

24 October 2002

REVIEW OF MORTALITIES – M.V CORRIEDALE EXPRESS V.152

1. Overview:

International Livestock Export Pty Ltd exported 55,594 sheep onboard the MV Corriedale Express V152. The vessel was loaded at Portland on 31/7/2002 and Fremantle on 6/8/2002. The consignment was destined for Kuwait and Jebel Ali. The vessel discharged at Kuwait on 21/8/2002 and Jebel Ali on 24/8/2002. The total livestock mortalities at completion of discharge in Jebel Ali were 6119 (11%) sheep.

The sheep mortality rate of 11% exceeds the 2% 'reportable level' as specified in the *Australian Maritime Safety Authority Marine Order – Part 43 (Section 40)*.

AQIS was notified of the mortality rate by AMSA via e-mail on 26/8/2002.

2. Scope of Investigation:

The investigation reviewed events that occurred during the voyage, including climatic conditions, to determine the cause of the sheep mortality rate in excess of legislative requirements. The investigation took into consideration the following documents:

- Master's Report Carriage of Livestock
- Accredited Stockman's Report
- Written correspondence from International Livestock Exports
- Written correspondence from EMS Rural Exports Pty. Ltd
- Captain's report re Auxiliary Engine No. 4 Emergency Stop
- All correspondence received by AQIS from AMSA

3. Summary of Findings:

Export Company: International Livestock Export Pty Ltd
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Vessel: MV Corriedale Express
Voyage: 152

Livestock Loaded: Sheep 55,594

Ports Loaded: Portland (31/7/2002)
Fremantle (6/8/2002)

Port Discharged: Kuwait (21/8/2002)
 Jebel Ali (24/8/2002)

Voyage length: 24 days – ex Portland
 18 days – ex Fremantle

Climatic conditions: 16 Celsius / 78% humidity – 36 Celsius/ 87% humidity

Mortality Rate: 6,119 (11%)

Time of Mortality: Days 1 – 18 (512 died – 8%) 0.92%
 Days 19 – 21 (5,315 died – 87%) 10.48%
 Days 22 – 24 (290 died – 5%) 11.00%

Mortality Location: 5,315 (87%) sheep died between arriving at port of Kuwait and completing discharge at Kuwait.

4. Cause of Mortalities:

4.1. Accredited Stockman

The stockman's report stated that the sheep that were loaded in Portland arrived at Fremantle in quite good condition upon inspection although cases of pinkeye were detected, and the sheep loaded in Fremantle were in 'very good order'.

The accredited stockman advised that the sheep travelled well until the livestock generator failure that occurred at 2210 hrs on 18th August 2002, when a majority of the sheep mortalities occurred. The Sheep that had wool longer than 25mm were more affected by the heat and humidity and the deaths in those sheep were primarily due to heat stress. Other causes of death were diagnosed by the accredited stockman as inanition and pneumonia.

The accredited stockman reported that the sheep were in good condition until the livestock generator failure, although the affects of the heat and humidity were starting to show by 18th August 2002 as they entered the Gulf of Oman, especially on the sheep on the lower decks and in particular those which had not been recently shorn. It was reported that fans were restored to 75% capacity within 5 minutes of the generator failure and back to full capacity within 1.5 hours (2330 hours). Decks 2 and 3 experienced extreme conditions during the generator failure, which the animals could not sustain and resulted in the death of 70% of those animals on those decks. A majority of the sheep on the starboard side of decks 2 and 3 had wool greater than 25mm in length (under LEAP, sheep with wool longer than 25mm require an additional 10% space allocation). It is uncertain at this stage as to whether additional space was provided for these sheep in accordance with LEAP.

The accredited stockman reported that there appeared to be 'limitations to the ventilation systems'. The installation of additional blowers where there were identified poor ventilation areas greatly assisted air movement and was subsequently 'very important to the stocks survival'.

The accredited stockman's report provided information that identifies the primary cause of high sheep mortalities (which occurred between 19 Aug – 21 Aug 2002) was as a result of the livestock generator failure that occurred at 2210 hours on 18th August 2002 and the related physiological impact (ie. heat stress) on the sheep, in particular with those sheep on decks 2 and 3, and those on these decks that had wool length greater than 25mm.

4.2 Captain's Report re: Auxiliary Engine No. 4 Emergency Stop

The Captain's report lodged on 18 August 2002, confirmed that the livestock generator failed at 2210 hours on 18 August 2002. This power outage affected all livestock accommodation ventilation and lighting. The report also confirmed that 75% of ventilation power was restored within 5 minutes after the initial outage and full power was restored at 2330 hours on 18 August 2002. The report did not mention any livestock issues.

- advice from AMSA on 5 September 2002 via a telephone conversation was that AMSA legislation requires that a vessel is able to provide the minimum ventilation required under AMSA legislation when operating at 75% capacity.

4.3 International Livestock Export Pty Ltd

The company provided in correspondence of 30 August 2002 an explanation of the high mortalities based on interviews with the stockman. A summary of key findings provided is outlined below:

- At 22.10 hours on the evening of 18th August 2002 (day 19) as the vessel passed through the Gulf of Oman a complete generator failure was experienced which coincided with a period of little wind and high humidity. During this period all ventilation fans were non-operational for a period of 5 minutes after which time power was restored enabling 75% of ventilation to operate for a further 1 hour, at which time full power was restored.
- Reduced ventilation seriously affected air supply, particularly on the vessel's starboard side. Lower decks 2 and 3 experienced extreme conditions resulting in 70% mortality on these decks amounting to approximately 5,000 head.
- The degree of heat stress particularly in the lower decks created an environment that even after returning to normal ventilation meant stock physiology was unable to recover.

In correspondence of 2 September 2002, it was advised that the company did not agree with some of the assumptions made in the stockman's report, however the company did not disagree that some of the sheep may have had wool that was greater than 25mm in length. The company advised that any sheep that were 'excessively woolly' were shorn prior to loading. In the same correspondence the following was claimed:

- Mortality to 18/08 was 0.9% with two days to go to first port.
- The breakdown coinciding with very humid conditions changed the sheep-house environment especially below deck and until the environment stabilised the mortality remained.
- It is pivotal that the generator failure was the catalyst that resulted in deck conditions deteriorating beyond a point recoverable by the ship's ventilation system in the prevailing conditions.

In a telephone conversation on 4/9/2002 between International Livestock Export and AQIS, it was advised that the next voyage of the MV Corriedale Express was to be part of an industry sponsored 'ventilation study'. No additional information was provided with regard to the scope of the study or how it would impact on the health and well-being of the next consignment of livestock.

4.4 EMS Rural Exports Pty Ltd

This company provided correspondence on 4/9/2002 in response to questions raised by the accredited stockman, in particular the wool length. In the response, it was advised that there were sheep with wool up to or greater than the 25mm wool length as specified in LEAP, although not to the 50mm length as mentioned. In stating this, it was identified that a line of 603 head of sheep were removed from the consignment prior to loading due to having wool 35mm in length. These were to be shorn and allocated to another export consignment at a later date. At no time during preparation did AQIS or the third party veterinarian question the wool length. Animal numbers and weights were provided in advance of the shipment and they were accepted as accurate.

4.5 Summary of Causal Factors

Based on the information provided during the Interim Review, the following factors have been identified as contributing factors to the mortalities during the voyage:

1. Failure of the livestock generator on 18 August 2002, and the significant physiological impact on the sheep (ie. extreme environmental conditions triggering death by heat stress).
2. Limitation in ventilation (need for additional ventilation).
3. Sheep with wool greater than 25mm (highest mortality rate).

5. Proposed Action by Company

International Livestock Export advised that they met with the representative of the vessels owner on 2 September 2002 and the vessel's owners are of the view that the mechanical issue in question (ie. the livestock generator failure) has been addressed and this will be clarified during the scheduled AMSA investigation on the vessel's return to Fremantle.

No additional measures are proposed by International Livestock Export Pty Ltd for the next voyage of the MV Corriedale Express, other than ensuring that AMSA clears the vessel for departure.

6. The Next Voyage of the MV Corriedale Express

The next voyage of the MV Corriedale Express is scheduled to load in Fremantle on or about 8 September 2002. The voyage is proposed to consist of 55,500 sheep destined for discharge in Kuwait on or about 30 September 2002. Of these sheep, approximately 15,500 sheep will be of the Awassi breed, which is frequently exported with longer than average wool length.

7. Proposed Action by AQIS

On assessment of information provided by the exporter, the accredited stockman, AMSA and taking into consideration that the next voyage of the MV Corriedale Express intends to carry approximately 55,500 sheep to Kuwait, the following conditions are proposed for the next voyage of the MV Corriedale Express:

1. An AQIS veterinary officer will oversee the final selection of the sheep for export.
2. A reduced stocking density by 15% for all sheep loaded, in accordance with the Saudi Live Export Program stocking density.
3. An veterinarian approved by AQIS must accompany the voyage to monitor and address animal health, welfare and mortality issues – AQIS Canberra must approve the veterinarian selection prior to export.
4. Sheep with wool length greater than 25mm to be located in pens, which receive greatest ventilation at all times during the voyage, as agreed by the veterinarian approved by AQIS accompanying the voyage.
5. Provide portable fans to improve ventilation for pens of limited airflow.
6. The veterinarian accompanying the voyage must report daily to AQIS Canberra on animal health, welfare and mortality issues, using the Saudi Live Export Program report template.

8. Results of next voyage

V153 Departed Fremantle on 9 September with 46,795 sheep bound for Kuwait and Dubai, under additional conditions described in paragraph 7, prescribed in Direction issued by AQIS under Order 10(c) of the Export Control (Animals) Orders.

The voyage was completed on 3 October 2002. Mortalities were 817 head (1.74%).