.3 explicitly provides an exception (approval in a Northern Hemisphere winter sheep shearing management plan). LiveCorp understands that the department has commonly allowed export of unshorn hair sheep under such plans.

4 Changes to Standards 1.4.8 and 5.3.1: Penning requirements for horned cattle

Changes to Standards 1.4.8 and 5.3.1 recognise that horn shape, as well as horn length, are critical to welfare risk. This recognition of horn shape means that, under the proposals, cattle with horns longer than 12 cm may be penned with other cattle provided horns are pointing downwards, or otherwise approved in a long-horned livestock management plan.

Although the above change is welcomed, as mentioned above, LiveCorp is concerned that changes to the rejection criteria for horned cattle, as specified in Standard 1.1.6, Table 1, may lead to inconsistent interpretation and uncertainty in the export process – refer to Section 3.1 above for further information.

[3] See, for example, Degen, A., 1977, Fat-tailed Awassi and German Mutton Merino sheep under semiarid conditions. 3. Body temperatures and panting rate, Journal of Agricultural Science, Vol. 89, pp399-405; Amaral, D., Barbosa, O., Gasparino, E., Akimoto, L., Lourenco, F. & Santello, G.A., 2009, Efeito da suplementacao alimenter nas respostas fisiologicas, hormonais e sanguineas de ovelhas Santa Ines, Ile de France e Texel. Acta Scientiarum, Animal Sciences, Vol. 31, pp403-410; McManus, C., Louvandini, H., Paim, T., Martins, R., Barcellos, J., Cardoso, C., Guimarães, R.., Santana, O., 2011, The challenge of sheep farming in the tropics: aspects related to heat tolerance, Revista Brasileira de Zootecnia, Vol. 40, pp107-120; Ross, T., Goode, D., Linnerud, A., 1985, Effects of high ambient temperature on respiration rate, rectal temperature, fetal development and thyroid gland activity in tropical and temperate breeds of sheep, Theriogenology, Vol. 24, pp259-269; Wildeus, S., 1997, Hair sheep genetic resources and their contribution to diversified small ruminant production in the United States, Journal of Animal Science, Vol. 75, pp630-640

[4] See, for example, Graham, P., White, A., 2010, Sheep enterprises- what are the differences?, AFBM Journal, Vol. 7, pp33-42 and Notter, D., 2000, Potential for hair sheep in the United States, Journal of Animal Science, Vol. 77 E-Suppl, pp1-8.

5 Changes to Standards 1.7.7 and 5.5.1: Penning requirements for horned sheep

LiveCorp has similar comments to the changes proposed to horned sheep requirements as for those made previously for horned cattle.

6 Changes to Standard 3.1.15, Livestock marking and isolation practices in Registered Establishments

Multiple changes are proposed by the department to Standard 3.1.15 relating to when an animal is to be rejected from a consignment and how it must be marked and separated from the animals that are to be exported.

In terms of marking, the proposed requirement is:

> *"All rejected animals must be individually visually marked upon identification, by a semi-permanent or permanent method".*

The new requirements for separating rejected animals from the animals to be exported are:

- "*Where a rejected animal is injured or suffering distress, the animal must be isolated from the consignment upon identification.*
- *Where a rejected animal has an infectious or contagious disease, the animal must be isolated from the consignment upon identification where possible or otherwise at the first reasonable opportunity.*
- *Where an animal is not suffering distress or does not have an infectious or contagious disease, the animal should be isolated upon identification or at the first reasonable opportunity"* (our emphasis).

"*At the first reasonable opportunity*" is proposed to be defined as "*within the timeframe that would be expected by a reasonable person with the relevant knowledge, skills and experience in the management of livestock given the urgency of the situation in relation to the welfare of the livestock.*"

LiveCorp understands and supports the intent of these proposals, namely, to balance the welfare risks associated with isolation of rejected animals against the risks of inclusion of such animals in an export consignment. Also noted is that the proposed definition for "*the first reasonable opportunity"* aligns with the definition in the Australian Animal Welfare Standards and Guidelines which is appropriate.

However, a concern of LiveCorp is that the proposed changes to Standard 3.1.15 have the potential to create unnecessary handling events to the detriment of animal welfare. Separate discussion regarding how unnecessary handling events may arise from both the department's marking and isolation proposals are contained below.

The discussion that follows in this section focusses on sheep. This is because, in the view of LiveCorp, the potential for the proposals to create unnecessary handling events, to the detriment of animal welfare, is more pronounced for sheep, than for cattle. This conclusion reflects the greater number of sheep held at Registered Establishments, the greater agility of these animals (compared to cattle) and the consequent difficulties associated with marking and isolating individual animals.

Although the focus of this section is on sheep, it should be noted that some points made also have relevance to cattle.

In this section comments are first made on the isolation requirements proposed to be included in Standard 3.1.15, then comments are made on the proposed marking requirements. This ordering reflects the greater complexity / sophistication of the department's proposals in terms of isolation compared to marking.

6.1 Comments on isolation proposals

As noted, the department in its isolation proposals has attempted to balance the welfare benefits arising from early isolation (these benefits being positive in the case of treatment of disease or injury and potentially zero for some protocol issues) against the welfare costs of an extra handling event. The department's stated reason for the change is: *"[t]he amended standard broadly differentiates between categories of rejected livestock in relation to the urgency of the situation to ensure animal welfare is not further compromised"*. Framing ASEL isolation requirements around the welfare urgency of addressing reasons for animals being rejected is supported by LiveCorp.

While supporting the underlying reasons for the changes proposed, it is LiveCorp's view that the categorisation used by the department in the Standard 3.1.15 isolation proposal, to distinguish between different levels of welfare urgency (*injured/suffering distress; infectious/contagious disease, all other rejection reasons*), is not fine enough. The broad nature of some of these categories, coupled with the requirement to pursue specific isolation actions against each category, in the view of LiveCorp, has the potential to result in sub-optimal welfare outcomes.

While the department may be correct in stating that the amended standard "*broadly differentiates between categories of rejected livestock in relation to the urgency of the situation*" (our emphasis), individual examples can easily be cited where this may not be the case. The limitation of the amended regulation is that it is not written as a general guideline which may be justifiable from a conclusion that *"[t]he amended standard broadly differentiates between categories of rejected livestock in relation to the urgency of the situation"*, but the amended regulation is written to apply in every single circumstance.

Clearly, the welfare urgency associated with animals "*injured or suffering distress"* can vary greatly. For minor injuries it may be better to leave removal of the animal until "*the first reasonable opportunity*", rather than "*upon identification*" – removal at "*the first reasonable opportunity*" may be the removal option that maximises welfare.

In recognition of the welfare implications of injuries of different severity levels, work undertaken by the Western Australia Livestock Exporters Association (WALEA), in conjunction with the department, defines both major and minor injuries, each requiring a different response:

> Major: Sheep with major aliments or injuries observed during daily inspection processes are euthanised. Major aliments are serious/fatal issues and those which personnel deem unlikely to recover from rest and or treatment, likely to lead to unreasonable suffering before the next handling event and/ or not recovering from treatment provided.
>
> Minor: Sheep with minor aliments will be removed at the next handling event. Minor aliments are those considered treatable and/or self-limiting issues. This reasonable action is taken as marking or attempted to remove these animals daily would be detrimental to the health and welfare of both the individual and other sheep. These sheep continue to be monitored in their pen environment and are removed as soon as possible at the next handling event.

This level of differentiation is not contained in the department's ASEL proposal: in LiveCorp's view, it should be.

There is also a question over whether the requirement to take specific isolation action, regardless of individual circumstances (the extent of injury / distress) is consistent with other Australian welfare standards. The Australian Animal Welfare Standards and Guidelines in Section 3 - Risk management of extreme weather, natural disasters, disease, injury and predation states:

> *"S3.3 A person in charge must ensure appropriate treatment for sick, injured or diseased [animals] at the first reasonable opportunity."*

The Australian Animal Welfare Standards and Guidelines effectively provide scope for responsible and knowledgeable staff to tailor responses to address individual circumstances - always with the overriding objective of achieving the best possible welfare outcomes. The ASEL proposal, by mandating the timing of the isolation response, appears to remove this scope.

6.2 Individual marking upon identification

Unlike the department's isolation proposals, which differentiate between welfare urgency, the marking proposals contain no such differentiation. The requirement is simply that rejected animals must *"be individually visually marked upon identification, by a semi-permanent or permanent method"* (our emphasis), regardless of circumstances and species. In LiveCorp's view, this proposed provision may neither be practical nor in the best interest of animal welfare, particularly for sheep.

Every handling event (such as trying to individually mark an animal meeting a rejection criterion) creates the opportunity for stress, injury and disease spread. Handling events are to be avoided if welfare is to be maximised. For some rejection conditions multiple sheep may exhibit the condition. In these cases handling may be best undertaken on a mob basis, rather than attempting numerous individual handling / marking events.

Like the isolation proposals, LiveCorp appreciates the intent underlying the department's marking proposals: to minimise the potential for rejected animals being inadvertently included in a consignment. However, especially for sheep, there are other ways to achieve the department's objective, while minimising stress for animals.

LiveCorp understands that progressively sheep exporters have refined their husbandry methods, as detailed in their Approved Arrangements, seeking to balance the welfare risks associated with frequent handling events against the need to identify and remove livestock exhibiting rejection criteria[22]. These husbandry methods have been subject to extensive discussion with the department and have been accepted as suitable for managing reject risks.

Examples of currently accepted procedures for identifying and marking individual animals meeting rejection criteria at various points in the export process at Registered Establishments are:

- At the point of receival through individual inspection and marking of rejects.
- While drafting sheep.
- In sheds/pens, where possible, especially for sheep exhibiting major health / welfare issues.
- At load out – individual sheep meeting rejection criteria are marked and isolated (unless large numbers are removed by draft e.g. as occurs for widespread pinkeye).

[22] See, for example, Perkins, N. and Madin, B, 2012, Review of sheep pre-embarkation inspection procedures, Final Report Project W.LIV.0171, Meat & Livestock Australia, Sydney, September.

The above processes manage the risk of any inadvertent inclusion in the export consignment.

Under these currently accepted procedures, circumstances occur where sheep may not be individually marked because enough livestock meet these conditions to form their own distinct mob. This allows identification at a mob level and separation management consistent with management of mobs with different health status or animal characteristics at the Registered Establishment. Examples of these circumstances are as follows:

- Sheep with wool greater than 25 mm are kept separate until shearing.
- Sheep with horns not meeting Standard 1.7.7 are kept separate until trimming.
- Commercial rejects – not meeting importer specifications are removed from the consignment.
- Sheep with an unacceptable body condition score are removed from the consignment.
- Where whole lines of sheep exhibit a rejection criterion or other criteria (e.g. scabby mouth or pinkeye involving mobs of 200-500 head). This can be whole vendor lines or pens/paddocks.

Marking individual animals (especially sheep) immediately upon identification is not always reasonable and does not always promote good welfare outcomes. Rather, it is suggested that for some rejection criteria, identification and separation from the consignment may more appropriately occur at one of the many QA points during the export process.

6.3 Other comments on proposed changes to Standard 3.1.15

LiveCorp notes that the terms "*injured*", *"suffering distress" or "infectious or contagious disease*" are neither defined, nor conditions for their diagnosis / identification established. Also, a question arises over who carries responsibility for diagnosing / identifying these conditions.

The use of the word "*could*" in some of the Standard 3.1.15 rejection criteria is also problematic. Of particular note are points b) - d) in the amended standard:

b) "*have a condition that could be defined as an infectious or contagious disease, or*

c) *have a condition where the animal's health or welfare could decline, or*

d) *could suffer distress during the export process"* (our emphasis).

Presumably, all animals "*could suffer distress during the export process"* since the export process involves animal handling (as does livestock raising, feedlotting and transport within Australia) with associated risks. On this basis, application of the proposed 3.1.15 d) may form a basis to reject all livestock.

Finally, having *"a condition that could be defined as an infectious or contagious disease"* casts a very wide net. The equivalent criterion in Table 1, although still wide, seems a little more appropriate: "*Animals displaying clinical signs of infectious or contagious disease*".

6.4 LiveCorp's conclusions on proposed changes to Standard 3.1.15

Although understanding the intent of the proposed changes to Standard 3.1.15, for reasons stated, it is LiveCorp's view that a thorough re-consideration of these changes is required.

This re-consideration should allow for different methods to be used when identifying and isolating rejects, with these methods being sensitive to species and individual circumstances. In this context it is noted that, recognising the welfare risks associated with handling events, existing provisions, as specified under EAN 2016-16, allow for rejects to be managed by the exporter providing "*the authorised officer with a written plan for managing rejected livestock at the time of inspection*".

In the interests of welfare and practicality, greater flexibility must be allowed than is currently evident in the proposed changes.

7 Changes to various standards referring to the number of clear days livestock spend in a Registered Establishment

Changes to Standards 3.2.2, 3.4.2, 3.6.4, 3.7.1, 3.7,.2 and 3.7.7 are complex involving both a change in definition of clear days and the circumstances under which additional clear days are required.

Removal of the requirement under Standard 3.7.7 to add an additional clear day for days on which sheep are shorn is supported by research. Research from Murdoch University has demonstrated that sheep behaviour does not vary substantially post shearing at live export Registered Establishments. The authors of the study summarised their findings as follows: "*In conclusion, for the group of wethers in this study, shearing could be permissible on any day up to Day 5 at the registered premises without negatively impacting feed and water accession, or on recorded behaviours*"[23]. The findings of the Murdoch University research are generally consistent with other studies into the effect of shearing[24].

On LiveCorp's reading, however, the changes proposed by the Department to the definition of clear days and Standards 3.2.2 and 3.4.2 may result in cattle / buffalo spending additional time in REs in some circumstances. No firm evidence provided by the department that such an extension of time in a Registered Establishment will result in welfare benefits.

8 Changes to Standard 3.8.1: Record keeping requirements for Registered Establishments

The changes proposed by the department to ASEL Standard 3.8.1 involve an extension of record keeping requirements for Registered Establishments.

Three main new requirements are introduced, namely:

- Records must be kept for any *treatment* received by the animal (previously record keeping was confined to "*all veterinary medicines and agricultural chemicals used to vaccinate, treat or otherwise prepare the animal*").
- Record keeping must be in accordance with the Registered Establishment's Operations Manual.
- Information must be kept on "*the location of rejected livestock*".

LiveCorp notes the following with respect to these changes:

- The term "*treatment*" is never defined, potentially causing uncertainty as to when records must be kept.
- No time or spatial limits are placed around when responsibility for keeping records on the "*location of rejected livestock*" ends. An addition to clarify this might be to require information to be kept on the "*location of rejected livestock <u>while within the Registered Establishment</u>*".

[23] Aguilar, L.A., Collins, T., Dunston, E., Wickham, S., Fleming, P. and Barnes, A., 2020, "Impact of shearing sheep on feeding and behaviour during the pre-embarkment feedlot phase of live export", *Animal Production Science*, Vol. 60. No. 10.
[24] A good summary of other relevant research is to be found in the reference above.

9 Changes to Standards 4.1.8 and 4.1.9: When an AAV or stockperson must accompany a voyage

Inclusion of all major regulatory conditions applying to the sea and air transport of livestock from Australia in ASEL, rather than these conditions existing within Export Advisory Notices (EANs), simplifies the regulatory environment. As a result, there is merit in changes proposed to Standard 4.1.9 to now include all the circumstances in which an AAV must accompany a consignment of livestock exported by sea (rather than some of these circumstances residing in EAN 2016-14).

10 Changes to Standard 4.1.18: The requirement for contingency plans for escaped livestock – Sea

Comments similar to those made in the previous section apply.

11 Changes to Standard 5.1.15: Reserve fodder requirements

The department proposes changes to the reserve fodder requirements, while also offering two alternatives to the proposed changes favoured by the department.

The proposal of the department is to change the reserve feed requirements from "*a minimum of 3 days*" to "*an additional 20% or 2 days of reserve feed, whichever is greater*" (Option 3, the option favoured by the deparment).

The other options to be considered by the department are:

- Retain the existing reserve feed requirements under ASEL 3 (Option 1).
- Revert back to the ASEL 2.3 reserve feed requirements of "*an additional 20% or 3 days of reserve fodder, whichever is less, must be loaded on the vessel*" (Option 2).

Comments are to be found below on the amount of feed to be regulated using evidence from Independent Observer reports, LivexCollect and information on the nutritional intake of cattle.

11.1 Evidence from Independent Observer reports

Appendix B of this submission contains relevant extracts from all Independent Observer reports available to LiveCorp on the amount of feed onboard livestock export voyages.

LiveCorp has carefully reviewed all these comments and concludes that there does not appear to be any systemic issues with the overall availability of feed, especially for voyages to the Middle East - voyages that would be amongst the most affected by the department's proposal.

On a small number of voyages reviewed by Independent Observers, feed needed to be rationed for part of the voyage, but in the majority of cases no welfare issues were associated with this measure. On a very small proportion of voyages, some welfare issues were associated with the need to ration feed, mostly livestock displaying signs of hunger, including increased jostling. On two voyages, availability of feed was observed to have other welfare impacts:

- One was on a voyage to China on which the Observer noted: *"[C]ompetition for access to feed troughs increased later in the voyage with pen hierarchy becoming obvious and incidents of trampling observed. This resulted in shy feeders in larger pens not able to adequately access*

feed, sometimes for several feeds at a time. Very limited feed was available from late on Day 19 as the fodder supplies had been almost exhausted". However, additional factors contributed to the outcome of this voyage (according to the Independent Observer), some of which were probably more significant than the amount of feed loaded, including:

- Mismanagement of feed, with a failure to ration early, even though problems with feed availability were recognised.
- Port delays.
- Rough weather causing the vessel to slow down.
- Wastage of feed "*with observations of unspoiled fodder spilling out from troughs during manual supply by the crew*".

The voyage occurred some years ago (December 2018). The mortality rate for the cattle was 0.25% (8 mortalities), which does not exceed the reportable mortality rate. The causes of these mortalities were not considered to be linked to any systemic failure by the exporter.

- The other was a voyage to Russia (November 2019). Some mortalities on this voyage were attributed by the Independent Observer to feed aggression. However, feed did not have to be rationed on this voyage to below ASEL standards.

Reading through Independent Observer reports, one is not drawn to the conclusion that feed availability is a systemic issue.

11.2 LivexCollect evidence

In supporting documentation, in terms of feed availability, the department notes that:

> *"Analysis indicates there is widespread non-compliance with the reserve fodder requirement. For all cattle consignments, 54% had less than the 3-days of reserve fodder remaining on board (ROB) at voyage completion, increasing to almost 56% of cattle consignments on short-haul voyages. The incidence of zero fodder ROB is not uncommon across all regions, occurring in 8% of cattle consignments. AAV and accredited stockperson voyage reporting from these consignments did not indicate that there were negative animal welfare impacts from inadequate reserve fodder levels".*

LiveCorp has also noted the reporting by Accredited Stockpersons (ASs) and AAVs of zero feed onboard at the end of the voyage in LivexCollect data, but has appreciated there may be many reasons for this result including:

- Potentially this was not regarded by AAVs / ASs as an important item to report as animals had been discharged from the vessel and fed adequately during the voyage (i.e. their job had been completed and animals had been safely delivered). If it was not regarded as important, 'zero' may have been entered by default by the AAV / AS into feed remaining onboard fields (of which there are three - one each for pellets remaining onboard, roughage remaining onboard and grain remaining onboard). LiveCorp has in the past drawn attention to the potential implications of the amount of data that has to be reported by AAVs/ASs on every voyage – as is well known in the survey design literature, it is not uncommon for surveys that tax the respondent (in terms of time effort) to lead to "*careless responses*" and "*insufficient effort in responding*".

- Feed could have been discarded or given to the foreign importer. It is not clear whether feed remaining on board, as included in the end of voyage (EOV) report and on the last day of observations, should reflect feed remaining before or after such events occur.

- Livestock had been fed above ASEL requirements during the last stages of the voyage so that feed was not wasted (noting this would be contrary to ASEL provisions).
- Because of delays, miscalculations and other factors, the feed reserve had to be fully utilised, feeding at, or below, ASEL prescribed rates.

LiveCorp has carefully examined other comments made by AAVs/ASs on voyages where zero feed remaining onboard was reported. From this examination, LiveCorp has concluded that the last of the above explanations is the least likely. For many of the voyages for which the AAV / AS in the EOV report had reported zero feed remaining on board, the AAV / AS also reported that feed availability and feed accessibility during the voyage was adequate or good (mostly the latter).

LiveCorp's investigation suggests that, even if feed provisions are increased, the same result (i.e. zero feed remaining onboard being reported), could be a continued outcome. LiveCorp has concluded that increased training of AAVs/ASs is required in this area.

11.3 Nutritional intake of livestock

In considering the amount of feed to be loaded on a livestock export voyage, it is important to realise that prescribed ASEL feeding amounts are above levels required to maintain weight. Therefore, in the event of feed having to be rationed to below prescribed ASEL feeding levels, it would be erroneous to conclude that a welfare issue necessarily exists.

A reasonable welfare principle to apply to the daily amount of feed provided to animals onboard livestock export vessels is that stated in the Welfare Quality Assessment Framework:

> *Animals should not suffer from prolonged hunger, i.e. they should have a sufficient and appropriate diet* (our emphasis).[25]

A criterion to apply to this principle, for situations involving short term feeding, such as that applying on livestock export vessels, is that feed should be generally provided in sufficient quantities and quality to allow basic nutritional needs to be met and the animal's weight maintained. This criterion sets the bar high. There would be many situations in Australia where, for small periods of time, livestock are not always provided with sufficient feed to ensure weight is maintained - for instance, on a farm during times of drought.

In examining feed quantities and quality, work undertaken in the livestock export trade by Greg Willis[26] was utilised. The Willis review, in turn, draws on work done by the CSIRO[27]. Two National Research Council publications, "*Nutrient Requirements of Beef Cattle"* and "*Nutrient Requirements of Small Ruminants: Sheep, Goats, Cervids and New World Camels"* also provide critical background information[28].

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[25] Veissier, I. and Evans, A., undated, Principles and criteria of good animal welfare, http://www.welfarequalitynetwork.net/media/1084/wq___factsheet_10_07_eng2.pdf. Also see Blokuis, H., Veissier, I., Miele, M., 2010, "The Welfare Quality Project and beyond: safeguarding farm animal well-being", *Acta Agriculturae Scandinavica A*, Vol. 60, September. Similar statements with respect to feed existing in many other animal welfare frameworks.

[26] Willis, G., 2011, *Review of fodder quality and quantity in the livestock export trade*, Final Report Project W.LIV.0256, Prepared by EA Systems Pty Ltd, Meat & Livestock Australia.

[27] CSIRO, 2007, *Nutrient Requirements of Domesticated Ruminants*, Freer, M., Dove H., and Nolan, J.V. (eds), CSIRO Plant Industry, Canberra. CSIRO Publishing.

[28] National Research Council, 2000, *Nutrient Requirements of Beef Cattle: Seventh Revised Edition*, National Academies Press, Washington, D.C. and National Research Council, 2007, Nutrient Requirements of Small Ruminants: Sheep, Goats, Cervids, and New World Camelids, National Academies Press, Washington, D.C.

From information contained in these documents, it is possible to construct spreadsheet models of weight changes in cattle, given nutritional intake. Such models show that, given the environment onboard a livestock export vessel and the nutritional content of the pellet feed provided, onboard weight gains can be expected for cattle when feeding to ASEL 2.3 and ASEL 3.0 regulations (i.e. providing feed of 2% of body weight for most classes of cattle). LiveCorp is aware of exporter data that clearly shows cattle weight gains occurring onboard. Such observations are also made by some Independent Observers.

Information in the Willis report shows that similar conclusions can also be drawn for sheep. Specifically, for sheep of four teeth or less (which represent the vast majority of sheep currently exported) feed quantities provided under ASEL v2.3 and v3.0 should result in weight gains.[29]

11.4 Conclusion

ASEL 3.0 increased the amount of feed to be loaded on livestock export vessels due to changes in two standards.

- First, there was a requirement to carry 3 days of feed reserves.
- Second, loading and unloading operations had to be taken into account when calculating the amount of feed needed.

It is notable that no analytical support was provided in the ASEL 3.0 Review on the need to carry three days' worth of reserves regardless of voyage length. The ASEL Review was silent on why three days was selected as an appropriate reserves provision – as opposed, say, to four days or two days.

The changed factors above particularly increased the amount of feed to be carried on short voyages. For some very short voyages (measured in terms of time at sea), on LiveCorp's calculations, compared to ASEL 2.3, feed to be loaded could increase by as much as 50%. For medium and longer voyages, feed to be loaded increases less, but still by about 5-10%.

Given the above, and evidence cited in this Section, sound reasons exist to reduce the feed reserve requirement particularly for shorter voyages.

The evidence, however, cited in this Section, would not seem to support an increase in the feed reserve requirement for longer voyages. In particular, it has not been demonstrated that current levels of feed reserves for longer voyages are resulting in systemic welfare issues. This is especially true for Middle East voyages that would be amongst those most affected by the proposed changes.

Finally it is noted that the department states under the preferred option: "*the reserve fodder requirement for consignments less than 10 days would decrease from 3 days to 2 days. However, for voyages of 20 days or more, the reserve fodder levels would increase from current requirements*". This statement by the department presumes that when calculating the 20% reserve fodder requirement, the requirement, expressed as days, is always rounded down (e.g. on a voyage of 18 days, the reserve fodder requirements is 3 days, rather the exact calculation of 3.6 days, or rounded up to 4 days). Clarity is required from the department whether this is the intention. If rounding down does not occur, under the department's proposals for Standard 5.1.15, the reserve fodder requirement effectively increases for voyages of over 15 days.

[29] Willis, G., op cit., p.37.

12 Changes to Standard 5.3: Replacement of near and far markets with voyage length when determining use of alternative space allowances

LiveCorp notes changes proposed by the department to Standard 5.3 to use voyage length (<10 days; ≥ 10 days), rather than a geographic demarcation of markets (near = 'destination ports located south of latitude 15°N, east of longitude 90°E'; far = 'all other destination ports not covered in the definition of near markets'), to define minimum alternative space allowances.

The department states that ASEL 3.1 introduced the near and far market definitions as a proxy for voyage length, rather than relying on voyage length estimates submitted by exporters. The 15°N boundary was identified to reflect the geographical location of a typical 10-day voyage.

The department, however, observes that there is very little correlation between the near / far geographical demarcation and voyage length.

- "*Around 33% of eligible cattle were allocated pen space as if travelling to a far market (using Table 10b) when they travelled on a voyage that actually took less than 10 days"*.
- Conversely, "[a]*round 51% of eligible heavier cattle were allocated pen space as if travelling to a near market (using Table 10a) when they travelled on a voyage that actually took 10 days or longer (on average, 11.9 days). This means that around 61,000 cattle were exported using inappropriately small pen space allocations*".

LiveCorp makes the following observations on the department's proposal and analysis.

- The department's analysis does not evidence a link between alleged inappropriate use of space allowances and welfare outcomes. This is what matters, rather than whether or not a correlation to voyage length exists.
    - The analysis that is relevant to the department's proposal is to show that the welfare outcomes for the around 61,000 cattle exported using *inappropriately small pen space allocations* were significantly worse than for cattle on similar length voyages that did not use the *inappropriately small pen space allocations*. If welfare outcomes were significantly poorer, given certain other conditions are met (e.g. statistically controlling for other relevant factors), analytical support would exist for the department's proposal. If this is not the case, analytical support (in terms of welfare outcomes) would not exist for the department's proposal.
        - → The analysis described above should use the wide set of welfare data that is collected under regulation on every voyage.
    - Any correlation that may or may not exist between voyage length and a geographic demarcation of markets should be irrelevant to a decision on alternative space allowances. The decision should only be based on welfare considerations.
        - → The division of voyage length into <10 days, ≥ 10 days is itself artificial. Why is 10 days considered to be the appropriate threshold? LiveCorp wonders whether the difference of 10 days and 11.9 days (i.e. the average voyage length of the 61,000 cattle that used

inappropriately small pen space allocations) was significant in terms of welfare outcomes.

- Further details are needed on the department's analysis. For instance, whether the analysis accounts for multi-port discharge voyages where additional space is afforded to animals remaining on-board after the first port of discharge. From the viewpoint of analysing alternative pen space allowances, therefore, to the degree the correlation is relevant (noting LiveCorp's previously stated observations), it is between voyage length to the first port of discharge and the near / far market demarcation.

13 Changes to Standard 6.1.3, Livestock identification requirements in laboratory test reports – Air

LiveCorp understands, from discussions with ALEC and exporters, that the ASEL changes proposed may pose several practical difficulties. The department is referred to the ALEC submission for further information.

14 Changes to Standard 6.1.6, Table 23: Rejection criteria for all species by air

Refer to Sections 2 and 5 above for comments on changes to rejection criteria.

15 Changes to Standard 6.1.14: Pregnancy testing and penning requirements for the export of juvenile alpaca – Air

The change proposed to Standard 6.1.14 appears reasonable.

16 Changes to Standards 6.1.24-6.1.26, Competent stock handlers on aircraft

Proposed changes to Standard 6.1.24-6.1.26, with respect to requirements for competent stock handlers when transporting livestock by air, reduce regulatory burden and remove redundant requirements.

LiveCorp concurs with the conclusion of the department that a requirement for a competent stock handler accompany and inspect animals during flight is impractical and of questionable benefit. As noted by ALEC and LiveCorp in submissions to the ASEL 3.0 Air Transport Review:

- Checking livestock "*at least every 2–3 hours [during flight] as conditions warrant*" (the suggestion made in the ASEL 3.0 Air Transport Review Issues Paper, published in April 2019), did not represent standard operating practice at the time, was generally not possible given the constraints of aircraft operations, and does not represent best animal welfare practice.
- The ALEC / LiveCorp submissions to the ASEL Air Review noted that checking animals during flight was generally not possible as:
  - Livestock in the lower holds, (forward and aft), of a passenger or freighter aircraft are not accessible during flight. They cannot be physically checked during flight.

- Livestock on the main deck of a freighter can be physically checked during flight, but this is generally not recommended for both human safety and animal welfare reasons.
- Entry to the main deck of a freighter to check livestock during flight is a safety risk if there is turbulence (no safety belt), loss of pressure (no oxygen, unless a portable oxygen bottle and mask are taken in), no buddy support and minimal lighting.
- Access to livestock in a netted crate is extremely limited.

- The submissions further noted that during flight, stress on the livestock is least if they are not disturbed, but left quietly alone, with the main deck lights turned off. The disturbance created by frequent inspections may not be conducive to maximisation of welfare.

- Finally, the submissions noted that the greatest risks to animal welfare when transport is by air, extremely small as these may be, are during loading, unloading and at transit stops. These risks are addressed in Standards 6.1.26 a), c) and d).

Benefits from the use of data loggers on air shipments is of similar questionable value. Good regulatory practice suggests that evidence of significant net benefit is required before the introduction of any new regulations.

Temperatures in each cargo hold are monitored in the cockpit throughout the flight, with adjustments to the environmental control system as necessary to enhance animal comfort. These temperature measuring systems are already in place – the need to introduce duplicate systems has not been demonstrated.

Similarly, as noted above, requirements exist under Standards 6.1.26 a), c) and d) for a competent stock handler to ensure animal health and welfare are maintained during loading, unloading and at transit stops. A competent stock handler takes into account many factors in making this assessment, including evidence of cold or heat stress. Again, given the excellent welfare record of transporting livestock by air, the need for regulated introduction of additional systems (such as data loggers) has not been demonstrated.

17 Changes to Standard 6.1.29: The requirement for contingency plans for escaped livestock – Air

Comments similar to those made in Section 10 apply to this proposed amendment.

Appendix A: Independent Observer comments on wool

The information below is directly taken from Independent Observer reports and contains any comments in these reports on wool length.

Report 4: Sheep exported to Oman in May 2018

On day five, pant scores began changing and were observed to fluctuate depending on the time of day. The sheep which had a bit more wool were most likely to demonstrate this behaviour.

Report 10: Sheep and Cattle exported to Israel in June 2018

There was a small percentage of sheep in the consignment (less than 2%) with wool in excess of the HSRA submitted to the department for this consignment.

The IO noted that a degree of heat stress occurred on part of the journey, and was unavoidable in the conditions. Cattle were under more heat stress in deteriorating pad conditions, and sheep were under more heat stress with increasing amounts of wool.

Report 67: Sheep and cattle exported to Kuwait, Qatar and United Arab Emirates in January 2019

The observer noted that some sheep had wool length longer than 2.5 cm and should have been drafted out.

The supply of fodder, water and the ventilation was considered in accordance with the ASEL requirements. The welfare of the animals was always a high priority. The AAV and stock person were experienced and worked diligently to maintain animal health and welfare. The stocking density and animal welfare was considered acceptable for this voyage.

Report 86: Sheep and Cattle exported to Israel in June 2018

The animals did not exhibit any significant signs of heat stress on the voyage. As the voyage neared the equator, where average temperatures were higher, some animals were observed with elevated respiratory rates and a few animals with longer wool were heat affected and seen to open mouth pant. As the vessel approached the Gulf of Oman, respiratory rates returned to normal.

Report 193: Cattle and sheep exported to Israel and Jordan in October 2019

Fleece lengths of up to 50mm were observed. The majority of some lines were observed to have a fleece length non-compliant with the ASEL S1.19 requirement of less than 25mm. There were no directly observable adverse animal health outcomes observed as a result of fleece lengths on this voyage.

Report 212: Cattle and sheep exported to Israel in January 2020

Approximately 30% of sheep were observed on Day 6 to have a wool length of greater than 10mm but less than 25mm. This was not compliant with the Heat Stress Risk Assessment plan for this consignment, which required sheep to be newly shorn to 10mm. The observer commented that this wool length did not impact on the health of the sheep at any time during the voyage, particularly considering the vessel was entering winter in Israel.

Report 220: Cattle and sheep exported to Kuwait and the United Arab Emirates in May 2022

Sheep exported to the UAE were required to have 20mm or shorter wool or hair, and sheep exported to Kuwait were required to have 25mm or shorter wool or hair. Following a systematic

review of wool and hair length across the vessel by the observer, the observer identified that up to 8,000 sheep were loaded with wool or hair over 25mm. None of the voyage's mortalities were considered to be caused by the effects of heat, or excessive wool or hair length. Overall, the observer stated that all sheep travelled well and had good appetites during the hottest days and throughout the voyage.

a) The observer reported that sheep with wool or hair lengths over 25mm were not overrepresented in mortalities. The observer did however comment that they did not appear to manage the highest temperatures (~31-32°C wet-bulb temperature) as well as those with shorter wool or hair lengths (under 25mm) with the sheep with longer wool or hair being the first observed to begin panting. The highest temperatures occurred over 3 days approaching Kuwait for discharge, with the longest continuous period above 31°C wet-bulb temperature as 1 hour and 40 minutes.

b) At the hottest times, a maximum of around 5% of sheep at a given time were observed temporarily open-mouthed panting, however no sheep, including those with wool or hair lengths greater than 25mm, were observed with prolonged periods of open-mouthed panting, or with their tongues out.

Appendix B: Independent Observer Comments on Feed

Below are comments made by Independent Observers on the amount of feed. The list below contains relevant extracts from all Independent Observer reports available to LiveCorp.

Report 231 Cattle and sheep exported to Israel and Jordan in January 2023

A maximum of 5% feed was observed as fines in troughs and this was regularly removed by livestock crew. Livestock were observed eating throughout each feed cycle with no direct adverse effects on animal health and welfare observed.

Report 230 Cattle and sheep exported to Middle East in December 2022

Based on observations made during this voyage, the exporter arrangements relating to feed and water were appropriate and effective in managing livestock health and welfare.

Report 229 Cattle and sheep exported to Israel and Jordan in November 2022

Based on observations made during this voyage, the exporter arrangements relating to feed and water were appropriate and effective in managing livestock health and welfare.

The observer noted that feed pellets broke down into fines (fodder dust), which was observed in troughs at varying times of day throughout the voyage. The livestock crew regularly removed fines from troughs and livestock were observed eating throughout each feed cycle with no direct adverse effects on animal health and welfare observed.

Report 228 Cattle exported to Israel in November 2022

Based on observations made during this voyage, no issues impacting animal health and welfare were identified relating to feed and water.

Report 227 Cattle and sheep exported to the Middle East in November 2022

Based on observations made during this voyage, the exporter arrangements relating to feed and water were appropriate and effective in managing livestock health and welfare.

Report 226 Cattle exported to Israel in October 2022

Based on observations made during this voyage, the exporter arrangements relating to feed and water were appropriate and effective in managing livestock health and welfare.

Report 225 Cattle and sheep exported to the Middle East in October 2022

The observer noted that feed pellets broke down into fines (fodder dust), which was observed in sheep troughs at each feeding throughout the voyage. Sheep troughs on the portside area of the vessel were observed to be the most affected with fines. The crew regularly removed fines from troughs and livestock were observed eating throughout each feed cycle. No direct adverse effects on animal health or welfare were observed relating to the presence of fines.

Report 224 Cattle and buffalo exported to Indonesia and Malaysia in September 2022

No relevant material on amount of feed was reported by the Independent Observer.

Report 223 Cattle exported to Indonesia in September 2022

Based on observations made during this voyage, the exporter arrangements relating to feed and water were appropriate and effective in managing livestock health and welfare.

Report 222 Cattle exported to Vietnam in July 2022

Based on observations made during this voyage, the exporter arrangements relating to feed and water were appropriate and effective in managing livestock health and welfare.

Report 221 Cattle exported to Vietnam in June 2022

Based on observations made during this voyage, the exporter arrangements relating to feed and water were appropriate and effective in managing livestock health and welfare.

Report 220 Sheep exported to Kuwait and the UAE in May 2022

Feed pellets broke down into fines (fodder dust), which was observed in troughs at varying times of day throughout the voyage. ASEL standard 5.1.12 requires that livestock have access to feed of a quality to maintain good health, welfare and satisfy energy requirements. Troughs were raked through regularly to settle fines below the pellets and each day the accumulated fines were tipped out of the troughs. Fines are generally unpalatable to sheep reducing the availability of fodder to the animals, and may be associated with increased risk of bloat, respiratory and eye problems. That fines were leftover in troughs by the sheep and were emptied daily suggests fines were not palatable to the sheep. However, management practices during this voyage prevented any discernible detrimental effect on livestock health and welfare.

Report 219 Sheep exported to Kuwait in June 2020

Fodder, in the form of pelletised feed and chaff, was observed to be loaded in excess of ASEL requirements, including required contingencies. The observer reported that all sheep were supplied enough time and opportunity to satisfy their feed and water intake requirements throughout the voyage.

Pellets were delivered from automatic feeding pipes twice daily, however some feed troughs were manually replenished by the crew. Where required, pellets were manually spread through troughs to encourage delivery of additional feed through pipes overnight. The observer reported little to no competition for fodder at the troughs during the morning feed.

Report 218 Sheep and cattle exported to Oman Kuwait Qatar UAE March 2020

Fodder loaded was in accordance with ASEL requirements. Pelletised feed was provided to livestock at least twice daily and the observer commented that fodder availability was satisfactory throughout the voyage. The presence of pellet fines delivered to feed troughs were a continual problem, particularly on the lower decks. The observer reported that this was managed well by the crew periodically emptying fines from feed troughs. Feed and water continued to be supplied to livestock throughout the discharge period, in accordance with ASEL requirements.

Report 217 Cattle and buffalo exported to Indonesia in February 2020

Fodder was available, in sufficient quantities, for the duration of the voyage and adequate chaff was available for all animals as required.

Report 216 Sheep exported to the Middle East in February 2020

Pellets were fed to sheep twice daily, at 7:00am and 3:00pm, with provision of chaff additionally supplied to sheep in hospital pens. Feeding times were altered during the discharge period to ensure twice daily feeding.

Pelletised feed and chaff were observed to be loaded in excess of ASEL requirements, including contingencies.

Pellets were distributed to troughs automatically, however some troughs required manual filling by the crew. Two hospital pens were used on Deck 2 to accommodate shy-feeders. All sheep had sufficient space to access feed and shy-feeders were observed to improve. Pellet fines affected <25% of each trough and with no negative impact on the health of the sheep observed.

Report 215 Cattle exported to Vietnam in February 2020

The observer reported that feed and watering systems were well maintained throughout the voyage. There were no water or feed accessibility constraints. …

The amount of fodder loaded and available on the vessel was in accordance with ASEL requirements. Pelletised feed was delivered to chutes on the decks automatically, and then manually delivered by crew to each feed trough. Additional chaff was fed as required by crew to cattle in the hospital pens. The crew were seen to adhere to the feed routines established at the daily meetings.

Report 214 Cattle exported to Russia February 2020

The pellets were automatically augered from holding silos to chutes located on each deck and then bagged or bucketed into feed troughs located at each pen by crew twice daily. The troughs were tied to rails to prevent them being knocked off. Pellet fodder was of good quality with minimal fines being emptied out at each feed cycle before feed troughs were refilled. Fines became more evident as the silos began to empty toward the end of the voyage.

Report 213 Sheep and Cattle exported to Oman Kuwait Qatar Pakistan January 2020

A fodder mate's receipt was not made available to the observer to confirm compliance with ASEL requirements. No concerns regarding the provision of feed supply to livestock were noted by the observer.

Cattle and sheep were fed twice daily. A small gap between the feed troughs and fodder chute was observed to result in the injury and death of some smaller lambs on this voyage. The stockpersons and AAV increased their monitoring of sheep at feed times to reduce the incidence of injuries.

Report 212 Cattle and sheep exported to Israel January 2020

Fodder was loaded in accordance with ASEL requirements. Fodder was distributed automatically from silo tanks via elevators to gravity-fed troughs. Approximately 10% of feed troughs required manual filling by crew in some areas. Pellet fines were reported as minimal on this voyage and were effectively cleared from troughs routinely by the crew if they did appear.

Cattle were observed to have adequate access to feed and water. Livestock were fed three times daily, with top ups provided as required. Sheep had reasonable access to feed and water for the duration of the voyage, however, were not supplied all scheduled feeds at discharge.

Report 211 Sheep and Cattle exported to the Middle East December 2019

Fodder was loaded in accordance with ASEL requirements, including contingencies.

Feeding was mostly automated, the exceptions were the hospital pens, which required manual feed distribution by crew. Additional pelleted feed and chaff were provided to the livestock by the crew as required. Livestock were routinely fed in the mornings and afternoons. Chaff was supplied to cattle once daily from Day 2 and to the lambs from Day 7 following the morning feed.

A delivery and build-up of feed dust ('fines') from breakdown of pellets was significant on this voyage. Nearly all pens on all decks were reported to be affected by this, however the severity ranged with 25-75% of trough contents affected. Management strategies, including mixing and/or removal of fines, were time-consuming and improved but did not resolve the issue for the duration of the voyage. Sheep were observed to prefer the pellets over the fines.

Sheep on the lower decks were not supplied feed on Day 20 due to a delay in discharge, meaning ASEL was not met. The observer reported that the lambs demonstrated vocalisation and increased competition for feed when this feed was missed. No adverse health outcomes occurred as a result of this.

Report 210 Cattle exported to China December 2019

Feed was delivered to decks automatically and then distributed manually to troughs by the crew. Cattle were fed pelletised feed between 7:00am to 8:30am. Chaff was supplied once per day at 10:30am. Additional feeds of pellets and/or chaff were supplied to cattle depending on instructions provided by the AAV.

Although fodder was loaded in accordance with ASEL requirements, feeding rates did not meet ASEL requirements for cattle in the first 6 days of the voyage. Despite a consignment of pregnant cattle being provided chaff twice daily, feed provided to this group was below ASEL requirements for the duration of the voyage. The observer reported that 95% of feed troughs were licked clean by the cattle within 1-2 hours after feeding. A considerable clamour for access to feed was witnessed by the observer during feeding times. Between feeding times, the animals were seen to be resting calmly. Cattle were frequently observed bullying and pulling hoses, chains and deck structures. No adverse animal health effects were observed as a direct result of this reduced feed provision.

Report 209 Cattle exported to Vietnam in December 2019

Cattle received 3 full feeds each day. Contaminants and fines were removed from feed troughs daily.

Some cattle did not have access to feed and water for up to 7 hours as the feed and water troughs were removed from the pens during the wash down. However, the observer reported that this didn't cause any adverse animal welfare issues for the cattle.

Report 208 Cattle exported to Indonesia in December 2019

Fodder was loaded in accordance with ASEL requirements. One exporter self-nominated a feeding regime above ASEL requirements. Although fodder loaded for this exporter was in accordance with ASEL, it failed to accommodate for the additional feeding instructions proposed by the exporter. This was identified on the first day of the voyage by the CO and managed successfully. Feed was provided above ASEL requirements but below the level directed in the additional feeding instructions to ensure adequate fodder remained as contingency. There were no negative health or welfare

implications as a result of this miscalculation, with affected cattle demonstrating a feed consumption well above ASEL requirements.

Report 207 Cattle and Sheep exported to Israel and Jordan December 2019

Fodder was loaded in excess of ASEL requirements.

Livestock received a morning and afternoon feed. Fodder was observed to be good quality and free of contaminants. Troughs were cleaned as needed throughout both day and night shifts.

Chaff was fed post wash-down and provided on alternate days to both cattle and sheep throughout the voyage.

The observer noted that there were no systemic issues regarding feed and water during the voyage.

Report 206 Sheep and cattle exported to Kuwait Qatar UAE and Oman December 2019

The fodder loaded on the vessel was in excess of ASEL requirements. The feed was supplied to the feed troughs by conveyors on all livestock decks. The exception was Deck 6 forward section, where livestock were manually fed. Food and water troughs were regularly cleaned. If found to be contaminated, fodder troughs were emptied and refilled.

There were adequate fodder and water troughs for each pen to allow sufficient access to feed and water. The livestock were able to access good quality water throughout the voyage via troughs fitted with float valves. Sheep averaged 1.6kg of fodder and 5 litres of water per head each day, whilst the cattle averaged 12kg and 10 litres respectively.

Report 205 Cattle exported to China December 2019

Pelletised feed and chaff was observed to be loaded in accordance with ASEL requirements.

Fodder was distributed manually by crew into troughs. Occasionally, feed troughs were dislodged by cattle from pen rails. The observer reported that this was corrected by all crew on each deck to ensure adequate feed to animals throughout the voyage. Shy-feeders were identified by the stockperson and were transferred to hospital pens as required.

Days 11 and 12 of the voyage experienced rough sea conditions, with an observed reduction in pellet consumption by the cattle. The observer reported that these conditions appeared to have no obvious physical effect on the cattle and the reduction in feed intake was mitigated to some degree by providing additional chaff.

Report 204 Cattle exported to Indonesia, November 2019

Fodder and water was loaded according to ASEL requirements including the appropriate contingency fodder allowance. Fodder was distributed automatically from the vessel silo, with piping to feed troughs manually operated by the crew.

All animals had sufficient space to access feed, with water available **ad libitum**. Shy feeders were identified quickly by the stockpersons and were relocated to hospital pens where they could freely access feed and have actual consumption monitored more closely.

Report 203 Cattle exported to Russia November 2019

Roughage was fed for the whole journey once or twice daily. Pellets were fed twice daily at 7:00am and 3:00pm. Leftover fines were consumed and were not observed to be an issue. Animals were

always keen at feeding times with some becoming quite aggressive at the trough; particularly for morning feeds from 7am.

Aggression at the feed troughs was observed in many pens during the voyage when feeding was reduced, within *Australian Standards for the Export of Livestock 2011 (version 2.3)* (ASEL) requirements, to 2% of liveweight within the pen. Some lower hierarchy cattle were observed to be unable to consume their fodder allocation, as the troughs could not be accessed by all pen mates at the same time. This reduced the amount of feed on offer for those shy feeders accessing the troughs last.

Each day approximately 10 of the less dominant cattle, which had remained in pens and competed for feed each day, were separated for lameness investigations. The AAV believed these cattle had become more susceptible to hind leg infections; especially from the jostling among animals. The cattle were using their hind feet to drive forward, in an attempt to gain access to the feed troughs, at feeding time. This jostling contributed to some of the mortalities, including an animal which broke a front leg whilst trying to access fodder.

Two other cattle were found dead in their pen after their heads had crossed over between the rails whilst attempting to access feed that had spilt into the aisle.

Report 202 Cattle exported to Israel November 2019

Feeding was automated on all decks. Automated feeding commenced at 6:00am. A second feed began at 3:00pm. Feeding of chaff and top ups of pellets to troughs occurred at 10:00am, with additional feed provided as directed by the stockperson or AAV. The livestock crew rotated work between 6:00am and 5:00pm.

The fodder loaded on the vessel was in accordance with the ASEL requirements.

Pellet fodder was generally of good quality, however as silo levels receded, a build-up of feed dust ('fines') was observed. The observer described that troughs affected by pellet fines were emptied before the morning feeding commenced, or on an as-needed basis as instructed by the AAV or stockperson. The presence of pellet fines on this voyage had no observable impact on animal welfare and was managed effectively.

Report 201 Cattle exported to China November 2019

Feeding was automated to each deck and was then distributed manually to feed troughs for each pen. The first feed was of hay, which commenced at 7:00am. Pellets were fed twice daily at 10:30am and 3:30pm.

The fodder loaded on the vessel was in excess of ASEL requirements.

Feeding rates did not meet ASEL requirements. For the first 7 days of the voyage, reported feeding rates were on average 1.0-1.5kg of feed per head below ASEL requirements. Most feed troughs were observed to be licked clean by the cattle, with some animals jostling and competing for pellets. The observer reported that the affected cattle stopped these behaviours after feeding. By day 10 of the voyage, feeding rates had increased to above ASEL requirements and the observer witnessed less competition for food.

Report 200 Sheep and cattle exported to Kuwait Qatar and UAE November 2019

Feeding was automated, with one feed in the early morning and the other in the late afternoon. For most of the livestock, this feeding schedule provided feed on offer 24 hours a day.

Pellets and chaff in excess of the ASEL requirements were loaded. The automated feed system contributed to 15% of the feed being broken down into dust ('fines'). Feed consumption during the voyage was higher than required by ASEL and no adverse impacts on animal welfare were observed.

There was enough free space in all pens for all stock to access feed and water on demand. No "pecking order" problems were seen that would keep those at the lower decks from reaching feed and water. Shy feeders were moved to hospital pens where they could consume adequate feed.

Report 199 Cattle and Sheep exported to Kuwait Qatar and UAE October 2019

Pelletised feed and chaff were loaded in excess of the ASEL requirements for the voyage.

Feeding was mostly automated, the exceptions were the forward section of Deck 6 and a small subsection of Deck 10, which required manual feed distribution by crew. In addition, pelleted feed and chaff were provided ad lib to the livestock by the crew as required.

The automated feed system led to the delivery and build-up of feed dust ('fines') from pellet breakdown. The observer noted the accumulation of fines occurred in less than 5% of troughs, and that the affected troughs were regularly cleaned and refreshed. The presence of pellet fines on the voyage had no observable impact on animal welfare and was managed effectively.

At times, troughs at the end of the automatic distribution line did not receive pellets before the end of feed delivery. The crew successfully rectified this situation by providing feed manually. This issue had no negative impact on the welfare of the cattle and sheep during the voyage.

Report 198 Cattle exported to China November 2019

Cattle were fed pelletised feed morning and afternoon, with a mid-morning top-up, when chaff was also fed.

Pelletised feed was loaded in accordance with the ASEL requirements for the voyage and was supplied to each deck by chute from the vessel's feed storage silos, then manually taken by the livestock crew to feed troughs at each pen.

The cattle were observed to be able to consume adequate feed and water during the voyage.

Report 195 Cattle exported to China October 2019

The vessel loaded pelletised feed hay at Portland which exceeded the ASEL requirements for this voyage.

Feed pellets were delivered by chute to individual troughs. The capacity of the vessel to produce fresh water exceeded ASEL requirements for this voyage. Water is supplied to troughs regulated by float valves.

The cattle were observed to be able to consume adequate feed and water during the voyage.

Report 197 Cattle exported to Indonesia in October 2019

Fodder was loaded in accordance with ASEL requirements. …. Cattle were fed twice daily via automatic gravity-fed delivery pipes. Most cattle adapted quickly to pelleted feed, with daily feed and water consumption progressively increasing throughout the voyage.

Report 196 Cattle exported to Vietnam in October 2019

Pelletised feed was delivered to the decks through a mechanical feed delivery system channelled to multiple piles throughout each deck. The crew then manually filled the troughs. The observer noted there was fodder wastage due to feeding system and the forming of feed piles.

The cattle were fed pelleted feed twice daily and chaff was fed to the feeder bulls in the morning from day 6 of the voyage onwards. From day 9 an additional feed was given from 10:30am. At the beginning of the voyage, the stockperson reduced the feed distributed to the cattle to allow them to adjust to the feed and to conserve fodder as they considered there was a high likelihood of the voyage taking longer than planned.

In addition, although the fodder loaded was based on a 13-day voyage, the actual voyage extended into day 16. This meant the action by the stockman to conserve fodder at the commencement of the voyage helped to ensure there was no risk of running low on feed. However this meant that the exporters feeding instructions were not followed for the first 7sevens days of the voyage. The observer noted there were no adverse welfare outcomes for the cattle in relation to feeding.

Report 194 Cattle exported to Indonesia in October 2019

The pelletised feed loaded on the vessel was in excess of the ASEL requirements required for the voyage length. …. The observer noted that feed and clean water was always accessible and the cattle were observed to consume adequate feed and water throughout the voyage.

Report 193 Cattle and sheep exported to Israel and Jordan October 2019

Feeding occurred twice daily. The upper decks were fed each day at 6:00am and 3:30pm, and the lower decks at 10:30am and 1:00pm. Pellets were mechanically transferred from storage silos to the hopper bins on the roof of the decks. Fodder was then automatically supplied to pipes which gravity fed most of the pens. Some pens, by design, required manual feeding.

Non-compliance was observed with ASEL S5.5b which requires adequate feed and water to be supplied to those livestock waiting to be discharged. On the morning of 26 October 2019, during cattle discharge, it was observed that all of the cattle fodder troughs were licked clean. The automatic feeding system did not appear to be in use with fodder only able to be supplied to some pens by the delivery pipes. The cattle were observed to have poor gut fill and to engage in frantic feeding when limited amounts of pellets were fed.

On arrival in Aqaba, the sheep were observed to be significantly hungry. On 27 October 2019, six mortalities of otherwise healthy appearance, were identified in positions strongly suggestive of death by smothering. During the rest of 27 October 2019 the observer witnessed several frantic feeding events. On 28 October 2019, crew members were observed manually scooping pellets from empty pens to pens with sheep still present. Direct adverse animal health effects, including 8 smothering deaths, were observed during discharge. The observer estimated that there was between 5 and 10 tonnes of fodder remaining in the silos at the completion of discharge.

Report 192 Cattle exported to Vietnam in October 2019

Pelletised feed was delivered by an automated delivery system to multiple outlets on each deck and the livestock crew manually filled buckets, then hand-deliver feed to the feed bins on each pen. Pelletised feed was loaded in Townsville in excess of ASEL requirements. …. The cattle were able to consume adequate feed and water throughout the voyage.

Report 191 Cattle exported to Indonesia in October 2019

Cattle were fed pelletised feed 3 times per day and chaff once a day. ….. The observer noted that the cattle travelled well and favourable animal health and welfare outcomes were achieved.

Report 190 Cattle exported to Indonesia in September 2019

The feed system on the vessel was automatic and delivered pelletised feed to chutes, which the livestock crew manually bagged and filled the troughs at each pen. The pellet feed was of good quality with no fines evident throughout the voyage.

Three feed troughs were available per pen, which was reduced to two when manual watering commenced from day 4 (see below). During cleaning the feed and floor sweepings were added to the pens to firm-up the pads. Feed not consumed throughout the night was emptied from the troughs each morning before feeding commenced, or as instructed by the stockperson. Chaff was fed to the cattle prior to discharge.

Report 189 Sheep and cattle exported to Kuwait, UAE and Qatar September 2019

Pelletised feed was loaded in accordance with the ASEL requirements and was supplied to the feed troughs by conveyors on all livestock decks. The exception was Deck 6, forward section, where livestock were manually fed.

The livestock were fed twice a day and the cattle were also fed chaff in the afternoons.

There were adequate feeding and drinking troughs for each pen to allow access to feed and water.

Report 188 Cattle exported to Indonesia in September 2019

Cattle received 3 full feeds and 2 top up feeds each day. Contaminants were removed from feed troughs daily.

Report 187 Cattle exported to Israel September 2019

Pelleted fodder was held in two large silos. The fodder was automatically delivered from the silos to chutes located throughout each deck. The crew then manually transported the fodder from the chutes to feed troughs using twenty litre carry drums. The observer noted that feed was loaded in excess of ASEL requirements.

The cattle appeared to have a generally good appetite during the voyage. The livestock had adequate access to feed troughs and water troughs during loading, discharge and for the duration of the voyage. The animals did not display a reluctance to use the feed and water troughs.

Report 186 Cattle exported to Indonesia in September 2019

Cattle were fed twice per day with top up feeds made during deck rounds. …. Pellets and chaff were provided and water was available via water troughs with an automatic water system. The cattle were observed consuming feed and water consistently.

Report 185 Cattle exported to China September 2019

Pelletised feed was stored in three silos on the vessel then gravity-fed from the silos to outlets disturbed along each deck. The livestock crew then manually filled the bags from the outlets and distribute the pellets to troughs.

The livestock crew fed the livestock pelletised feed twice daily and chaff once a day with a top-up feed provided on request by the stockperson. The amount of pelletised feed loaded was in excess of Australian Standards for the Export of Livestock 2011 (version 2.3) (ASEL) requirements for this voyage.

The cattle were observed to be able to consume adequate feed and water during the voyage.

Report 184 Cattle exported to Indonesia in September 2019

Cattle were feed pellets at 6:00am, 13:00pm and 15:30pm. Chaff was fed at 10:30am and troughs were topped up with chaff during the night. … Pellets are stored in 2 main bunkers in an area in front of the 1st to 5th cattle decks. Pellets are centrifuged upwards to the top deck (Deck 11) and then delivered via gravity feed through PVC pipes to troughs in the decks below. …. Most cattle were observed to keenly feed on the pellets from the first day of the voyage and thereafter.

Report 183 Cattle exported to Indonesia in September 2019

The cattle were fed 4 times each day for the first four days after which the stockperson noted the cattle did not seem to be eating the desired quantity of fodder. Therefore on Day 5 the stockperson added an additional top up feed of pellets which resulted in higher rates of feeding. …. A prescribed feeding and watering schedule was outlined in the exporter voyage instructions for the master and the stockperson. However the instructions made no mention of chaff feeding, and required two feed-outs with no top-up. It also required set manual watering times from the start of the voyage. Due to these issues, the stockperson and crew developed a feeding and watering routine over the first half of the voyage that the observer considered was more practical, and which resulted in excellent animal health and welfare outcomes for the consignment.

Report 182 Cattle exported to China September 2019

Adequate feed was loaded to meet ASEL requirements for a voyage of 18 days plus 3 days reserve. The predicted length of this voyage was 14 days but the actual duration was 22 days; there was concern part way through the voyage that there would not be sufficient fodder. Cattle were initially fed ad lib, but between days 10-17, the feed rate was reduced to 1.6%-2.1% of body weight, which is below the ASEL-mandated rate of 2.5% kg/head. The rate of feed was restored from day 18. At discharge, the cattle showed no signs of weight loss.

Report 181 Cattle exported to Indonesia in September 2019

Cattle were fed and watered three times each day with feed and water top-ups at 6:00pm as required. … Adequate feed (165 tonnes of pellets and 7.5 tonnes of chaff) and water were available for the duration of the voyage.

Report 180 Cattle exported to Vietnam in September 2019

The cattle were fed three times per day in early morning, late morning and mid-afternoon with top-ups as required. …. The vessel carried more than enough feed pellets and chaff for the duration of the voyage.

Report 179 Cattle exported to China September 2019

The cattle were fed pelleted fodder twice a day and hay was fed out once a day.

Appropriate animal health and welfare standards were maintained throughout the voyage.

Livestock services on the vessel including provision of feed, water and ventilation functioned effectively even in adverse weather conditions experienced over 4 days of the voyage.

Report 178 Cattle exported to Vietnam in August 2019

The bosun and livestock crew worked well in maintaining feed, water, and pen conditions. …. Pelletised feed was loaded in accordance with the ASEL requirements and was distributed from the vessel's storage silos to feed troughs via a chute system. …. The observer noted the cattle consumed adequate feed and water.

Report 177 Cattle exported to Indonesia in August 2019

The cattle were fed twice daily, and chaff was fed on days 3 and 5. …. The cattle had easy access to feed troughs and clean fresh water which were available throughout the voyage and during discharge.

Report 176 Cattle exported to Indonesia in August 2019

The cattle were fed twice a day with two top up feeds per day. Hay was fed to cattle on some decks in order to encourage fodder consumption.

Report 175 Cattle exported to Indonesia in August 2019

Pelletised feed was stored in four silos which flowed down chutes to the penning areas where it was manually bagged, then emptied into plastic feed troughs located at the front of each livestock pen. Any old or dusty feed remaining in the troughs was first tipped out to ensure that the cattle were being fed clean feed free of dust on every occasion. The exporter loaded a weight of feed that complied with the ASEL requirements. …. The cattle consumed adequate feed and water during the voyage.

Report 174 Cattle exported to Vietnam in August 2019

The cattle were fed 3 times a day which included a feed of chaff at 10:30am.

Fodder pellets were fed automatically through chutes to the decks and then were manually bagged by the livestock crew and delivered to the troughs at each pen. The pelletised feed was of good quality with little to no fines. Three troughs were available in each pen, which was adequate. Feed that fell to the floor was swept up during cleaning, and added to the pens to firm up the pads. Feed troughs were emptied each morning before feeding commenced, or as instructed by the stockperson.

The observer noted that the stockpersons and the crew ensured that the health and welfare of the cattle were maintained during the voyage.

Report 173 Cattle exported to China August 2019

The fodder loaded on the vessel exceeded the ASEL requirement. The pelleted fodder was stored in three silos and was delivered to chutes on each deck. The crew manually filled the fodder troughs that hung on the outside of pen rails. Three to five troughs were available for each pen. The cattle were fed pellets twice a day and chaff was fed to various pens at 3:30pm.

Report 172 Cattle exported to Vietnam in August 2019

Cattle were fed at least twice daily with some lines of cattle receiving an additional chaff feed.

Cattle were fed pelleted feed at 7:00am and 3:30pm each day. Chaff was provided to certain lines of cattle at 10:30am each day.

Report 171 Cattle exported to Indonesia in August 2019

Pelleted fodder was stored in four silos and was delivered to chutes on each deck. The crew manually filled the fodder troughs that hung on the outside of the pen rails. The cattle were fed three times per day with an additional feed given on day 3. The cattle had adequate access to fodder.

Report 170 Cattle exported to Vietnam in August 2019

Pelleted fodder was mostly delivered to the troughs by the automatic feeding system. Some areas required manually filling of the troughs by the crew. Pelleted feed was given at 6:00am, 10:30am, and 3:30pm. Chaff was also provided to the cows and bulls.

The cattle were in good condition at discharge with good intake of fodder and water throughout the voyage.

Report 168 Cattle exported to Indonesia in August 2019

Cattle were fed three times daily.

Fodder (pellets and chaff) was delivered automatically to the decks and then manually transported to the pens by the crew, with the amount of feed provided exceeding ASEL requirements.

It was noted that the objective was to have ad lib feed available throughout the voyage (for weight gain purposes); therefore, the amounts fed out to cattle were adjusted daily based on the amount consumed the previous day.

Report 167 Cattle and buffalo exported to Vietnam in August 2019

The first feeding of Decks 1–4 occurred 16 hours after the commencement of loading which meant it was longer than the 12 hours specified in ASEL, however no animal health or welfare issues were noted.

The livestock crew fed the livestock pelletised feed twice daily and chaff once a day with a top-up feed provided on request by the stockperson.

Report 166 Cattle exported to China August 2019

Pelletised feed and chaff were loaded in accordance with the ASEL requirements for the classes of cattle in this consignment. Feed was provided in troughs and also directly in the deck aisles. This practice appeared to be very useful in maximising the fodder access for the dairy cattle.

There were no issues observed with provision of feed and water during the voyage.

Report 165 Cattle exported to Indonesia in July 2019

The cattle were fed pellets and chaff daily calculated by body weight. Feed troughs were observed to be clean throughout the voyage. Animals were observed having easy access to fodder troughs.

The stockperson worked with the crew to ensure animals had adequate feed and water during the voyage including as a precaution one animal that was shy on feeding.

Food and water was available throughout the voyage. Animals were very content to move around the pens to access water while others were feeding. The animals fed and drank in a calm manner.

Report 164 Cattle exported to Vietnam in July 2019

The pelletised fodder was given two main feeds every day and topped up as necessary for the rest of the day. Chaff was given daily to assist with adaption to the pelleted ration.

Water is generated by two reverse osmosis plants. Water was supplied ad lib in nose bowls and supplemented with water in troughs.

The management of fodder and water contributed to a positive welfare outcome.

Report 163 Cattle exported to Indonesia in July 2019

The livestock crew were efficient, competent and effective in terms of maintaining supplies of feed and water, and cattle care and handling techniques.

Pelletised feed was loaded in accordance with the ASEL requirements for the voyage and water was supplied by automatic nose bowls in the pens. The cattle were observed to be able to consume adequate feed and water during the voyage.

Report 162 Cattle exported to China July 2019

Pelletised feed was loaded in excess of the ASEL requirements. Fodder and water trough space was adequate for the number of cattle in each pen. The pellet and chaff supply to different classes of cattle was well managed by the stockpersons during the voyage.

Report 161 Cattle exported to Vietnam in July 2019

Pelletised feed was distributed to each deck by drop chutes from the three storage silos, then bagged by the livestock crew for delivery to feed troughs. The feed was high quality with no mould, and minimal dust and fines. Coarse chopped hay and chaff were also of a high standard with little to no dust or other contamination.

The cattle fed and drank well after an initial settling-in period. Feed consumption dropped on day 10 due to typhoon weather. Feed was reduced to 40–50% of normal quantity for the final two days of the voyage because the expected duration of the voyage had increased. This increase in voyage duration was attributed to vessel stoppage for part of day 6 for repairs to the main engine, and reduction in vessel speed from day 10 due to the typhoon weather.

Animal health and welfare were well maintained throughout the voyage. The stockperson was meticulous in their observation and management of the cattle.

The observer noted that the stockperson and the crew ensured that the health and welfare of the cattle were maintained during a voyage that encountered delays due to engine breakdown and typhoon weather.

Report 160 Cattle exported to Indonesia in July 2019

The cattle were fed pelleted feed 3 times and one chaff each day.

There was always ample feed and water provided to the cattle.

Report 159 Cattle exported to Brunei and Malaysia in July 2019

The vessel's feed system distributed pelleted feed to chutes on each deck. The crew filled bags in order to manually transfer the pellets to fill the feed troughs. The livestock were fed three times each day starting at 7:00am, 10:00am with the final feed at 3:30pm. Chaff was fed once per day for the first 5 days.

Report 158 Cattle exported to Vietnam in July 2019

Pelleted fodder was stored in three silos and is transferred to chutes on each deck. The crew manually filled the feed troughs that hung on the outside rails of each pen. All livestock appeared to have adequate access to feed troughs during the voyage.

The cattle were fed pelleted fodder twice per day with chaff fed from day 2 to encourage the cattle to use the feed troughs.

Report 157 Cattle exported to Indonesia in July 2019

The vessel feeding system delivered fodder to each deck and the crew manually filled troughs. Each pen contained two or three feed troughs depending on the pen size. The cattle were fed pelleted fodder twice a day and it was dust free and palatable.

No issues with feed or water supply were noted.

Report 156 Cattle exported to Indonesia in July 2019

Pelleted feed was dispensed through a conveyor delivery system, as well as manually into extra feed troughs placed in all pens. Chaff was manually distributed to encourage shy feeders and animals in hospital pens to eat.

The vessel was well maintained and no issues detrimental to the welfare of the consignment were observed.

Report 155 Cattle exported to Indonesia in July 2019

There was sufficient fodder loaded to supply the animals and meet ASEL requirements.

Report 154 Cattle exported to Indonesia in July 2019

Sufficient pellets and chaff were loaded in accordance with the ASEL requirements for the duration of the projected 4 day voyage, along with the required 3 day contingency.

Pellets were fed three times a day starting at 7:00am, 10:30am and 3.30pm and chaff supplements were usually fed at 10:30am. The fodder was observed to be of good quality, with no mould or fines. One shy feeder was identified and the stockperson removed this animal to a separate pen to provide better access to food and water.

No feed or water issues were observed during the voyage.

Report 153 Cattle exported to Indonesia in July 2019

Pelletised feed and chaff was loaded slightly in excess of ASEL requirements for a 4-day voyage, however, the observer noted that some cattle were on the vessel for 9 days. This was mainly due to a delay in berthing of the vessel, then slow unloading of the cattle that took 63 hours meant that during days 6–9 there was insufficient feed to supply the cattle according to ASEL requirements.

The Department of Agriculture raised the issue of insufficient feed with the exporter. The exporter identified the best way to deal with the issue was to source local feed, and therefore arranged the loading of approximately 10 tonnes of supplementary feed at the port. During days 6–9, the cattle displayed behaviour such as vocalisation and excessive licking of empty troughs, which indicated a degree of hunger.

Report 152 Cattle exported to China July 2019

The cattle were fed high quality, pelletised feed that was the same as the one used in the feedlot prior to loading. In addition to the pellets, chaff was also fed. The quantity of feed was gradually increased over the duration of the voyage until discharge.

The cattle were fed at 7:00am and 1:00pm with up to three top feeds.

The observer noted that although some feed and water troughs were knocked off the pen rails, there was still adequate, good quality feed and water available to the cattle at all times.

Report 151 Cattle exported to Vietnam in June 2019

The cattle were fed 3 times daily and the crew continually maintained essential livestock systems such as water reticulation and the semi-automated feed system.

The observer noted the cattle were preconditioned to the feed well and ate most of what was provided to them. No shy feeders were observed. Animals that appeared to be losing weight were separated and given additional nutrition.

Report 150 Cattle exported to Indonesia in June 2019

Pelletised feed was loaded in accordance with the ASEL requirements and was distributed from the vessel's storage silos via a chute system directly into the feed troughs. Less than 5% of the feed troughs were required to be manually filled by the crew.

Report 149 Cattle exported to Indonesia and Malaysia in June 2019

All livestock had access to fodder and water as soon as they were loaded, as per the voyage instructions and ASEL requirements.

Appropriate amounts of fodder was loaded according to ASEL requirements. Two main feeds occurred daily with at least 2 other top-ups during the day, as the exporter preferred the animals to have ad-lib feed.

Report 148 Cattle exported to Indonesia in June 2019

Pelleted fodder was loaded in accordance with the ASEL requirements, and water was produced continuously on-board the vessel.

The exporter's instructions included a requirement to provide additional feed and water in the troughs. But contamination due to faeces

Report 147 Cattle exported to Vietnam in June 2019

The crew worked diligently to ensure adequate feed and water was available. However the observer noted that some cattle did not adapt well to the pellets and presented with hollow sides throughout the voyage. Chaff was mixed with the pellet ration to encourage these cattle to increase their fodder intake.

Report 146 Cattle exported to Indonesia in June 2019

The vessel feeding system delivered fodder to each deck and the crew manually filled the feed troughs. The cattle received pelleted fodder at 7:00am, 10:30am and 3:30pm. Chaff was delivered at the stockpersons discretion in the morning or afternoon feeds.

Report 145 Cattle exported to Israel June 2019

Pelleted fodder was stored in bunkers and the feeding system delivered the pellets directly to troughs which were hung on the outside of each pen. Some pens were required to be manually fed by the crew. The cattle were fed three times a day starting at 6:00am, 10:00am and 3:00pm. Top up feeds and hay distribution also occurred when requested by the stockperson.

The automatic feeding and water supply worked effectively throughout the voyage.

Report 144 Cattle exported to China June 2019

Pelleted feed and water systems on this vessel were fully automatic with a water supply continuous. Fodder pellets and chaff were each fed twice daily at 6:30am and 2:00pm. Chaff was fed manually.

All pens had 1 water and 2 feed troughs with no issues noted. The amount of fodder loaded was in accordance with the **Australian Standards for the Export of Livestock (Version 2.3) 2011** (ASEL) requirements.

Report 143 Cattle exported to Indonesia in June 2019

Cattle received a full feed at 7:00am and 3:30pm, with two top up feeds during the day. The observer noted that the stockperson was quick to notify the bosun and crew if the water or feed levels became low.

Report 142 Cattle exported to Philippines in June 2019

The observer noted that feed and water was provided to the cattle 16 hours (other than Deck 4) after the commencement of loading. This is does not comply with ASEL which requires livestock to be provided feed and water within 12 hours from the commencement of loading.

Fodder quantities loaded were in excess of the ASEL requirement for the planned voyage. Due to a delay in the berthing of the vessel at the discharge port, the majority of the fodder on board was utilized.

Access to feed was acceptable. Most pens had at least two feed troughs per pen with those containing fewer animals containing one trough.

Report 141 Cattle exported to Vietnam in June 2019

The cattle were fed pellets and hay. Pellets were fed daily at 6:00am and at 3:30pm. A third feeding occurred at 10:30am and varied on the level of consumption or if hay was to be fed. The stockperson used hay to stimulate the appetite of some of the cattle that were not eating as much as expected. The feed troughs were also cleaned as required and fresh feed added. Daily adjustments were made until all stock had access to ad-lib feed.

Report 140 Cattle exported to Indonesia in June 2019

Fodder was loaded in excess of ASEL requirements and was provided ad lib to the animals for the majority of the voyage. The feed ration was reduced to maintenance in the last few days because the vessel was waiting for berthing clearance.

Report 139 Cattle and buffalo exported to Indonesia in June 2019

Fodder was delivered to each deck via chutes and then transported to troughs manually using 45kg bags.

The livestock were fed 4 times per day. Two lines of cattle were identified as not adapting to the pellet ration as well as other animals. Chaff was added to the pellet ration in these lines order to encourage fodder consumption.

Report 138 Cattle exported to Vietnam in June 2019

Cattle were fed in the morning, mid-afternoon and late afternoon. Pelleted feed was dispensed through an automatic delivery system, as well as manually into extra feed troughs placed in all pens. Feed consumption increased throughout the voyage except for a period of 24 hours on the third day when cattle were adjusting to slightly rougher seas. Consumption increased as conditions improved. Chaff was also available and fed manually to encourage shy feeders and animals in hospital pens to eat.

Report 137 Cattle exported to Vietnam in May 2019

The livestock crew commenced morning routines at 7:30am feeding and cleaning water troughs and walkways. The second feed commenced after 10:30am. The afternoon feed commenced at 3:30pm and finish approximately 5:00pm. Chaff was fed on day 7 as a supplement to the pellets.

Sufficient pellets and chaff were loaded in accordance with ASEL to cover feeding of the loaded cattle on the exporter's projected 13 day voyage, along with the required 3 day contingency.

Report 136 Cattle exported to China May 2019

Fodder was held in two large silos. The livestock were fed twice a day at 7:30am and 3:30pm. The crew would fill a sack with fodder and manually fill feed troughs. All livestock had adequate access to feed for the entire voyage. The observer noted that the cattle had a suppressed appetite for the first 10 days of the voyage, however this improved on day 12 as the temperatures declined.

Report 135 Cattle exported to Vietnam in May 2019

There was abundant feed and water availability throughout the voyage. Animals were content to move around the pens to access water while others were feeding.

The cattle were fed three times a day, at 7:00am, 10:30am and 3:30pm. Feed times were discussed and reviewed each day by the stockperson, CO and bosun.

Chaff was provided on request from stockperson and was mostly given as a top-up after the second feed.

Report 134 Cattle exported to Indonesia in May 2019

Cattle were fed at three times daily with an occasional fourth top-up feed.

Report 133 Sheep and cattle exported to Kuwait and UAE May 2019

The livestock were fed twice a day, between 6:00am and 7:00am, and again at 3:30pm. They would remove fines or faeces from the trough before being filled with fodder. Certain pens were provided additional feed as determined by the stockperson or AAV.

The feeding and housekeeping schedule appeared to be both efficient and effective. The observer noted that the integrity of the pellets was good and there was absence of mould and only small amount of fines found.

Report 132 Cattle exported to Indonesia in May 2019

Appropriate amounts of fodder was loaded according to the **Australian Standards for the Export of Livestock 2011 (version 2.3)** (ASEL) requirements. Cleaning, filling and topping up of troughs was observed to be efficiently maintained. Chaff was available from day 1 and pelleted fodder was fresh.

Report 131 Cattle exported to Indonesia in June 2019

Cattle received two pelleted feeds per day and an additional feed of chaff around midday. Cattle were observed to have easy access to feed troughs in each pen and were observed to be eating well.

Report 130 Cattle exported to Malaysia and Brunei in May 2019

Fodder was stored in tanks and delivered to chutes on each deck via gravity. The crew manually filled the troughs. The cattle were fed two main feeds per day with a top up feed in between. The **Bos taurus** cattle were fed chaff to assist with the management of the heat. The crew replaced feed troughs if they became dislodged. Overall the nutritional management was good.

Report 129 Cattle exported to Indonesia in May 2019

Fodder is gravity fed to chutes located on each deck. The crew manually filled the troughs using bags of fodder from the chutes. Excess fodder was loaded when compared to the **Australian Standards for the Export of Livestock (Version 2.3) 2011** (ASEL) requirements.

The pens on the outer edge of the vessel held more cattle but had the same number of troughs available. The cattle in the larger pens had to wait or compete to get access to feed and water but this factor had no impact on the health of the animals.

Report 128 Cattle exported to Indonesia in May 2019

Fodder was distributed to decks via a conveyor system with chutes to each deck. Crew then manually filled buckets to distribute the feed to the troughs. The crew routinely fed pellets to cattle at 7:00am, 1:00pm and 3:00pm. Chaff was bagged and stored on the top deck on pallets. Chaff was routinely fed at around 10:30am. Crew checked water troughs at all feeding times. Fodder quantities loaded were in excess of ASEL requirements

Five pens were noted to have reduced access to feed and water. This was due to narrow spacing between rails which limited placement of water and feed troughs. Crew attempted to fix this issue by placing troughs inside the pens however this reduced pen space and meant it was easier for troughs to be knocked off or soiled. The observer did not note any significant impact to the health and welfare of the stock in these pens during the voyage.

Report 127 Sheep and cattle exported to Israel and Jordan May 2019

Fodder and potable water were available to the livestock throughout the voyage. Trough space was adequate for the numbers in each pen or pen grouping.

The observer noted the required quantities of fodder, chaff and water were loaded and livestock received appropriate fodder, chaff and water throughout the voyage.

Report 126 Cattle exported to Russia May 2019

Fodder was stored in three silos. The feeding system delivered the fodder to chutes on each deck and the crew were required to manually fill the feed troughs. Bagged pellets and chaff were stored on the sundeck and in unstocked pens. The observer noted the fodder loaded exceeded the ASEL requirements.

The cattle were fed twice a day. There were two classes of cattle loaded for the voyage. One class of cattle demonstrated increased competition for fodder compared with the other class of cattle. The class of cattle that demonstrated increased fodder competition were spread into additional pens.

Report 125 Cattle exported to Indonesia in May 2019

Cattle were fed three times a day and the observer noted that feed troughs were rarely empty for more than an hour. There were at least two feed troughs per pen and all stock in pens appeared to be able to access feed without undue competition. Average fodder consumption increased steadily throughout the voyage.

Report 124 Cattle exported to China May 2019

The stockperson constantly monitored the cattle, always looked for signs of lameness or injuries and attended to the water troughs and making sure that there was feed available at all times.

During the voyage the cattle were fed 4 times each day at 7:00am, 10:30am top up, 1:30pm chaff and a 3:30pm full trough feed.

Throughout the voyage and discharge, the livestock were observed to have access to good quality uncontaminated fodder and quality fresh water. Crew were observed regularly checking fodder and water levels.

Report 123 Cattle and sheep exported to Kuwait and UAE May 2019

Feed and water systems on this vessel were automatic ……. Fodder was provided twice daily from holding tanks. Chaff was fed in addition to the pellet fodder for cattle, and provided to sheep as needed. Most decks had two water and two feed troughs per pen, with some having three feed troughs if there was space.

Report 122 Cattle exported to Vietnam in May 2019

Cattle were fed pellets 4 times daily with chaff added if needed, at a set schedule. Fodder was delivered automatically to decks and then manually transported to pens by crew. Fodder was fresh, dry and free from mould and contaminants. No shy feeders were observed throughout the voyage.

Report 121 Cattle exported to Indonesia in May 2019

Cattle were fed four times a day and received a top up feed of chaff which was increased to twice daily from day 3 onwards.

The cattle were fed good quality pellets and chaff. Pellet fines and any containments were removed from troughs prior to feeding. Cattle had good access to fodder with 2 to 3 feed troughs per pen.

Report 120 Cattle exported to Vietnam in May 2019

There were generally 4 feeder troughs and 2 nose activated filling water bowls in each pen with good access to feed troughs and water.

Feed troughs were manually filled by the crew that accessed the fodder from chutes on each deck. The cattle were fed pellets 3 times per day at 7:00am, 10:00am and 3:30pm.

Report 119 Cattle exported to China May 2019

The vessel feed system was gravity fed although some troughs were required to be manually filled. The cattle were fed three times per day (early morning, midday and afternoon). There were generally two pellet feeds and one feed of chaff but on occasions, the pellets and chaff were mixed and fed together. The observed noted that there was no shortage of fodder or any issues with fodder supply.

Report 118 Cattle exported to Israel April 2019

The cattle were fed pellets twice daily at 6:00am and at 3:00pm. Chaff was fed between the pellet feeds.

Due to the rough sea conditions experienced during the first week and apparent lack of familiarity with the pelleted fodder not all cattle began eating immediately. The stockpersons encouraged these cattle to eat the pellets by mixing in chaff. There was some competition in the more heavily stocked pens. The stockpersons identified cattle which were not eating and removed these to hospital pens where they had easy access to feed and water.

Sufficient fodder was loaded for the voyage and cattle were adequately fed each day.

Report 117 sheep and Cattle exported to Kuwait and Qatar April 2019

The observer did not note any issues with feed and water. Feed and water supplies were checked regularly.

Report 116 Cattle and buffalo exported to Vietnam in April 2019

Fodder was loaded in accordance with **Australian Standards for the Export of Livestock (Version 2.3) 2011** (ASEL) requirements. Livestock received a morning and afternoon feed.

Report 115 Cattle exported to Indonesia in April 2019

Animals were observed to feed well and have good access to food and clean water at all times.

Report 114 Cattle exported to Vietnam in April 2019

Feed and water quantities loaded were in excess of **Australian Standards for the Export of Livestock (Version 2.3) 2011** (ASEL) requirements for a 7 day voyage. In addition, there were 20 tons of fodder left over from a previous voyage.

Report 113 Cattle and sheep exported to Indonesia and Malaysia in April 2019

A large feed was provided to animals at 07:00am … Top up feed was provided at 10:00am and 1:00pm to empty troughs. At 2:00pm the second large feed of the day was provided to all animals.

It was generally observed that feed trough always had feed in it, indicating an ad lib feed regime was used.

Report 112 Cattle exported to Vietnam in April 2019

Feeding commenced at approximately 7:00am each morning with a top up provided at 10:30am. An afternoon feed occurred at 3:00pm.

Adequate fodder was available despite the extended voyage length caused by mechanical issues. Fodder was collected from chutes in bags and manually distributed to feed troughs. Chaff was broken into biscuits and fed out by crew.

Report 111 Cattle exported to China April 2019

The cattle were fed pellets three times a day, chaff twice per day with the pregnant heifers receiving an extra feed each day. The observer noted that although not all the animals had trough access in the pen at the same time, the animals all seemed well fed. However, the stockperson identified any thin animals and segregated them for management in the hospital pens.

The observer noted that a number of instances where feed troughs were knocked off the pen's rails, restricting access to feed during that feed period. However, the crew were observed picking up dislodged troughs and regularly maintaining feeds throughout the day and night.

Report 110 Cattle exported to Philippines in April 2019

Feeding was consistently on time and completed without incident.

Report 109 Cattle exported to China April 2019

The normal daily feed routine was pellets at 7:00am and 3:30pm and chaff / hay at 1:00pm.

The feed and water systems worked without fault, water troughs were cleaned out twice daily and the round-lipped feed bins stayed on the square rails with the addition of a simple bolt and washer.

Report 108 Cattle exported to Indonesia in April 2019

Fodder pellets were stored in silos and were distributed to chutes on each deck. The crew manually filled the troughs. The cattle were fed four times per day (6:30am, 10:30am, 1:00pm and 4:30pm) and chaff was fed every second day. The cattle had good access to fodder troughs in all the pens. ….. The fodder and water loaded was in accordance with the ASEL requirements.

Report 107 Cattle exported to Vietnam in April 2019

Cattle were fed four times throughout the day, at 7:00am, 10:30am top up, 1:30pm chaff and a 3:30pm full trough feed.

Throughout the voyage and discharge, the livestock were never without access to good quality uncontaminated fodder.

Report 106 Cattle exported to China April 2019

The fodder was held in silos and the feeding system delivered the pellets to chutes located on all decks. The crew manually filled the 3 to 5 troughs that were available for each pen. All livestock had access to feed and water during loading, discharge and for the duration of the voyage.

The livestock were fed twice each day at 6:00am and 3:30pm. Chaff was provided to the cattle from day 4 on a daily basis.

Report 105 Cattle and sheep exported to Kuwait, Qatar and the UAE April 2019

Feed was in a pelletized form. Chaff and sawdust were stored in bags under cover on the upper decks. The feed and water systems were automated. Feeding was performed in the morning at approximately 6:00am, and again in the afternoon at 2:30pm. Fines which accumulated in the feed troughs were emptied as required.

Excessive fines/dust in the pellet feed on the port side feeding auger caused it to block and become inoperative on day 12. This affected the feeding of livestock on Decks 8, 9, 10 and the port side. A short term measure was implemented to supply feed to these decks using the starboard side feed system. This system was slower so feeding was started 1 hour earlier and an extra feed was provided at 12:00pm. This ensured the sheep received adequate feed until the repair to the auger was completed on day 14.

Report 104 Cattle exported to Indonesia in March 2019

Feed and water was provided by an automated system.

Pellets were fed starting at 7:30am for the morning and at 4:00pm for the afternoon feed. The midday feed would vary between 10:30am to 2:00pm based on other activities for that day. …. The accessibility of feed and water for all animals in all pens was noted as being adequate.

Report 103 Cattle exported to Indonesia in March 2019

Pelletised feed was stored in large silos and holding tanks above the decks. Crew collected fodder from multiple chutes on the decks and filled plastic feed troughs that hang on the outside of the pen. Fodder and water supplies were loaded in accordance with ASEL. The cattle were fed pellets at 7:00am, 1:00pm and 3:30pm. Chaff was also fed once per day.

Report 102 Cattle exported to Indonesia in March 2019

Sufficient pellets and chaff was available for the entire voyage. Pellets were stored in silos whilst chaff was stored in bags. The observer noted that often before feeding there would be pellets remaining in the troughs attached to pen railings.

Report 101 Cattle exported to Indonesia in March 2019

Fodder was stored on-board in three covered silos. Chaff was mixed in with rations of pelleted feed. As there was generally feed left in troughs from previous feedings, feed was effectively supplied **ad libitum** in most pens for the duration of the voyage.

Report 100 Cattle exported to Indonesia in March 2019

The cattle were fed four times a day at 7:00am, 10:30am, 3:30pm with chaff fed at 1:30pm. The observer noted there were no occasions where the water and feed levels were found to be low. There was ample room for the cattle to access feed and water and also sufficient room for them to lie down.

Report 99 Cattle and sheep exported to Kuwait and Qatar March 2019

The observer noted that fodder was loaded in excess of the ASEL requirements. Feeding of pellets via an auger was performed twice daily, once at 7:00am and again usually at 3:00pm. The observer

noted that the livestock had **ad lib** access to fodder. The crew ensured contamination was kept to a minimum, and the troughs were functional at all times.

Fines from pellets appeared excessive, were a constant issue and were very noticeable in the feed troughs. Sheep showed a preference to eat the solid pellets versus the powdery fines, but there was no clear deleterious effect on the animals. The vessel's management were aware of the issues and instructed the crew to empty excess fines into the pens.

Oats were introduced for 5 days to encourage sheep to adapt to the pellet diet. Later, oats were re-introduced to assist rams that the AAV had identified were not eating. Chaff was fed to cattle from the 20th of March and reduced once the cattle had adapted well to the pellets. Chaff was also given to sheep in the hospital pens.

Livestock had continuous access to potable drinking water and suitable feed throughout the voyage.

Report 98 Sheep and cattle exported to Israel and Jordan March 2019

The observer noted that during cattle wash down there were more staff helping with wash down. On occasions, this meant there were fewer crew on the sheep decks and the limited staff on the sheep decks resulted in build-up of fines in feed troughs, subsequently blocking fresh pellets entering the trough. The issue was brought to the attention of the CO, and the crew were instructed to correct and monitor this problem. The observer did not see this issue reoccur.

Report 97 Cattle exported to Vietnam in March 2019

Calculations indicated ample feed stores had been loaded; well within ASEL requirements for the proposed 12 day voyage. Access to feed was adequate for most of the voyage. However, on days 13–16 feeding was reduced to twice a day when the voyage length increased due to the required diversion to Indonesia following the death of a crew member. During this time, both the observer and the stockperson noted that the cattle were hungry. Aggressive feeding behaviour was witnessed with cattle pushing and bullying to reach the troughs. On day 17, the fodder rate was able to be increased, and this increased rate was fed until the completion of discharge.

Report 96 Cattle exported to Indonesia in March 2019

Pellets were fed to the cattle three times per day, and chaff once each day. Feed was distributed and stored in walkways and thoroughfares before being fed to cattle.

Report 95 Cattle exported to Indonesia in March 2019

Fodder and water were both available in excess of the ASEL requirements. Pellets were stored in three separate silos with chaff stored on the upper deck. Chaff was fed three times during the voyage, to supplement the cattle's diet in addition to the pellets. For one pen with lighter cattle, chaff was also mixed in to encourage them to eat the pellets.

The staff displayed a professional approach, and were quick to identify and remedy issues as they occurred. This resulted in a voyage where all cattle were delivered in a state of health that was fit for discharge and without mortality.

Report 94 Cattle exported to China March 2019

Fodder and chaff was fed out as per stockpersons and AAV's recommendations. Lower enclosed decks were observed to be too deep for the number of cattle in these pens, not all cattle were able

to access sufficient fodder. It was observed that, on average, 14 cattle per pen (approximately 50%) were waiting their turn to feed. When they finally got to the trough there was usually nothing left. Staff rectified this issue by removing skinny and weak cattle and transferring them to the hospital pens where they were able to feed without competition.

Report 93 Cattle exported to Indonesia in March 2019

Food and water were consistently supplied and the cattle had access to both water and pellets throughout the entire voyage and were fed three times per day. The remains from the previous feedings were mixed with fresh feed. Chaff was distributed to all feeding troughs at 1:00pm and 3:30pm each day. It was observed that whenever there was an empty feeding trough it was quickly filled by the on board stockperson.

Report 92 Cattle exported to China March 2019

Pelleted fodder was held in three large silos on board the vessel. Fodder was distributed from chutes into feed troughs using plastic buckets. As the voyage progressed the fodder and chaff were increased at the request of the stockperson.

The observer noted the cattle had adequate access to feed and water for the duration of the voyage.

Report 91 Cattle exported to Indonesia in March 2019

Feed pellets and chaff were loaded into the vessels automated feed storage and delivery system. The livestock were fed and watered almost immediately after departure. A daily regime commenced of pellet feeding at 7:30am and 3:30pm into plastic troughs, supplemented with chaff feeding at 10:30am daily. After the first couple of days, as the animals became accustomed to the environment aboard, feed was available continuously from 7:30am to 4:00pm daily.

Report 90 Cattle exported to Indonesia in March 2019

Pellets for fodder were stored in silos. The chaff supplies were stored under weather proof tarps on the upper deck. There were several chutes from the silos into each hold of the decks. From these chutes feed was distributed by the crew into bags which then emptied into the feed troughs.

Report 89 Cattle exported to Vietnam in February 2019

In general, the crew maintained full troughs of fodder and clean drinking water daily. The cattle were fed pellets four times per day at 7:00am, 10:30am, 1:00pm and 8:30pm. Chaff was also fed at 3:30pm each day.

No issues were noted with feeding or water supply to the cattle.

Report 87 Cattle exported to Vietnam in February 2019

The observer noted the cattle appeared to settle in quickly from day 2. The cattle were fed four times per day.

No issues were noted with feeding or water supply to the cattle.

Report 86 Cattle and sheep exported to Kuwait Qatar and UAE February 2019

The vessel had an efficient mechanised feeding system which delivered pellets to all the decks using a chain drive. Parts of Deck 6 and part of Deck 10 required manual feeding. Feed was available to livestock almost continuously and no evidence of undue competition for food was observed.

The observer commented that there was ample trough space for food and water.

Report 85 Cattle exported to Indonesia in February 2019

The stockpersons constantly monitored the cattle and … ensured there was substantial feed and water provided at all times.

The cattle were fed 4 times each day with the first feed at 7:00am, a top up feed at 10:30am, a chaff feed at 1:30pm and the final full trough feed at 3:30pm.

On some occasions the stockpersons found that the water and feed levels were low and advised the bosun and crew to monitor feed and water more closely.

No issues were noted by the observer with the feed and water supply.

Report 84 Cattle exported to China February 2019

The cattle were initially fed pellets 3 times per day through an automated gravity feed system. Consumption was reduced during the middle part of the voyage to ensure feed supplies for the duration of the voyage were met. Due to design features, the gravity feed system supplied more feed to the lower decks. To address this issue, the feed chutes on the lower decks were blocked for one feed per day to ensure the top decks received adequate supply.

Overall the crew worked well with the stockpersons to ensure the success of the voyage. The exporter arrangements were observed to be implemented during the voyage and to be compliant with *Australian Standards for the Export of Livestock (Version 2.3) 2011* (ASEL) requirements.

Report 83 Cattle exported to Indonesia in February 2019

Cattle were fed via troughs twice daily at 6:30am and 3:30pm.

Sufficient pellets and chaff were available for the entire voyage.

Report 81 Cattle exported to Indonesia in February 2019

The vessel had an automatic feeding system involving bulk feed loaded into silos and distribution of the pellets gravity fed to troughs. Three to five feed troughs were available for each pen.

The cattle were fed twice daily at around 6:40am and 3:30pm. Chaff was mixed with the pelleted fodder and fed to the livestock each day at 1:00pm. As the voyage progressed the amount of feed was increased at the request of the stockperson. All livestock had adequate access to feed troughs during loading, discharge and for the duration of the voyage.

Report 80 Cattle exported to Vietnam in January 2019

The livestock were fed pellets twice a day at 7:00am and 3:30pm. …. At 10:00 am the livestock were provided with a top up of pellets and a feed of chaff every second day.

Report 79 Cattle exported to Indonesia in February 2019

Pellets were given at 7:00am, 1:30pm and 3:00pm. An additional feed of chaff was given at 10:30am. The pellets were supplied to chutes on each deck and the crew manually filled the feed troughs. The livestock were kept in excellent condition and the observer noted that weight gain was achieved during the voyage.

Feeding and watering of the cattle were observed to meet ASEL requirements.

Report 78 Cattle exported to Vietnam in February 2019

The vessel has silos that hold the pelletised fodder at the stern of the ship. The pellets are pumped by an automated system to chutes at multiple points on each deck. Crew manually transport the fodder from the chutes to the troughs. Chaff was loaded and stored on the upper deck. Chaff was fed at the discretion of the stockperson.

Report 77 Cattle exported to Indonesia in February 2019

Enough fodder for two voyages was loaded in Darwin. Pelleted feed was stored in silos and was distributed to chutes on each deck. The crew manually filled the troughs. The livestock were fed three times per day (8:00am, 10:30am and 3:00pm). There were at least 2 troughs per pen and all stock appeared to be able to access feed without undue competition. Average consumption increased steadily throughout the voyage.

Report 76 Sheep and Cattle exported to Israel February 2019

The livestock were manually fed each day at 7:30am and 3:30pm, and chaff was provided to all the livestock every second day. Chaff was also prioritised for the hospital pens.

Early into the voyage, a routine calculation of fodder held in storage indicated a potential shortfall to cover the planned 18 day voyage. As a precaution, the daily quantity of fodder provided to the sheep was trimmed to ensure that sufficient fodder was available for the entire voyage. However, on day 14 a review of fodder in storage found there were sufficient supplies to allow an increase in the feeding regime to above the daily ASEL requirements.

The exporter identified the issue of the potential shortfall of fodder to the department on day 6 of the voyage. They were able to provide evidence to demonstrate fodder was loaded in compliance with ASEL and provided updates throughout the voyage. The fodder was managed to enable adequate feeding for the entire voyage.

Report 75 Cattle exported to Indonesia in February 2019

The cattle were fed twice daily …

Report 74 Sheep and cattle exported to Kuwait Qatar and UAE February 2019

The vessel feeding system delivered pellets to the feed troughs on all decks. Feed was supplied twice daily at approximately 8:00am and 3:00pm. On average there were 3 feed and 2 water troughs per pen. The crew emptied the finely ground pellets from troughs as required.

There was enough space for the sheep and cattle to manoeuvre around the pens to access feed and water. No overcrowding or herd flock hierarchy issues were observed.

The livestock were observed to be in good condition when discharged.

Overall the voyage went well with no signs of animal welfare issues observed from loading, sea voyage and discharge at the three ports in the Middle East.

Report 73 Cattle exported to Indonesia in January 2019

Enough pellets and chaff were loaded in Fremantle for two consecutive voyages. The cattle were fed twice daily at 7:00am and 3:30pm. Towards the end of the voyage, an additional top up feed of pellets was provided at 1:00pm.

Report 72 Cattle exported to Indonesia in January 2019

Animals were observed to be feeding well and with good access to food and clean water at all times.

Report 71 Cattle and sheep exported to Israel January 2019

Pellets were delivered to the feed troughs by gravity fed chutes. In addition, some troughs required manual filling by the crew as they did not have a chute directly to the trough.

Sheep and cattle were fed twice per day. The morning feed commenced at 6:00am and the afternoon feed at 3:00pm. As the voyage progressed, the master allowed the distribution of additional feed. No issues were noted with supply of fodder throughout the voyage.

Report 70 Cattle and sheep exported to Israel and Jordan January 2019

The livestock in the lower decks were fed in the morning between 6:00am and 9:00am and their afternoon fed was between 3:30pm and 5:00pm. The livestock in the upper decks were fed in the morning between 10:30am and midday and the afternoon feed was between 1:00pm and 3:00pm. The feeding schedule was varied to deliver extra feeding.

The feeding system supplies pellets by augers and gravity to troughs for almost every pen. Separate chutes also exist to enable manual filling of troughs that are not automatically supplied and for additional feeding. Whilst most troughs are automatically filled, the crew were required to adjust the pile of pellets to enable filling the whole length of the trough, and to ensure the troughs were at the correct height for the pens of younger sheep.

The crew were instructed to clear out the finely ground and unpalatable pellets from feed troughs. However the observer noted some troughs were found to be full of the finely ground material throughout the voyage. However there was no evidence of a significant animal welfare relating to trough maintenance issues.

Report 69 Cattle exported to Oman and UAE January 2019

The vessel has a gravity fed system with some troughs that are manually filled. The cattle were fed two to three times per day after instructions from the head stockperson.

The feeding program was well administered with the daily feed consumption closer to 3% of bodyweight rather than the ASEL required 2.5% rate. The cattle were not fed pellets before loading and took some time to become accustomed to the pellets. In addition to the pellets, supplementary chaff was provided daily at variable amounts.

Report 68 Cattle exported to Indonesia in January 2019

The feeding routine commenced at 7:00am and the cattle were fed pellets and chaff.

The cattle did not feed very well for the first few days and this was attributed to the rough seas.

Report 67 Sheep and cattle exported to Kuwait Qatar and UAE January 2019

The vessel's feeding system delivered pellets throughout all the decks. The troughs on one part of Deck 6 were filled manually by the crew. Fodder was available almost continuously so there was no evidence of undue competition.

Trough space for fodder and water was considered acceptable. Feed and water was available to the livestock during unloading.

Report 66 Cattle exported to Indonesia in January 2019

The cattle were fed pellets twice a day at 7.00am and 3.30pm. Chaff was fed to all pens at various times. All livestock had adequate access to feed troughs whilst on board the vessel.

Report 65 Cattle exported to Indonesia in January 2019

The vessel has a mechanical system to deliver feed from storage silos to the pens. However, due to problems with speed, uniformity of delivery and damage to the pellets, the system was not used to deliver pellets to individual pens. Instead, dump points were set up at the end of walkways, below stairs, and around infrastructure; as well as in some pens that would otherwise be capable of holding cattle. From these points, fodder was manually delivered by buckets to feed troughs.

Fodder calculations in the load plan utilised the correct ASEL standards for the class of cattle on the voyage.

Report 64 Cattle exported to Indonesia in January 2019

Cattle were fed pellets four times a day at 7:00am, 10:30am, 1:30pm and 3:30pm. At the 1:30pm feeding, chaff was also provided.

The stockperson monitored the feed and water supply constantly. Cattle were weighed at the end of the voyage and observed to gain weight.

Report 63 Cattle exported to Vietnam in January 2019

The crew maintained full troughs of feed and clean drinking water daily. The cattle were fed pellets at 7:00am, 10:30am and 3:30pm, chaff was also fed at 3:30pm each day.

As the cattle were on board the vessel for longer than planned, the feed was rationed for the last few days of the voyage. The observer noted that on these days competition for feed increased when the rationed portion was delivered. Some cattle continued to look for food when the troughs were empty but most appeared satisfied.

Report 62 Cattle for export to Oman and Pakistan January 2019

Pellets are automatically dispensed to each deck via pipes to troughs. The livestock were fed grain based pellets twice daily. The first feed commenced at 7:00am and the second at 3:00pm. Fine cut hay was also fed every second day usually at 1:00pm between the two pellet feeds. Pens which were not automatically supplied had additional troughs which were manually filled by the crew during regular feeding times. On occasion the stockperson reminded the CO that his crew needed to ensure the extra troughs were filled. Some rationing for a five day period was implemented as there was oversupply and wastage of fodder for a short period. The rationing ensured enough fodder for the remainder of the voyage and no adverse outcomes were noted.

Report 61 Cattle exported to China January 2019

Feed consisted of pellets and chaff. The cattle were fed three times per day at 6:00am, 10:30am and 3:30pm with top ups of pellets throughout the day or when needed. Chaff was fed at 10:30 each day.

The observer did not find any issues with the feeding or watering system on the vessel.

Report 60 Cattle exported to China January 2019

The crew commenced feeding duties at 7:00am. Fodder troughs were emptied of fine powdery feed and water bowls cleaned and filled. Feeding was carried out manually by crew filling bags from pellet chutes in each of the holds on each deck. Morning feed operations took several hours and was followed by manual distribution of hay. A second feed of pellets was given around the middle of the afternoon.

The stockperson arranged for staged feeding of the cattle by the crew to ensure the cattle were presented with fresh fodder throughout the entire period of the discharge process.

Report 59 Cattle exported to China December 2018

On average, there were two feed troughs and two water troughs per pen. Feed was provided in pellet form and the finely ground pellets were cleaned from the feed troughs at each feed cycle. Chaff was fed on most days at a rate of 1.2 kilograms per head.

The observer noted that cattle knocking the feed troughs off the pen rails was an issue for calculating the daily fodder consumption. Adjustments were made to the troughs to prevent the problem this issue reoccurring, however, a small number of troughs were pushed off the rails on most days. However, the observer noted that there was no adverse animal health or welfare impact from the troughs being knocked off the rails.

Report 58 Cattle exported to Indonesia in December 2018

Cattle were observed to feed well from the first day of the voyage. Cattle were fed in the morning and chaff was fed out intermittently throughout the voyage and was received well by the cattle.

The observer noted that there were no issues with feed and water supply or management during the voyage.

Report 57 Sheep and cattle exported to Kuwait Qatar and UAE December 2018

Two fodder tanks are positioned towards the front of the vessel. The troughs are gravity fed and the entire system was computerised and monitored using alarm checks.

Feed and water trough space was adequate. Some shy feeders were identified and moved to the hospital pens for additional care. Early on in the voyage, additional troughs were added to the cattle pens to prevent competition for feed and water.

All livestock were fed twice daily and the total amount fed was in excess of the ASEL requirement.

Report 56 Cattle exported to China December 2018

Feed consisted of pellets and chaff. The morning feeding of pellets commenced at 6.00am. The troughs were manually filled. From day four of the voyage, the cattle were fed chaff at 11.00am each day. At 9.30am, on day 11 until day 17, the cattle received a top up of pellets. The afternoon feeding of pellets was at 3.30pm.

Report 55 Cattle exported to China December 2018

Pelleted feed was supplied to the five cattle decks by chutes from 4 silos. The livestock crew then manually distributed the feed to troughs. The livestock were fed pellets twice daily, with an additional chaff feed from Day 2.

Sufficient feed was loaded for the expected 16-day voyage, plus an additional 3 days feed in reserve, in accordance with ASEL requirements. However the following factors led to a feed shortage and feed rationing during the voyage:

- Sea conditions were rough or very rough during 13 of the 19 days at sea. Vessel speed was reduced during rough weather, which increased voyage length by two days.
- The vessel diverted to the southern Chinese port of Zhoushan on Day 16 to take on additional fuel and fresh water, which led to a delay of one day.
- The vessel anchored outside Jintang Port overnight while waiting for a pilot to enable the vessel to enter the port.
- Completion of discharge subsequently took a further 19 hours.
- The observer noted that the method used for estimating remaining pelleted feed in the silos was considered unreliable. Bagged chaff calculations were considered to be fairly accurate.
- The CO and livestock crew did not manage feed distribution well.

Despite concern from Day 2 that feed supply might need to be rationed due to reduced vessel speed, fodder was not managed conservatively during the voyage, with observations of unspoiled fodder spilling out from troughs during manual supply by the crew. Fodder provision to different sized pens was also not considered, resulting in some pens not being fed ASEL required levels for between 5 and 13 days of the voyage. Larger pens with a higher number of cattle had generally the same number of feed troughs provided as smaller pens with a lower number of cattle. This led to reduced access to feed troughs for individual cattle in larger pens and sometimes an over-supply of feed to cattle in smaller pens.

The observer reported competition for access to feed troughs increased later in the voyage with pen hierarchy becoming obvious and incidents of trampling observed. This resulted in shy feeders in larger pens not able to adequately access feed, sometimes for several feeds at a time. Very limited feed was available from late on Day 19 as the fodder supplies had been almost exhausted. It was the observer's understanding that some cattle were not fed at all during the day of discharge as no fodder remained on board, meaning ASEL standard 5.5 could not be met.

[Note changes would not address the above]

Report 54 Cattle exported to Indonesia in December 2018

Feeding was conducted daily from 7.00am to 10.00am and from 3.30 to 5.30pm each day. The observer noted that the cattle had access to adequate feed throughout the voyage.

The feed consumption was calculated each day by the AAV and CO and feed budgets revised if necessary to accommodate for potential delays of arrival or unloading.

Report 53 Cattle exported to Vietnam in December 2018

The cattle were fed four times per day at 7.00am (pellets), 10.30am (top up chaff) and 3.00pm (3/4 trough fill) and 4.00pm (full trough fill).

No issues were noted with feeding or water supply to the cattle.

Report 52 Cattle for export to Oman and Pakistan December 2018

The observer did not report any concerns with feed and water provision.

Report 51 Cattle exported to Vietnam in December 2018

Feeding was accompanied by the cleaning and emptying of water troughs. The morning feeding of pellets commenced at 7:00am. Chaff was fed at 10:30am each day. Afternoon feeding, watering and cleaning was undertaken around 3:00pm.

Adequate feed and water was supplied during discharge.

Report 50 Sheep and cattle exported to Israel December 2018

Fodder was stored in paired silos and was in the main fed out automatically via large angled delivery pipes to the troughs. Manual filling and topping up of cattle fodder troughs was undertaken by the crew and stockperson.

Sheep fodder troughs were in some instances moved out from under delivery pipe outlets to mitigate the risk of head entrapment and to allow greater access.

The sheep were in average condition at the time of loading and in excellent body condition at discharge.

Report 49 Cattle exported to Vietnam in December 2018

The bosun supervised the crew and responded to any concerns regarding feeding, cleanliness of feed and water in a timely manner.

The cattle were fed pellets throughout the voyage, with and chaff fed intermittently.

No issues were noted with the feed and water for the cattle.

Overall it was a very successful voyage with no animal welfare issues or signs of animal stress observed.

Report 48 Cattle exported to China December 2018

Pellets were held in two large silos. The vessel feeding system moved the pellets to each deck and the crew manually transferred the fodder from the chutes to the pen troughs.

The cattle were fed pellets twice a day at 7am and 3:30pm. Chaff was fed once per day at 10:30am. In addition, shy feeders were addressed through the provision of additional chaff throughout the voyage. All livestock had adequate access to feed troughs whilst on board the vessel.

Report 47 Sheep and cattle exported to Kuwait Qatar and UAE December 2018

The vessel has an efficient feeding system which delivers pellets throughout all decks. One part of Deck 6 is fed manually. Fodder was available almost continuously which resulted in no evidence of undue competition for the food. Trough space was considered adequate.

At all times [during the voyage], the sheep had excellent appetites.

During discharge, water and fodder continued to be supplied to all livestock.

The stocking density and welfare of the livestock was considered satisfactory throughout the voyage. The supply of fodder and water was within ASEL guidelines.

Report 46 Cattle and buffalo exported to Indonesia in December 2018

The bosun had good cattle handling skills and ensured that feed and water supply was produced to a high standard.

Fodder was supplied by gravity fed chutes to different areas on each of the decks. The chutes were used to load pellets into bags and the crew manually filled the troughs using the bags. Pellets formed the majority of the diet with supplementation of chaff. The livestock were fed three times per day at 7:00am, 10:30am and 3:30pm.

Report 45 Cattle exported to Indonesia and Malaysia in December 2018

Feeding instructions were communicated by the stockperson at the morning meeting. The, CO and bosun ensured these instructions were understood and implemented. The general routine was that the cattle were fed twice per day. The first feed commenced at 7:00am and second at 3:30pm. Each deck has a chute that is gravity fed with the pellets. The crew manually delivered the fodder to the plastic troughs. Despite the voyage length being two days longer than predicted, there was no fodder rationing.

Report 44 Cattle exported to China December 2018

The crews routinely commenced the first round of feeding, watering and cleaning duties at 7:00am and the second round at 1:00pm.

The vessel has an automated feeding system comprising gravity fed pellets to decks and manual switches to pump fodder to troughs. Chaff and hay were fed daily and used extensively in hospital pens or for shy feeders. Ample fodder was available for the voyage with some reserves.

Overall, the provision of feed and water to the cattle was at a high standard.

Report 43 Cattle exported to Vietnam in November 2018

Pellets were supplied to each pen by a semi-automated system of augers, conveyors and gravity fed pipes. Each pen had sufficient troughs to allow all the cattle in the pen to access feed. The observer reported that sufficient feed was provided at suitable times so that cattle had equitable access. Crew on each deck filled the troughs that were not supplied by the automated system. Chaff was supplied manually and mixed with the pellets in the trough.

Report 42 Cattle exported to Indonesia in November 2018

Feeding was a manual task. Crew filled bins from centralised hoppers and carried them along alleyways and filled troughs. The majority of cattle gained weight during the voyage.

Report 41 Cattle exported to Vietnam in November 2018

The livestock were fed three times per day at 7.00am, 10.30am and 3.30pm. Chaff was fed to the cattle starting a few days after the voyage commenced and ceased two days before arrival.

The stockperson and crew constantly monitored the animal's health and welfare. Access to feed and clean water, pen conditions and ventilation were satisfactory throughout the voyage.

Report 40 Cattle exported to China November 2018

Sufficient pellets and chaff were loaded in accordance with the *Australian Standards for the Export of Livestock (Version 2.3) 2011* (ASEL) to cover feeding of the loaded cattle on the exporter's

projected 16-day voyage, along with the required three-day contingency. However the voyage went longer than expected at 22 days.

Even though there were three feeds per day, the cattle consumed the available fodder quickly. A longer than expected voyage and competition for fodder resulted in reduced intake for cattle that were shy feeders or lame. The stockperson isolated ill or shy feeders during to voyage to provide better access to food and additional space.

The cattle were fed on the morning of arrival. However whilst the vessel was discharging, the cattle appeared not to have been fed. The department has addressed this issue with the exporter.

Overall the environmental and vessel factors appeared to result in some lameness and subsequent mortalities, poor condition of the pad before the first wash and some loss of condition of shy feeders and lame cattle.

The two stockpersons did all they could to improve the conditions on the voyage and the majority of the cattle at discharge were in good condition.

Report 39 Cattle exported to Indonesia in November 2018

The bosun supervised the crew and responded to any concerns of feed and water in a timely manner.

Feed troughs and water bowls were cleaned daily. The cattle were fed pellets that were fed at the pre-export holding facility.

The stockperson had animal welfare as the highest priority and was vigilant in ensuring that the crew were informed of what was required and ensuring that the crew completed their tasks appropriately. Overall it was a very successful voyage with no animal welfare issues observed.

Report 38 Cattle exported to Vietnam in November 2018

The livestock were fed pellets three times each day at 7.30am, 10.30am 1.30pm. Chaff was fed at and 1.30pm each day. In addition, a top up feed was provided at 10.30pm. Chaff was fed twice on first and last days of the voyage. No issues were noted with feeding or water supply to the cattle.

Report 37 Cattle exported to Indonesia in November 2018

The crew commenced the twice daily feeding … at 7.15am and around 3.00pm.

Overall, the voyage went well with no animal welfare issues noted or no signs of animal stress.

Report 36 Sheep and cattle exported to Kuwait Qatar and UAE November 2018

All livestock were fed twice daily. The first feed commenced at 7:00am and the second around 3.30pm. A considerable amount of labour was required to keep the troughs free from a build-up of fine material and stale or mouldy pellets.

Two fodder tanks are positioned towards the front of the vessel, one on the port side and the other on the starboard side. The entire system was computerised and controlled from a station room. The two systems can be operated individually (for example, one operating while the other is off). There was a surplus of 621 tonne of pellet fodder supplied above the ASEL requirements.

The livestock were fed in accordance with ASEL for each class of livestock. The AAV and stockperson had the appropriate skills and judgement to relate the feeding regime and trough management to the condition of the stock in specific pens.

Report 35 Cattle exported to Indonesia in November 2018

The livestock were fed three times per day at 7.00am, 10.30am and 3.30pm. On most days the head stockman requested an additional feed of chaff at 1.00pm.

Report 34 Cattle exported to Vietnam in November 2018

The cattle were fed some pellets in the pre-export holding premises and no issues were observed with feeding once on board the vessel. Feed and water was supplied within twelve hours of loading.

Livestock were fed usually from 6:00am until 7:30am and from 10:00 until 11:00am. The afternoon feeding was undertaken from 3:00pm until 5:00pm. Chaff was supplied every second day.

[A]ll animals had good access to food and water troughs with the additional troughs provided.

Report 33 Cattle exported to Vietnam in November 2018

Feed consisted of pellets and chaff. All livestock were fed two to three times daily. The first pellet feeding commences at 7:00am and the second pellet feeding commences 3:30pm. Chaff was fed to all decks on five voyage days and only to Decks 4 and 5 on the other voyage days at 10:30am.

Throughout the voyage and discharge, the livestock were never without access to good quality uncontaminated fodder.

Report 32 Cattle and sheep exported to Israel and Jordan November 2018

The vessel has a gravity fed system that supplies pellets to the feed troughs. In addition, some pens have troughs that are manually filled. The livestock were fed twice per day. The cattle received an extra feed on the day prior to wash down of the decks.

There were two feed and one water trough allocated per pen. Some gates between pens were opened to enable access to a greater number of troughs. Early on in the voyage, some troughs were lowered because the cattle and lambs were considered smaller than the average carried on the vessel and were having some difficulty accessing troughs.

Report 30 Cattle exported to Indonesia in November 2018

The bosun supervised the crew and responded to any concerns about feeding and water in a timely manner.

The crew commenced their morning feed, watering and cleaning routine from 7.00am. Feeding was a manual task with crew physically filling each feed bin.

The observer did not note any health and welfare issues on this voyage.

Report 29 Cattle exported to Israel November 2018

Two feeds were provided each day. Additional feeds of chaff or pellets were provided based on AAV advice at the daily meeting. Overall fodder consumption was calculated as a combination of the number of troughs filled and known capacity of the troughs. The amount of fodder remaining on board was reported at the daily meeting.

Overall, the consignment was fed in accordance with ASEL requirements. However a random audit of a sample of pens indicated a small number of pens were fed less than the rate specified in ASEL on the day of sampling.

Report 28 Cattle exported to Indonesia in November 2018

There was no real issues with competition or overcrowding regarding feed and water accessibility. The vessel was loaded for enough fodder for this voyage and the following voyage.

The stockperson checked the feed and water availability, cleanliness of troughs and nose bowls at each of his inspections.

The crew had an understanding of the feed and water hygiene requirements and were vigilant with cleaning water bowls, water troughs or feed troughs that were soiled.

Feed mainly consisted of pellets with supplementary chaff once daily spread over fodder troughs to all pens.

Report 27 Cattle and Buffalo exported to Vietnam in October 2018

Fodder is stored in nine tanks across the vessel. This voyage was loaded with fodder well in excess of **Australian Standards for the Export of Livestock (Version 2.3) 2011** (ASEL) requirements.

Report 26 Cattle exported to China October 2018

The amount of fodder loaded was in accordance with feeding at a rate of 2.5% of body weight for a 16 day voyage plus three days contingency. The crew commenced feeding pellets daily at 7:00am. A second pellet feeding was undertaken between 1:00pm and 3:00pm. Chaff was fed from Day 2 to the pregnant cattle and as required to improve appetite for all the livestock and to prevent bloat.

Report 25 Cattle exported to Indonesia in October 2018

The crew worked hard to maintain the feed and water supply to enable ad lib feeding. In addition to the pellets, the cattle were fed chaff at the discretion of the head stockperson.

Report 24 Cattle exported to Indonesia in October 2018

Feed is provided via pipes to each deck. The pellets are then bagged from chutes and manually distributed to feed troughs for each pen. The crew fed the cattle twice daily.

No issues were noted with the water and fodder system.

Report 23 Cattle exported to China October 2018

Feeding occurred two to three times daily on all decks in response to instruction from the stockperson. Chaff was regularly supplied at the stockpersons instruction whilst in transit.

The health and welfare of the stock on board this vessel was very good.

Report 22 Cattle to China September 2018

The crew manually distributed fodder to the cattle troughs twice daily at 6:00am and 3:30pm by filling sacks at collection points on each deck and then carrying these along the aisles, filling each trough as they went.

The chaff was fed out between the two fodder feeds on day's 4, 5, 10 and 11. Chaff was made available more often to cattle that were identified as more likely to lose body condition.

Adequacy of feed was evident by the general observable improvement in body condition across all classes of cattle.

Report 21 Cattle and sheep exported to Israel and Jordan September 2018

Feed was delivered from storage tanks to roof hoppers then distributed by auger and gravity to pipes supplying the troughs. Each deck had some troughs that required manual feeding while the majority were gravity fed, controlled by metal slides.

On both cattle and sheep decks there were 2 feed and 1 water trough per pen. The observer reported that swing gates which were left open or not adequately tied restricted access to some feed troughs.

The observer noted that many of the feed and water issues identified by the stockperson and discussed in daily meetings were resolved in the first days.

Chaff was provided to cattle on deck wash days. Feeding hierarchy observations were made during chaff feeds with smaller cattle excluded from chaff feeds as larger cattle dominated the available trough space. Suggestions by the AAV and stock people to have the chaff mixed with pellets to correct this problem were not taken up by the crew. No feeding hierarchy was observed with pellet feeds.

Report 20 Cattle exported to Israel September 2018

Two or three feeds were provided each day on instruction from the stockperson to the boson. The AAV collated data on a spreadsheet designed to keep track of fodder and chaff consumed and remaining on board. This was used to compare against the COs estimations over the course of the journey.

The health and husbandry of the cattle was very well managed by professional crew under the supervision of a competent and diligent AAV, stock people and Master.

The observer found the overall management of the vessel could not be faulted. The cattle had a low stress voyage, very low mortality rate, maintained good condition and appeared to gain weight overall.

Report 19 Cattle to China September 2018

The cattle were fed pellets and chaff. The IO and stockpersons reviewed feed and water access and consumption and found it to meet the ASEL requirements.

Report 18 Cattle to China August 2018

There were no significant perceived issues with feed and water trough availability. All cattle appeared to have adequate access and no overcrowding was noted.

Report 17 Cattle to China August 2018

The volume of pellets and chaff loaded at Geelong was sufficient to cover the feeding of cattle for the estimated 15 days journey to China, with an additional three-day contingency as required under ASEL. Feed and water was available at all times and was checked before each feeding time,

Report 16 Cattle to China August 2018

Pelletised fodder was held in large silos at the bow of the vessel. It was high quality and there was sufficient quantity to feed cattle continuously for the entirety of the voyage.

Report 15 Cattle exported to Indonesia in August 2018

The CO provided the stockperson with the amount of fodder remaining on board and from that he would calculate a feeding schedule for the CO and Bosun to implement.

The cattle did not hesitate to feed strongly once settled nearing the end of first day. Fodder was stored in three waterproof silos which was gravity fed to the lower decks.

Report 14 Cattle exported to Indonesia in August 2018

All livestock appeared to be able to access feed and water troughs freely for the entire voyage. The vessel's automatic feeding system allowed bulk fodder to be loaded then distributed to troughs by gravity. High quality Australian fodder pellets and bagged chaff were loaded in Broome and the majority of cattle had been fed similar fodder at a feedlot prior to being loaded. As the voyage progressed, water and fodder consumption increased as cattle adjusted to being at sea. By the end of the voyage, the cattle were being fed four times a day.

Report 13 Cattle exported to Indonesia in July 2018

Feed and water were available at all times and was checked before each feeding time. Fodder was provided to pens via an automated delivery system, with pellets being mostly used. Chaff was also provided by one exporter for its cattle.

Report 12 Cattle to China July 2018

Fodder was loaded in excess of ASEL standards to feed the cattle for the estimated 16 day voyage to China (including discharge) and the required three day contingency. Fodder remained on board upon completion of discharge.

Report 11 Cattle exported to Indonesia June 2018

Feeding and watering were both automated. Water is on offer at all times stored in 17 tanks across the vessel. Water troughs are cleaned once a day and as needed in the case of faecal contamination. Feed troughs are filled twice a day. They are cleaned and feed fines removed as needed before feeding. The accessibility of feed and water for all animals in all pens was noted as being adequate. On the first day at sea, a third feeding time was added to keep feed in front of the animals at all times. Australian Standards for the Export of Livestock (Version 2.3) 2011 (ASEL) fodder requirements are 2 per cent of body weight. The feed on board at the time of departure was four times greater than the amount required by ASEL.

Report 10 Sheep and cattle exported to Israel June 2018

All animals were fed at least twice daily in the morning and afternoon. Pellets were provided for both sheep and cattle, plus a ration of chaff was fed to all animals every second or third day. Pellets were fed in troughs and the trough space was adequate with all animals able to gain access. The feed troughs were maintained continuously by the designated crew.

Report 9 Sheep and cattle exported to Kuwait, Qatar and UAE June 2019

The provision of fodder to the livestock was of the highest standard and the IO did not observe sheep or cattle without feed during the entire voyage.

Report 8 Sheep and cattle exported to Turkey June 2019

The requirement for feed was calculated based on a 20-day sailing time plus seven day contingency. There was a large amount of powdered feed left in stores from the previous voyage. The AAV instructed that this be removed as much as possible from troughs on each feeding and used to keep pens dry so that animals had access to pelletised feed. Feeding occurred twice daily in general but was subject to instruction from the AAV.

The IO did not note any health and welfare issues. The crew performed their duties to a high standard ensuring health and welfare of all livestock was maintained throughout the voyage.

Report 7 Sheep and cattle exported to Kuwait, Qatar and UAE May 2019

All livestock were fed twice daily. The first feed commenced between 9am and 10am and the second between 3.20pm and 5.30pm.

Two fodder tanks are positioned towards the front of the vessel, one on the port side and the other on the starboard side. The entire system was computerised and controlled from a station room. The two systems can be operated individually (for example, one operating while the other is off). However, it is not possible to feed individual decks or holds separately, which prevents accurate data recording for consumption. The IO notes that the fodder troughs are well positioned, allowing the crew to clean and maintain them efficiently. Pellet fodder was loaded in excess of ASEL requirements. Lucerne hay and oaten chaff was made available to shy feeding cattle.

The IO notes that dusty pellet fines were consistently being presented to deck 6 and deck 1 in particular. The CO on board explained to the IO that the pellet had poor physical durability. In addition, the pellets had to travel an extended distance up, and then down through the system to reach deck 6 and deck 1 that are located on the bottom of each auger system. To maintain the pellet quality available to stock on these decks, the crew would remove the pellet fines from all troughs.

Report 6 Cattle exported to Indonesia and Malaysia May 2018

Feeding troughs were prone to being knocked off the rails by the animals, however the issue was managed by tying the troughs down to the rails on day one. The IO mentioned that the fodder was of high quality and sufficient quantity was loaded to feed ad lib for the entirety of the voyage. Bagged chaff was used to assist shy feeders to increase their consumption. The IO considered the trough space adequate in all pens with no undue jostling noted.

Report 5 Cattle exported to Vietnam May 2018

Good quality pellet fodder was loaded, and faeces were mostly firm. The cattle did not hesitate to feed strongly once settled nearing the end of the first day. Silos were present on the main deck for storage of pellet feed and extend down into multiple supply points on each deck of the cargo hold (Decks 1-5). From these supply points the crew fill bags (45kg) and feed out to livestock manually. Feed bins were monitored on a continuous basis, at least twice daily, with contaminated fodder emptied into pens.

Report 4 Sheep exported to Oman May 2018

The quantity of fodder loaded for the voyage was well over ASEL requirements. Good quality pelletised fodder, along with super chop roughage and oats were loaded.

Fodder was fed ad lib initially, and then reduced to ASEL requirements during the latter stages of the voyage in order to conserve fodder. Troughs were of an inconsistent size due to pen design. To manage uneaten fodder, the crew would transfer uneaten feed to pens which had consumed all their ration.

Report 3 Sheep and cattle exported to Israel May 2018

There was ample feed on the vessel to allow 12kg /cow/day and sheep 1.2 kg/sheep/day and a seven day contingency reserve. The feeding regime of the voyage used an automatic delivery system with pellets being mostly used. It was well monitored and when hotter weather was encountered, the more cooling feed stuffs of chaff and oats were fed.

Report 2 Sheep and cattle exported to Gulf May 2018

All animals were fed twice daily in the morning and afternoon from ad libitum automatic feeders. Pellets were provided for both sheep and cattle, plus the cattle received excellent quality hay each day. Pellets were available in the troughs at all times and the trough space was adequate with all animals able to gain access. The feed troughs were maintained continuously by the designated crew.

Report 1 Sheep and cattle exported to Turkey April 2018

Sufficient feed (pellets and chaff) were provided for the voyage based on a 19 day sailing time, plus seven day contingency. The assumptions and calculations made by the company for the feed required and loaded were checked and agreed by the AAV and reconciled against the COs Receipt of Cargo and Fodder Manufacturer's Receipt. The feed cargo exceeded ASEL requirements that animals be fed at 2.5 per cent body weight per day and sufficient feed was loaded for ad libitum feeding. Feed was delivered by an automatic system to each pen.

The IO reported that there was a problem with the pellets tending to go to powder (fines), which lacked fibre and was unpalatable particularly to the sheep. The CO responded by discarding the powdered pellets if the sheep refused to eat it, incurring losses of 7 tons on one occasion. The livestock export company are aware of the problem and they have followed up with the feed manufacturer. The issue was appropriately noted and managed by the CO and the corrective actions were appropriate.