

**MV Novantes Voyage 83**

**8 -19 February 2002**

**Investigation into cattle mortalities**

***Exporter - Austock Exports Pty Ltd***

## **Introduction**

The *MV Novantes* loaded approximately 1,169 head of cattle at Darwin East arm harbour on 8 February 2002 for export to Jakarta, Indonesia. The ship experienced very rough weather conditions during the voyage, and by the completion of the voyage 99 head of cattle had died, representing 8.47% of the consignment. As a result of the high mortality rate, an investigation was instigated to determine the probable causes and to provide information for further remedial action if required.

## **Investigation**

This investigation, conducted by an AQIS Veterinary Officer, reviewed;

- Communication regarding the mortality event
- Assembly and preparation of the Consignment
- Loading
- Conditions during the voyage
- Discharge at Jakarta

## **Overview of findings**

The findings of this investigation provide strong evidence that the conditions in which the *MV Novantes* put out in on route to Jakarta directly impacted on the health and welfare of animals on this voyage. The trauma, feed deprivation and exposure that resulted from the ship movement and weather conditions during the first few days of the voyage are likely to have caused metabolic and physical stress and directly contributed to mortalities of a number of stock..

However, the investigation was unable to preclude the following factors as possible contributors to the overall mortality rate:

- the prior physical condition of a proportion of the consignment being inadequate to handle extreme sailing conditions;
- feed deprivation prior to entry into the feedlot, a shortened period of feed adoption, and feed rationing onboard reducing the ability of some animals to withstand the metabolic stress experienced on the voyage;
- the development of septicaemia or toxemia in a number of animals as result of tissue necrosis due to bruising or faecal contamination of wounds during the latter part of the voyage;

Important findings in terms of documentation of the export process and mortality reporting include:

- insufficient documentation provided to show that all cattle in the consignment fulfilled Indonesian import protocol requirements despite AQIS certification being provided for the shipment;

- anomalies in the declaration of the number, sex and POO of cattle loaded on the vessel;
- anomalies in the reporting of details of mortalities on the ship mortality certificate; and
- lack of verifiable, accurate and detailed information made available during the mortality event to assist in the investigation and to assist the Department if necessary in the preparation of a government response to the event.

A number of recommendations have been made in relation to the findings in this report. The recommendations have been directed towards specific weaknesses or failures detected during the investigation and have been provided in more detail in the body of the report. The most significant recommendations relate to the recording and reporting of mortality events, the provision of export health certification on the basis of complete and verifiable documentation and declarations, and the development of sound training practices and documented procedures for activities and decision making processes undertaken by those people responsible for the welfare of the animals once loaded.

This report is to be submitted to AMSA (Australian Maritime Safety Authority) for integration into a final report to be prepared by AMSA as lead investigators. The relevant bodies will deal with matters arising from the report.

## **MV Novantes Voyage 83 Mortality Investigation**

### **Relevant parties involved in the export of the consignment.**

All cattle loaded on this voyage were prepared under the Indonesian feeder protocol at the Cedar Park Export Yard, Stuart Highway, Adelaide River, NT. Austock Exports Pty Ltd were the exporting company responsible for the consignment. Austock officers were responsible for the co-ordination and preparation of the Northern Territory and Queensland sections of the consignment respectively. An AQIS accredited veterinarian was contracted by the company to provide veterinary treatments and inspections for this particular consignment. AQIS was the final certifying authority for this shipment. Meridian Marine Services, was the shipping company responsible for the vessel.

### **Notification of the mortality event**

AQIS Canberra first became aware of mortalities onboard the MV Novantes on 18 February 2002 through an email provided by the AQISNT office, who had received written notification from the exporter. AQIS Canberra notified AMSA Maritime Operations of the event, but AMSA were unable to provide further information, as they were unaware of the mortality event. (Marine Order 43 dictates that Masters must report to AMSA at the point in the voyage where the stipulated mortality rate for reporting has been exceeded, in this case 0.5% for cattle on short haul voyages.)

Livecorp was contacted on 20 February 2002 to request information on the situation but they also were unaware of the mortality problem on the vessel. A representative for Livecorp stated that the exporter had not contacted Livecorp to report the mortality rate, and that their first knowledge of the event was an earlier fax from AMSA on 20 February. A consultant was employed by Livecorp as a veterinary contact for stockmen during voyages. Livecorp claims that the consultant had no contact with the stockman during this voyage and therefore no knowledge of the mortality event. Livecorp do not require daily reports from stockmen on short haul voyages.

### *Issues:*

- Notification was not provided by the Master as per MO43.
- Trigger information for investigation was not supplied to AQIS Canberra until mortalities had exceeded 2.5%.
- Livecorp had no notification of the event from the exporter or stockman.

### *Aim:*

- To ensure reporting of mortalities is made to all appropriate bodies immediately and consistently upon reaching the reportable mortality rate as stipulated in MO43, thereby permitting earlier commencement of an investigation, application of protective corrective action, and where possible provision of assistance to protect the welfare of the consignment.

*Recommendations:*

- AMSA consider action on notification under MO43 requirements and provide reminders to industry members of notification requirements.
- AQIS Canberra give directions to SLEVOs to notify AQIS Canberra immediately upon receipt of any advice that a reportable mortality rate as per MO43 has been approached.
- Livecorp consider giving direction under ALES and the Stockman's accreditation program that Livecorp be informed immediately a reportable mortality rate as per MO43 has been approached regardless of voyage type and species, and this information be made available to AMSA and AQIS directly on receipt.

**Preliminary Investigation – provision of initial information**

Austock's representative had contacted AQIS NT during the voyage, and on 18 and 20 February 2002 AQIS NT forwarded e-mailed reports of the exporters' conversations with the stockman on the vessel indicating that the consignment was experiencing difficulties to AQIS Canberra. The email included the mortality total, anticipated ETA, and a statement that around 60% of the deaths were NT cattle, and that all deaths were confined to the two open decks and were due to very rough seas.

No information had been made available to AQIS Canberra by 22 February to inform AQIS of further high mortalities that occurred on arrival in Jakarta, or to verify the Captain's claims that the stock were of poor condition at loading and that the condition of the cattle had a direct effect on the mortality rate on the voyage.

Livecorp were informed of the mortality incident on the afternoon of 20 February 2002, and claimed to have no prior knowledge of the event. AQIS Canberra requested Livecorp contact appropriate industry bodies to determine the concerns of the Indonesian authorities to the mortalities. A response to this request was not provided to AQIS Canberra. The importer has not indicated any difficulties with Indonesian government intervention in regard to this shipment.

A Livecorp officer contacted AQIS Canberra on the morning of 22 February 2002 requesting a briefing on the situation. The Livecorp officer said he had no knowledge of the requests for information regarding stockman's findings or the Indonesian situation.

AMSA forwarded a number of documents supplied by Meridian Marine Services, the shipping company responsible for the vessel. Documents included Master's Report, Captain's Report and Statement, a copy of the load plan and mortalities distribution, weather reports and mortality certificates to the AQIS Canberra office. The response of the shipping company to requests for information was prompt. When?

Reports received from the ship had insufficient information to eliminate the possibility of a disease outbreak having contributed to the extremely high mortalities experienced while the ship was in Jakarta harbour, ie 15 head on 18 February and a further 48 head on 19 February during unloading.

*Issues:*

- The likelihood of the mortality event having a detrimental effect on the livestock market into Indonesia was extremely high. The lack of substantiated information available regarding the events of the voyage and at discharge in Indonesia placed the Department in a highly compromised position in terms of being able to respond to the issue.
- Livecorp was unable to respond promptly to requests for information by AQIS Canberra in relation to investigation into this mortality incident, in particular the provision of information relating to the discharge of animals in Jakarta, and the clarification of the report that dead animals were taken from the ship for post-mortem in Jakarta. No consultation was made with AQIS Canberra on follow up action that may have been necessary had the Indonesian authorities become concerned, however other sections of the department may have been contacted.
- Despite telephone access being available to the ship, the stockman did not provide any further information regarding the mortality event Livecorp were unable to pass on to AQIS or AMSA any information regarding the event.

*Aim:*

- All members involved in the investigation procedure are informed immediately of the mortality event and provided with relevant, detailed information including post arrival condition of the consigned stock to assess the need for higher level departmental and industry action and to begin preliminary investigation.

*Recommendations:*

- A standard format for the recording and reporting of mortalities from ships be developed by AMSA and AQIS and this format be adopted for use in reportable mortality events. Reporting requirements to be incorporated into ALES.
- Instructions for the supply of mortality information by stockmen and captains to be prepared and provided to all shipping companies and incorporated into the Livecorp Stockmen's Handbook (both long and short haul). Instruction document should be developed in conjunction with standard reporting format.
- As above Livecorp consider issuing a direction in ALES that exporters notify Livecorp immediately a reportable mortality rate as per MO43 be approached regardless of the type of voyage or species. Livecorp as part of the joint investigation structure is to supply this information immediately to AMSA and AQIS.
- Criteria for the assessment of the requirement to include higher level departmental and industry members' participation as a result of the mortality event to be documented, and circulated to relevant parties.
- Livecorp may consider the expansion of their criteria for crisis situation as a result of this investigation.

### **Assembly and Preparation of the Consignment**

Information regarding the assembly and preparation of the consignment was obtained through interviews with and documents supplied by AQIS NT officers, and associated industry stockmen and management.

Documents made available include movement waybills, pregnancy status declarations, property of origin declarations, AQIS declarations, and Cedar Park rainfall chart.

#### *Pre-export treatments*

The Indonesian feeder protocol requires an external parasite treatment, vaccination for leptospirosis and clostridial diseases (including botulism) and tick fever vaccination for all animals not from tick-infested areas. The AQIS-accredited veterinarian completed a treatment declaration form on 8 February.

Animals were vaccinated using 7-in-1 and botulism vaccine while they were loaded into trucks for the port. This practice has been developed to reduce the amount of handling of the stock.

Company personnel confirmed that a Bayomec pour on for external parasites had been applied to all animals at arrival at the export facility however this date (or dates) is not recorded on the veterinary declaration.

QDPI provided POO certification for the tick status as well as other diseases prescribed in the protocol for QLD-derived cattle. AQIS currently accepts vendor statutory declarations that cattle previously in tick infested areas are now located on tick free properties as evidence that tick fever vaccination is not required. In this case company staff indicated that they had difficulty obtaining statutory declarations for some QLD properties of origin. They claimed the POO certificate was not available until close to loading because one property was under doubt as to its status. The POO certification issued by QDPI is dated 8 February 2002, the day of export of the consignment. A company officer stated that he normally receives the QLD POO certificates but not in this case. He claimed that the tick status was resolved with AQIS NT prior to loading. NT cattle are not seen as a problem because of local knowledge and vendor assurances. It appears that at least 233 head of the consignment did not have declarations to satisfy the current requirements for tick status and were not vaccinated for tick fever.

POO certification for NT properties (except "Opium Creek") and one QLD property ("Lydia") was provided on 18.3.02. NT POO certification provided is dated 8 February.

The NT POO certificate shows that a tailtag for 10 head declared on the Form M is registered to the AQIS-accredited veterinarian employed for this consignment. AQIS NT state they were aware of these animals and inspected the stock to ensure they were of exportable standard.

#### *Pregnancy testing*

ALES Clause 6.1.4. states that an exporter must ensure that female cattle with an individual liveweight of more than 260kg are not exported as feeder animals unless they

are pregnancy tested during the thirty day period prior to export and are certified as not detectably pregnant or accompanied by a vendor declaration that the animals have been spayed using the Willis method not less than 30 days prior to export or spayed not less than 280 days prior to export.

In this consignment all female cattle on the voyage were over 260kg liveweight. The exporter supplied testing/spaying declarations for all QLD females except 36 head from one property. However, the declarations for 3 properties, totalling 175 head, do not satisfy the Livecorp requirement, with one certificate declaring dates not available, another declaring pregnancy testing completed in September 2001. Pregnancy certification was not provided for the 478 NT cows in this consignment. An Austock officer stated that declarations are not normally given and that they rely on contractual arrangements stipulating that animals supplied must be pregnancy tested empty or spayed. Verbal assurance was given that animals originating from "Tipperary" station were pregnancy tested, as part of the known management program at the property. He claimed it is not unusual to see 1 or 2 pregnant cattle in consignments including spayed animals.

When questioned regarding declaration of the pregnancy status of the consigned cows, the AQIS-accredited veterinarian reported that he was unaware who had pregnancy tested the females as he understood this responsibility now falls on the exporter to ensure the correct status. He also pointed out that he does not accept any form of certification from particular "lay testers" due to their lack of skills and responsibility shown by them. He was critical of Livecorp for permitting the continued use of these types of operators.

#### *Pre-export isolation*

The length of time spent in the Cedar Park facility prior to export as determined from Form M export declaration ranged from 2 to 14 full days. The import protocol requires animals must spend 7 days in pre-export isolation. The intent of the protocol is that the 7 days must be spent in the pre-export facility, being in this case Cedar Park. However, it has been a practice to include time spent separated at the property of origin and during trucking as fulfilling this criterion.

The Indonesian isolation requirement is for single fence separation from other stock. A company officer stated he usually tries to maintain a minimum of 3 clear days in the feedlot. "Castlereagh" cows were declared by the vendor as pregnancy tested on 3 February. It appears that the animals were immediately trucked from QLD to Cedar Park, to arrive on 4 February then exported on 8 February. These were cull-for-age cows.

Any feed deprivation which may have occurred during the period of mustering, yarding, pregnancy diagnosis and trucking directly to NT would have placed these animals at greater risk of succumbing to disease and ill health from stress associated with the export process.

All QLD cattle (697 head) arrived at Cedar Park on or after 4 February .

### *Identification of stock*

Identification of stock in this consignment was by means of hide brands. Ear tagging was not utilized. The protocol does not specifically require individual animal identification.

The Form M declaration lists the brands and tail tag numbers recorded for each property of origin and the number of each sex from these properties. The total number of head on the Form M declaration is 194 head above that loaded. A company officer claimed that only 20 of 231 head “Woolner” cows declared on the Form M were exported on the MV Novantes with the remainder being exported in a following shipment to Brunei on 11 February. If that were the case then an extra 48 cows that were not listed on the Form M would have been loaded to make up the 740 cows in the consignment.

The Form M also only accounts for 82 bulls, however 93 were declared at loading, 11 head more than listed on the Form M. A number of WA Shorthorn scrub bulls originating from "Doon Doon" WA on 14.12.01 were exported in this consignment, under the tailtag of "Cedar Park" as claimed by the exporter.

For cattle intended for export as feeders, unless specified by the importing country, the property of origin is taken to be all properties at which the animals have been resident during the 3 months immediately prior to the date of commencement of preparation for export. In this case, the provision of “Doon Doon” POO clearance was therefore necessary to satisfy this requirement for export. The Form M lists the "Doon Doon" brand under cattle derived from "Cedar Park" but does not indicate that bulls were present in this group. The number of "Doon Doon" bulls that were loaded therefore cannot be determined from the declaration.

### *Condition of cattle*

The AQIS-accredited veterinarian confirmed that he rejected 2 bulls from the consignment for excessive horn length on veterinary inspection completed on 7 February.

A company officer (?) reported that Indonesian officials also inspected the cattle. With regards to the condition of the stock, he claimed that all lines were healthy and fit to undertake the journey. He pointed out that the NT cows (particularly “Tipperary” cows) were in a lower body condition than the others but were typical of cull-for-age cows exported.

The AQIS NT veterinary officer estimated their condition as Score 2 (backward store condition) on inspection on the day of loading. He was satisfied that they were fit to travel.

ALES Clause 6.1.2. stipulates that cattle in body condition score 1 or less are not to be selected for export, and recognises score 2 animals as appropriate as long as they show no signs of physical weakness. A company officer (?) stated that the “Tipperary” cows were 8-year-old cull cows and were a cheaper line, and cows from QLD ranged from 4-10 years of age. Bulls were up to 6 year old, some Shorthorn and scrubbers.

A company officer confirmed that horned cattle were present in the consignment. Horned bulls originated from WA, and “Woolner” NT and “Tipperary” (6-7 bulls) NT.

#### *Condition of Cedar Park*

The rainfall chart provided by Austock showed that Cedar Park had no rainfall from 17 January 2002 till 27 January 2002. 10.5mm fell on 28 January 2002 at which stage only a small number of steers in the consignment were present. No further rain was recorded until 7 February 2002 when 12mm was recorded, and 18mm on the day of loading. The yards are inclined slightly to encourage run-off away from the facilities, and this is evident in the slight erosion channels that appeared in the yards inspected. There is no obvious indication that conditions in the feedlot directly contributed to the final shipboard mortality. The company stated that no mortalities, injuries or downers occurred during the pre-export preparation.

#### *Rations and water*

The animals were fed cubed ration in the feedlot, and this ration was provided on the MV Novantes. Some hay was also provided at the feedlot. Austock stated that the cows came onto feed quickly and were consuming 3kg of pellets per head per day, and there were no shy feeders. A sample of the pellets were examined and appeared to be of satisfactory quality.

Pelleted feed is stored in a concrete-floored shed where it appears to be free from contact with rain or water.

Feed and water facilities in the yards appear satisfactory.

Agricultural and veterinary chemicals are kept in a locked room in the large shed.

Rubber protective edging on the head bale of the treatment crush requires replacement and this was brought to the attention of Austock during inspection of the facility.

#### *Issues:*

- The Form M declaration for this shipment has a number of significant discrepancies, which bring in to question the number and identification of the animals actually loaded on the vessel. While there may have been an element of local knowledge applied in this case, the declarations that have been provided do not show that all animals loaded fulfilled the Indonesian protocol requirements and therefore were eligible for export.
- Tick status declarations were not obtained for all POOs that were located in tick free areas. The protocol requires all animals located in tick free areas to be vaccinated for tick fever prior to export. State authorities can only provide POO certification for tick status based on whether or not the property on which the animals reside is located in an officially designated tick infested or tick free area.
- The AQIS-accredited veterinarian inspected and treated cattle that were purchased from him by the exporter prior to assembly at the feedlot and therefore he could be seen to have a pecuniary interest in the outcome of their selection. This issue has not

been addressed specifically in the AQIS Accreditation program, however the AVA has specific instructions in their Policy Compendium that “accredited veterinarians must not place themselves in positions of conflict of interest” and “they should withdraw from accredited duties where conflict of interest is possible eg. examining or certifying animals in which they have a financial interest”. A follow-up inspection by AQIS NT on the day of loading went some way to resolving the issue.

- The declaration of determination of pregnancy status provided by the exporter does not conform to ALES Clause 6.1.4.  
“Dunluce” stock were pregnancy tested more than 30 days prior to export (4 months prior to export), no date of testing was given for “The Plains” cows, and declarations were not provided for all female cattle in the consignment.

The inappropriate identification of the pregnancy status of female animals for export may compromise the welfare of the exported animal, and any calves that may be born during the voyage.

- Older female cattle are known in the industry to be less resistant to the effects of stress that are associated with the export process but are commonly exported from the North due to their availability. The management and handling of such cattle from the property of origin till the point of export should be performed in such a manner to reduce the length of time of feed deprivation, and variation in feed type. Some of the cattle travelling from QLD are likely to have suffered significant disruption to their feed intake prior to export.

#### *Aims:*

- Exporters and third party providers produce accurate and legible documentation relating to the export consignment preparation process, completion of protocol requirements and identification of animals forming the consignment in a timely manner.
- SLEVOs to seek assurance that protocol requirements for certification regarding exposure to ticks or vaccination for tick fever have been fulfilled in a legitimate manner.
- SLEVO to seek assurance that female animals have been adequately assessed for pregnancy status, and the exporter has conformed to the current ALES requirements for the export of female feeder and slaughter cattle.
- AQIS-accredited veterinarians are not involved in the selection, testing, treatment and final inspection of animals of which they have or are seen to have a pecuniary interest.
- Aged female cattle be handled in such a manner that permits the safe export of this type of cattle in terms of welfare and health.

#### *Recommendations:*

- SLEVOs be informed that they are required to keep copies of all documentation relating to export consignments for a minimum of 2 years. Documentation to include all third party and exporter declarations, POO certification, pregnancy declarations, and any other documents required to verify that the consigned animals fulfil all protocol and welfare requirements for export. Documents should be stamped, signed

and dated to indicate that the documents were witnessed prior to export. The SLEVO checklist should also be included.

This process will help to ensure that all aspects of the export process have been verified prior to the issuance of export certification.

- Notification be sent to Livecorp, ALEC and AQIS accredited veterinarians reminding them to provide to AQIS all documentation listed above in a timely manner, and that documentation to be legible, complete and accurate particularly declarations relating to the identification of animals loaded.
- AQIS to direct SLEVOs to develop a more sustainable approach to the provision of tick status certification for protocol requirements. Consultation with Livecorp and ALEC to be invited prior to enforcement of revised policy.
- AQIS to discuss with other AFFA groups, Livecorp and other relevant industry bodies, the issues raised with respect to pregnancy diagnosis of export animals to develop sound principles of practice and provision of adequate certification for export purposes.
- Issue of pecuniary interest to be addressed in the review of the AQIS accredited veterinarian program after consultation with relevant organizations. In the interim, it is proposed SLEVOs and third party providers to be notified that selection, testing, treatment and final inspection should not be carried out by a provider who has some financial or other benefit from the selection of the animals concerned. The provider is to notify the SLEVO of possible conflict at which point either another party be employed or the SLEVO take responsibility for the preparation of the animals charged at the normal AQIS rates for inspection. The newly appointed provider or SLEVO to be responsible for the provision of declarations relating to these animals.
- The conditions for selection, transportation and preparation of aged cows for export be reviewed by AFFA, in conjunction with industry.
- The head bale on the treatment crush at Cedar Park to be repaired. Inspection to be carried out and report provided to AQIS NT verifying this activity.

### **Loading at Darwin East Arm Harbour**

The consignment was weighed on the day of loading at the Cedar Park weighbridge, which was inspected during the visit to the feedlot. A weight summary sheet was presented to AQIS NT on the day of loading. The space allocation as per the weighbridge summary appears to be correct, however a minor addition error, which had no impact on the final allocation, was detected.

Due to earlier inaccuracies in the declarations made on Form M the actual stocking density cannot be verified. The stowage load plan provided by the Captain at the time of loading shows distribution for 1,174 head rather than 1,169 declared by the exporter as loaded. The Notice of Intention (Livestock Shipment Details) provided by Austock to AQIS NT indicates the intent to load 1,174 head. The Captain, when questioned whether the stowage plan indicated the correct number of animals loaded, indicated that the stowage plan numbers were correct. The source of the numbers used to develop the stowage plan was not identified.

Loading was commenced at 2.15pm on 8 February 2002. Animals had been trucked from Cedar Park that morning, 90km from Darwin harbour. The conditions on the day of loading were cool and wet. An Austock officer was present at the loading and operated as the Welfare Supervisor for the consignment at loading. Both Austock and AQIS NT report that no incidents occurred at loading that caused injury to the livestock, and no rejections were made.

The AQIS NT officer reported that he sighted export declarations, but notes that the POO certification for "Doon Doon" station was not available at the time of loading. He stated his normal practice at loading is to sight the necessary documents, stamp and return exporter documents other than copies of the Forms G, I, J and M. Austock provided a copy of the consignment weight sheet, stamped and signed by the AQIS NT officer, indicating that he had witnessed the document. He assessed the quantity of fodder loaded and water available during the voyage as adequate for the consignment. Bagged fodder was loaded on the top deck, and covered with tarpaulins.

The Captain reported that some of the cows in the consignment were in poor condition, and a number were unsteady on loading in both a statement to AMSA and during interview. All other lines however appeared healthy. No comment was made to the exporter and no noting was made in the logbook. The stockman responded by pointing out that a couple of animals were unsteady on their feet when loaded but he believed them to be just tired.

With respect to the position of lines on loading, the stockman provided the following information:

Deck 4 (bottom deck and enclosed) - all steers

Deck 3 (enclosed) - "SM" cows ("Dunluce" QLD) and some steers

Deck 2 (open sided deck) - mainly "Tipperary" cows (NT)

Deck 1 (open sided deck) - mixture of cows, Shorthorn bulls (brands "TAT" & "T") in starboard pens and Brahman bulls in centre pens.

MO 43 gives the Captain sole responsibility for the decision to put out to sea. The Captain is expected to take into account current weather forecasts, and the state of the ship and the consignment. It is understood that the Captain chose to put out into seas under the influence of a stationary monsoonal trough, on the basis that the ship was able to handle such conditions and that the trough was likely to move on. When questioned he confirmed that he was not aware of any contractual arrangements that obliged him to sail at that time.

*Issues:*

- The issue of the provision of accurate and comprehensive documentation necessary for the issuance of export health certification has been mentioned previously. The accurate listing of the identification, sex and POO of animals loaded is vital to the integrity of the health certification provided.
- The Captain and the stockman both stated that a number of cows were unsteady on loading. The comment by the stockman was that the animals were tired. This is unlikely to be the cause, but considering the Captain's comments, there is perhaps some indication that a number of cows were weak at the time of loading. However, the stock had been inspected by both the third party veterinarian and AQIS NT and were found of light condition but fit to travel.
- The Captain made a decision to put out in extreme weather conditions. The MO 43 gives the Captain the complete authority for determining when to go to sea on the basis that the Captain is responsible for the ship and cargo. AQIS is not in the position to comment on the Captain's decision. Reference should be made to the AMSA interim report for any further discussion on the evaluation of the decision to go to sea.

*Aims:*

- As discussed previously, exporters and third party providers should provide accurate and legible documents to the SLEVO in sufficient time to permit rectification of any problems identified at time of document inspection.
- Consignment identification should be accurate for the consignment loaded.
- Observations made by parties involved in the export process are recorded in such a manner to provide confident verification of these observations.
- The decision making process for putting out to sea is clarified to assist Captains with making informed decisions in relation to the welfare of the consignment.

*Recommendations:*

- As reported earlier, record provision to be addressed.
- AMSA to consider advising ship owners and Captains to ensure all concerns regarding the condition, health or welfare of stock are noted in ships' records, and that photographic evidence (preferably dated) be obtained where necessary to verify their claims.
- AMSA to consider resolution with ship companies about the decision making process for putting out to sea in poor conditions, with particular consideration of the animal welfare aspects associated with the decision and the unique characteristics of each vessel.

## **Voyage Details**

The Captain reported sea conditions on the first day of the voyage consisting of swell of 6-7 metres, wind strength of 35-40 knots, 15 degree rolling of the ship, and with heavy wash over Deck 2. The seas and weather at this time were on the port bow, and the vessel was pitching heavily. The stockman claimed that more than half of the stock on the upper two decks were down, particularly those towards the front of the vessel, and that they were rolling and unable to get up due to the slippery decks. The surface of floors on decks 1 & 2 are relatively smooth and are likely to be slippery when wet. There is a noticeable difference between the floor texture of the upper open decks and the lower closed decks.

On the afternoon of 9 February the Captain altered course to head ENE putting the seas and weather on the port aft  $\frac{1}{4}$  of the vessel. Seas at this time were described as very rough with westerly swells with strong to gale force winds from the WNW. The course deviation and the slow rate at which the ship was travelling in the rough conditions resulted in an extended duration of the voyage.

The original course (with easterly deviation) was resumed on the morning of 10 February as winds decreased and for the rest of the voyage the Captain reported that the ship experienced no further rolling, with some rain and an average 25-knot winds. The stockman advised that the deck cattle were wet for two days, but after that rain only came in on the outer pens. On the second night the stockman loosened off some of the bull pens particularly the Brahmans, which tends to indicate that conditions were easing .

The first mortality of a light cow (380kg) on deck 2 was recorded on 10 February,. The stockman advised at interview that he performed a post-mortem on the animal and described reddening of the apical lung lobe, and blood in the trachea. While his initial diagnosis was pneumonia, he did add that the animal had been smothered, and therefore the PM signs he observed were more likely to be the result of agonal death than pneumonia. Another three light cows on deck 2 died the following day. The stockman stated that the cattle were down for a couple of days then suddenly died. When questioned he confirmed that he observed no discharges, or notiable signs of disease but there were a number of abrasions and cuts. He noticed no unusual signs on the seven post-mortems he attempted during the voyage but said that he saw bruising in the carcasses. Hhe confirmed that he did not examine under the hide on the limbs. The stockman recorded the brands of some of the mortalities in his daily reports. These were made available by the exporter at the time of the interview.

The stockman also reported two cows had produced live calves during the voyage, one on Deck 2 the other Deck 3, but no abortions. One calf was suffocated and the dam also died. The surviving calf survived and was unloaded, but the mother had little milk. The exporter advised that both cows were "Dunluce" cows, which had been pregnancy tested in September 2001.

*Mortality distribution*

Table 1 below outlines the mortality distribution as listed by the Chief Officer in the Ship Mortality Certificate (a shipping requirement). The AMSA reportable mortality level for short haul voyages had been exceeded by 11 February. The Captain reported that the poorer cows were dying. However the stockman stated that the heavier Qld cattle on deck 3 were also dying.

The extremely high overnight mortality recorded in cows on deck 1 on 19 February is very disconcerting. The number of deaths recorded in this group almost equals that for the whole ship leading up to that point. Neither the stockman nor the Captain could offer any information that may indicate a possible cause of such high numbers of deaths.

Unfortunately the mortality certificate was rewritten and the second certificate fails to indicate the decks on which deaths occurred. The cause of death had been altered to attribute all deaths to rough seas and stress, and did not include the mortalities recorded on 19 February. An MV Novantes document provided to AMSA diagrammatically lists the pens in which mortalities occurred. It does not support the details provided in the mortality certificate, particularly in respect to the final number of mortalities on each deck. The data obtained from this source is summarised in Table 2 below.

**Table 1: MV Novantes Voyage 83/02 Mortality Distribution**

Date	Deck 1			Deck 2	Deck 3			Total
	Cows	Bulls	Total	Cows	Cows	Steer	Total	
8/2/02	0	0	0	0	0	0	0	0
9/2/02	0	0	0	0	0	0	0	0
10/2/02	0	0	0	1	0	0	0	1
11/2/02	0	0	0	5	0	0	0	3
12/2/02	0	0	0	1	1	0	1	2
13/2/02	0	0	0	2	0	0	0	2
14/2/02	1	0	1	2	2	0	2	5
15/2/02	0	2	2	3	3	0	3	8
16/2/02	0	1	1	4	2	0	2	7
17/2/02	1	1	2	2	2	0	2	6
Total at sea	2	4	6	20	10	0	10	36
Arrival in Jakarta, then discharge								
18/2/02	2	4	6	5	2	2	4	15
19/2/02	32	5	37	NA	11	0	11	48
Discharge Total	34	9	43	5	13	2	15	63
<b>Final Total</b>	36	13	49	25	23	2	25	99

**Table 2: Summary of data provided on MV Novantes stowage plan & document showing number of deaths/pen/deck**

Deck No.	# cows	# cow morts.	% mort.	# bulls	# bull morts.	% mort.	#steers	# steer morts.	% mort.
1	215	12	5.6	100	13	13	0	0	0
2	339	44	13	0	0	0	0	0	0
3	187	28	15	0	0	0	100	2	2
4	0	0	0	0	0	0	236	0	0

The number of mortalities recorded on decks 1 & 2 contradicts the figures supplied on the Ship Mortality Certificate and brings into question the reliability of the evidence provided relating to the final few days when the mortality rate increased markedly..

The cow mortality rate on deck 3 was higher than on deck 1, until arrival in Jakarta harbour. Deck 1 is an open deck experiencing greater forces capable of disabling and injuring animals. Greater losses would have been expected on deck 1 as a result of the bad weather, as stock on this deck would have experienced greater acceleration while the ship was rolling and pitching

During the first two days the weather and seas were on the port side of the ship. However there is a higher level of mortalities in pens located on the starboard side of the ship.

The mortality certificate is written out by the Chief Officer and may or may not be checked with the stockman prior to issuance, however in this case the Captain claimed that the stockman changed his diagnosis for the listed mortalities after discussion with the exporter. The Chief Officer was on his initial livestock consignment voyage, and it appears that communication between the Chief Officer and the stockman was initially confused. The Captain reported he was informed of the increasing mortalities by the crew, and called the stockman to provide further information and discuss the situation. It appears that there was a failure in communication between a number of the parties involved in the welfare of this consignment, which would have contributed to a less effective decision making process.

Austock provided a pre-shipment brief to the Captain and stockman at loading and it appears that direction on reporting and communication with the exporter was not included in this advice. Austock has acknowledged this.

From the stockman's report, approximately two thirds of the cow mortalities were identified by brands and recorded. For the recognisable brands the following mortality rates have been calculated:

- "Tipperary" NT cows: 34 deaths of 182 loaded (18.7%)
- "Tipperary" NT bulls: 6 deaths of 12 loaded (50%)
- "Opium Creek" NT cows: 6 deaths of 25 loaded (24%)
- "Dunluce" QLD cows: 6 deaths of 132 loaded (4.6%)

Of the WA shorthorn bulls that were loaded the mortality ship plan indicates that at least four of these animals died. The NT waybill for the movement of the WA bulls to Cedar Park indicates that 27 bulls were delivered to the yards on 15 December 2001, so the minimum mortality rate for the shorthorn bulls on this voyage would be at least 15%. The stockman confirmed that no animals had been euthanised during the voyage or discharge.

*Treatments livestock management and fodder*

Treatments provided by the stockman include the use of Ketoprofen and Dexason for 10-12 head, with the treatment list remaining in stockman's kit. The stockman used two bottles of Dexason, and four bottles of Ketoprofen. No direct instructions were sought from the AQIS accredited veterinarian who prepared the shipment or the Livecorp veterinary consultant. Daily contact was maintained with Austock after (date). An Austock officer advised he was not able to provide the stockman with any useful advice because of the situation itself(??) and the number of animals involved.

Washing down of the pens is not listed in the stockman's handwritten daily reports. However the stockman's satellite report on 12 February indicates that all decks were washed down on that day. Obviously wash-down would not have been necessary in the first few days with the water on the deck from the weather. However with the extensive abrasions and cuts that have been reported, the risk of wound contamination and development of septicaemia would have been high towards the later part of the journey if pens were not kept relatively clean. There is no indication that wash down was attempted again after 12 February.

The issue of the stability and protection of the fodder was raised during the shipboard interview. The stockman had commented that during the voyage the pallet of fodder had moved to one side of the vessel due to the swell. The significance of this event is not known in terms of the effect on the handling of the vessel.

At least 60 bags were not used because of water damage. The stockman advised that the stock were not fed wet feed, apart from slight rain soaking in the feed bin at the time of feeding.

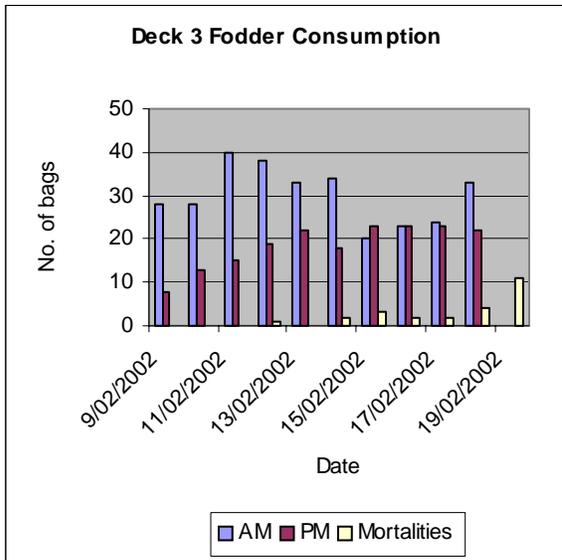
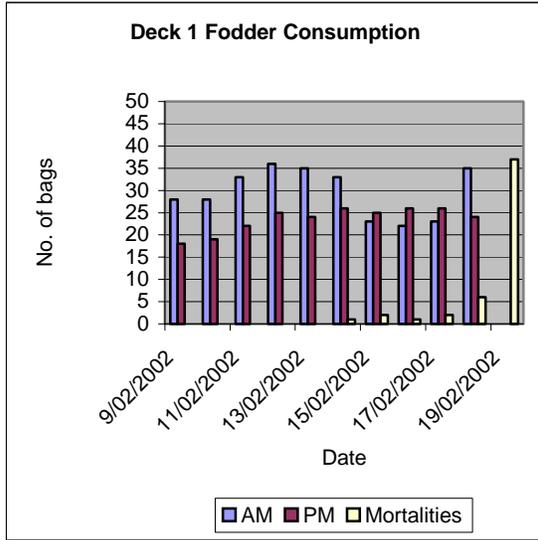
The fodder availability and quality towards the end of the voyage was a consideration in the investigation.

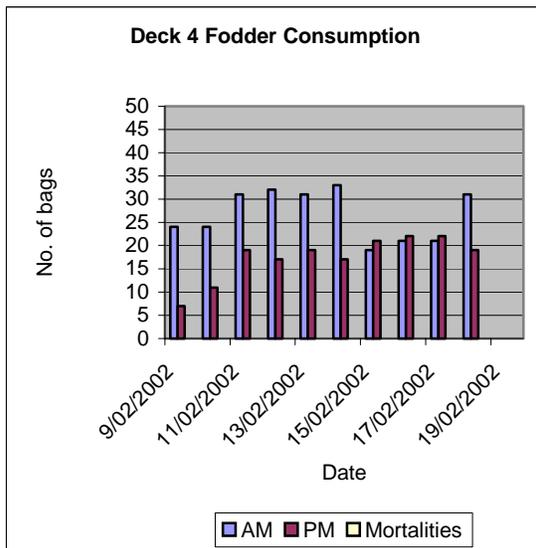
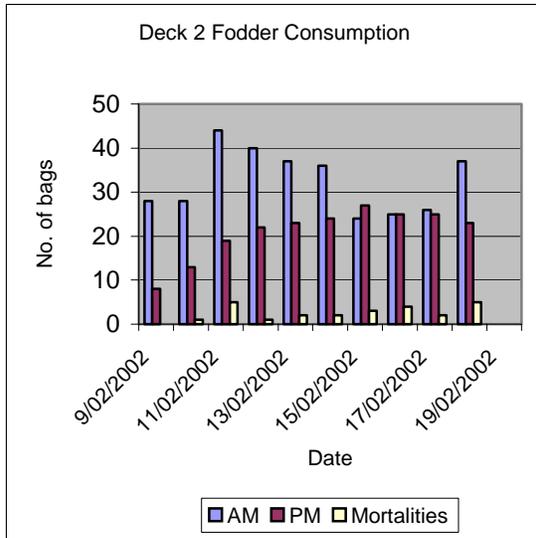
The total number of bags fed during voyage was 1,992, with each bag containing 35kg cubes (total 69.720t). According to the ALES Clause 6.8.13 & 6.8.14 the fodder requirement for the consignment was a minimum of 70.196t (1,169 head of average weight of 417kg on a the declared 6 day voyage plus 20% extra). Adequate fodder (71.25t) was loaded for the expected length of voyage. However the voyage was extended by around 3-4 days.

With 60 bags (2.1t) of fodder not used due to water damage, the available fodder onboard was limited to the 69.72t. The calculated feed requirement for the consignment without the reserve would have been over 97t for the 10 day voyage. The fodder requirement for

a consignment with average weight of 417kg would be approximately 8.3kg per day. The average intake, as calculated by the stockman, was 6kg/hd/day. It was not clear how much wastage occurred during the first few days but the stockman commented that a lot of feed was left in the troughs. It appears from this information that the animals in this consignment are likely to have been in a catabolic state for most if all of the voyage.

**Diagram 1:** Fodder Consumption throughout the voyage.





**Issues:**

- The lack of information relating to signs before death and post-mortem findings does not permit a credible assessment of the cause of mortality of animals on this voyage. The data obtained from the mortality certificate, the stockman’s daily reports and the mortality distribution provided by the Captain is not entirely supportive of the theory that the wash on the deck and the ship’s movement in the rough weather is entirely responsible for the deaths onboard. Deck 3 sustained mortalities that are not explained by exposure, and considering the ship’s movement, should have been less than those incurred on deck 1. This however is not the case as shown by Tables 1 & 2.

- The surface on the flooring of decks 1 & 2 was smoother than that of decks 3 & 4. The flooring when wet would have been relatively slippery on Decks 1 & 2 and this would have contributed to the instability of the stock in the rough weather and their difficulty in being able to stand again after falling.
- The animals which were down would have been subjected to abrasions and bruising caused by movement on the deck and trampling, and would have been wet for the first few days. These conditions would have caused physical stress and reduced the ability of animals to access feed. Animals already in backward store condition would have been extremely susceptible to metabolic and infectious disorders. Severe bruising and associated tissue necrosis, metabolic and physical stress would have likely to have contributed to the high mortality rate. I
- It was also noted that wash down was not recorded for the latter part of the voyage and considering the extent of skin abrasions reported by the stockman, the possibility of septicaemia from wound contamination could be a possible explanation for the extremely high overnight mortality detected on 19.2.02.
- The condition known as Blackleg cannot be ruled out considering that cattle were generally dying without noticeable signs after a short period of recumbency. The vaccination history of the animals is unknown and considering that the pre-export vaccination is likely to have been the first that some animals had received, resistance to clostridial diseases would have been minimal.
- The post-mortems that were performed during the voyage provided little information that could be used in this investigation. It appears that the stockman did not remove the hide or cut through muscle on limbs to ascertain the extent of bruising on the carcasses and signs of necrosis. The brands of all deaths were not recorded. Some of the brands that were recorded did not appear on the Form M declaration. The value of this recording cannot be determined as northern cattle can have more than one brand.
- Communication between the stockman and the Chief Officer appears to have been poor initially and there is concern with alteration of the mortality certificate later during the voyage. It appears that Austock did not discuss their requirements for communication of information regarding the health and welfare of the stock during carriage. The inexperience of the Chief Officer and stockman are likely to have contributed to some of these problems.
- The fodder provided for the shipment was based on the requirements for a voyage length of 6 days. However the total length of the voyage was extended to 10 days due to the deviation of the ship's course to avoid weather and the delay in unloading in Jakarta harbour. Fodder rationing would have been necessary to cover the voyage length, and the stockman indicated that at least 60 bags of fodder were rejected during the voyage due to water damage. For animals already suffering from physical and metabolic stress incurred during the first few days of the voyage, further restriction on feed intake would have deleterious effects on the health of the affected stock.

*Aims:*

- As mentioned previously, reporting on the details of mortality events to be prompt, detailed and factual.
- Any shipping deficiencies detected by AMSA during the investigation are rectified according to AMSA requirements.

*Recommendations:*

- Livecorp to consider providing further training for accredited stockmen in a standard procedures for performing post-mortems, and reporting on post-mortem findings and collection of specimens. Training should also be provided for the recognition of post-mortem signs indicating presence of disease or trauma, and the reporting on such findings.
- Livecorp to consider the addition of preserving solutions, large specimen containers, saw and bone cutters to the minimum veterinary kit (ALES Appendix 2 & 3).
- As per previous recommendations, Livecorp to encourage reporting of the identification details of all mortalities including pen and deck number, time of death, and brands/tags.
- AMSA to consider requirements for shipping companies to outline procedures for the reporting of mortalities, and the information provided in mortality certificates. Also consideration to be given to the development of procedures for stock management for crew members unfamiliar with the operations on the ship concerned.
- AMSA to consider the condition of the floor surfaces on decks 1 & 2 on the MV Novantes and to take corrective action if required.
- AMSA to consider the reports made by the stockman that feed pallets on the upper deck moved considerably during the voyage, and that the stowage of fodder was not adequate to protect it from water damage, and to take corrective action if required.
- Vendors of cattle should be encouraged to include effective clostridial vaccination as a routine management activity. AQIS recognises that there is little commercial imperative for exporters to complete a primary vaccination regime for cattle due for export, but single booster vaccinations in protocols will provide effective coverage for animals having undergone the initial primary vaccination regime on farm previously.

**Discharge in Jakarta**

Discharge commenced at 2pm on 18 February, approximately 10 days after departure from Darwin. The stockman reports that the discharge was very slow due to the lack of trucks, the cattle being sore from cuts and abrasions and therefore slow to move, and the discharge set-up of the pens. Both the stockman and the Captain confirmed that no dead animals were discharged or removed from the ship in Jakarta, as earlier information had indicated. The stockman claimed that 16 cattle that were unable to walk were craned off the vessel in Jakarta and no down cattle were slaughtered on the wharf.

The Livecorp investigation initially indicated that four animals had subsequently died in the importing feedlot. However AQIS has not been able to confirm the number that died after arrival. The importer has indicated to Austock that many of the animals had to be held over for a much longer period in the feedlot to recover from bruising and lack of condition. Many of the animals slaughtered were reported to have had extensive bruising of the carcass.

The importer has not indicated any difficulties with Indonesian government intervention in regard to this shipment. The stockman reported that local port authority staff were present on the vessel to witness the extent of mortalities and although initially displaying shock, allowed unloading of the consignment to proceed. The Captain stated that the carcasses of those animals dying in Jakarta harbour were disposed of at sea on the return voyage to Darwin. Meridian Shipping Services requested the Captain obtain post-mortem samples and take photographs of sick and dead animals in an attempt to assist in the diagnosis of the condition causing the high level of mortalities. Unfortunately the samples were not suitable for pathological examination by the time they were submitted. The photographs were not available at the time of interview.

*Issues:*

The mortality rate during the night of 18 February (of the 63 head which died in Jakarta harbour, 48 head died during the night of 18 February) was suggestive of a major disease and animal welfare incident, yet as mentioned earlier, information regarding the response of the Indonesian authorities and the events following discharge were not readily available to AQIS Canberra.

- The stockman reported that the pen arrangement made discharge slow. The shape of pens, direction and placement of gates and ramps directly impacted on the rate of discharge and the willingness of cattle to move through and off a vessel. Stress imposed on cattle at discharge will be reduced if the animals are able to flow smoothly through pens, gates, laneways and ramps with minimal noise and interference.
- Humane slaughter was not performed on animals which were down, and unable to be discharged of their own accord.

*Aims:*

- As mentioned previously, reporting of mortalities to be prompt, detailed and factual, and include follow-up of animals after discharge if available.
- Shipping companies encouraged to provide pen arrangements on ships that promote smooth flow of animals into and out of pens, and along laneways and ramps to reduce stress and injury.
- Livestock welfare to be preserved at all times during the export process. Individuals involved in the discharge process ensure that sick and injured animals are treated in a humane manner, and not discharged if doing so would cause further injury or harm.

*Recommendations:*

As mentioned previously, reporting of mortalities to be further enhanced, including the submission of information relating to post discharge mortalities and conditions.

- AMSA to consider in conjunction with the shipping company and AQIS the penning arrangements, laneways and ramps on the MV Novantes and their possible impact on the ability of the vessel to load and discharge stock smoothly, and provide advice to the shipping company if required.
- Livecorp to ensure all accredited stockmen are practically trained in the use of captive bolt pistols, and other humane killing methods, and are made aware of animal welfare codes of practice associated with the livestock species.

## **Conclusion**

The findings of this investigation provide strong evidence that the conditions in which the MV Novantes put out in on route to Jakarta directly impacted on the health and welfare of many animals on this voyage due to:

1. physical trauma experienced during rough weather causing pain, stress and inanition;
2. impaired ability of animals to access feed and ruminate because of excessive ship movement and slippery deck conditions resulting in metabolic stress;
3. animals being wet for a period of time causing physical stress; and
4. an exacerbation of the normal adjustment period that cattle experience during the voyage due to unsettling conditions, causing further metabolic stress.

Other factors that may have contributed to the mortalities are:

1. the prior physical condition of a proportion of the consignment may have been inadequate to handle such conditions;
2. the possible period of feed deprivation of animals, especially older cull cows prior to entry into the export feedlot, and the shortened period of feed adaptation prior to this voyage reduced the capacity of these animals to withstand further metabolic stress imposed during the voyage;
3. the development of septicaemia or toxemia in a large number of animals resulting from severe tissue necrosis due to bruising and possible faecal contamination of open wounds during the latter part of the voyage; and
4. feed rationing to preserve feedstocks as the voyage lengthened contributing to metabolic stress cattle were undergoing on the voyage.

Procedural anomalies detected in the investigation may in themselves not be significant, but have made determination of a reasonable path of cause and effect very difficult. Improvements in the onboard mortality observations, recording and reporting will go some way to assisting with this issue but exporters must continue to ensure that export documentation provided in support of their application for issuance of export health certification is accurate, detailed and complete.