FINAL REPORT – Electronic system for Alternate protocol for managing illegible or missing shipping marks for the USA

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1.0 Executive Summary

The Australian "Meat Messaging" system is an industry supported online portal available for the creation, sending, receiving, attestation statements and compliance declaration of meat products to meet the requirements of the Australian Government Department of Agriculture and Water Resources (DAWR) Meat Notice "Alternate protocol for managing missing shipping marks for the USA" and the USDA-FSIS Notice 41-15 "Using Barcodes to Verify Eligibility of Imported Products with Missing or Completely Illegible Shipping Marks".

AMPC has funded the project to implement the Meat Messaging industry portal. This portal is an industry portal that provides a system to allow any meat processing establishment, cold storage logistics facilities, exporters and importers to pass commercial and regulatory information along the supply chain.

The Meat Messaging industry portal builds on the work that AUS-MEAT and others have achieved over the last 15 years in the development and implementation of the GS1 barcoding standards and electronic messaging standards.

The primary activities of Meat Messaging industry portal are:

1. Facilitating the process of the DA Meat Notice "Alternative protocol for managing illegible or missing shipping marks for the USA" and FSIS Notice 41-15.

2. Electronic Meat Transfer Certificates (eMTC).

3. Market eligibility compliance through movement tracking of individual trade units with GS1 bar coding between establishments (typically cartons and carcases).

4. Supply chain product integrity/ providence through the recorded movement history of individual trade units with GS1 bar coding from 1st Establishment of consignment through to destination of the individual trade units with GS1 bar codes.

An element of the project was the establishment of a steering committee to oversee internal operational policies to ensure a balanced approach between the needs for commercial efficiency and regulatory activities such as compliance and surveillance.

The steering committee is to comprise representatives from industry as well as government to ensure internal operational policies are harmonised with broader industry policies.

The Meat Messaging industry portal is available for processors, cold stores and exporters to use as a tool to achieve the requirements of the DAWR Meat Notice and the FSIS Notice. This is available to any industry member who wishes to improve their processes in this area and is supported by AMIC and AMPC.

2.0   Introduction

The most common reason for meat being rejected in the US is because of illegible or missing shipping marks. The US requires that a unique shipping mark be used to link the product in a load to the health certificate for that load. These marks are manually applied immediately prior to loading for export. Currently marks that are absent can only be reapplied and verified by an official of the exporting country. This process is very costly and time consuming with potential delays in delivery of the product. It also restricts rectification of problems to larger volumes of cartons. There are also limited official resources in the US to reapply and verify shipping marks and as such small numbers of unmarked cartons are just disposed of.

An alternative method to resolve missing shipping marks is the GS1 barcoding and eMessaging system. This system is a global voluntary standard for the identification of products using standard identifiers and transferring the information about consignments with a standardized electronic message. Each carton/label has a code that is unique to that carton. These codes are routinely scanned for products being exported and a complete list of all cartons exported as part of a shipped lot, is available. The GS1 system can also assist in the event of any problem that requires product to be traced and/or withdrawn from the market place.

This standard as it applies to barcoding has been implemented in virtually all US listed processing plants.

This alternative method demonstration has resulted in the Draft Meat Notice "Alternate protocol for managing illegible or missing shipping marks for the USA".

The option exists for individual companies to try and implement suitable solutions within their respective organizations. However, this has many shortcomings, including:

- US importers would need to deal with many different and incompatible systems, removing a large amount of the benefit of the system.
- There would be no independence in data integrity and regulators would need to deal with many different organizations to access data.
- The smaller processing organizations would be locked out of participation due to cost.

A number of projects have been conducted in Australia in this area over the last 15 years. These projects have created the initial framework for this project. The project researchers are aware of and continually monitor all published work in the areas of electronic messaging for meat export verification and related activities. This information is collated and maintained at: http://www.meatprojects.com .

The GS1 system is a global voluntary standard for the identification of products using standard identifiers and transferring the information about consignments with a standardised electronic message. It is the most widely used supply chain standard throughout the world today with over 2 million member companies operating in 155 countries. GS1 standards are solution agnostic meaning that companies are not locked into having to use a specific solution company provider.

Most of the world's electronic commerce complies with the GS1 standard. The GS1 suite of eMessages are a subset of the international standard UNEDIFACT. ECert is also compliant with UNEDIFACT.

The Australian meat industry has a near 100% capability in utilising the GS1 barcode to identify individual cartons and carcases and the ability to use the Meat Messaging industry portal when consigning product for export markets.

The objective is to use the GS1 barcode and Meat Messaging industry portal as a backup to the traditional shipping mark when that mark is absent.

This AMPC project is the industry adoption stage where the use of the Meat Messaging industry portal is adopted by a large number of processors to ensure that the majority of the export volume to the US is processed within the Meat Messaging industry portal framework.

3.0 Project Objectives

Demonstrate the Meat Messaging industry portal http://meatmessaging.com/ and http://meatmessaging.info/ for the duration of the project, where the portal will facilitate the collection, processing and reporting of carton GS1 barcode and related data to achieve the requirements of the issued DA Meat Notice "Alternate protocol for managing illegible or missing shipping marks for the USA" and the FSIS Notice 41-15 "Shipping marks-Barcodes.PDF".

The process that is used through the project is that exporters have to indicate that they have used the GS1 barcode and meat messaging on the health certificate to show that their consignment has been identified using the GS1 standard and that an electronic message containing the full consignment details has been sent to the consignee. This also means that as a routine the consignor would be scanning cartons/carcases at the point of despatch, using that information to generate the Health Certificate and the separate commercial meat message data, and that the consignee would also be scanning the cartons/carcases in that load on arrival in the US.

Those two pieces of information would be used to verify that the load as sent was the load received. The Meat Messaging industry portal provides that system for the verification of the message back to the consignor, or in the event of a mismatch of information, an error message is sent to the consignee.

There is a standard validation report that can be printed to show the acceptance of the load or the errors. In the event of an error there is an investigation to determine the cause of the error and to institute any possible rectification.

In the event that there is a missing shipping mark on one or more cartons, the bar code and the Meat Messaging industry portal can be used to determine if the carton(s)/Carcase(s) were part of the load covered by the health certificate. If they were part of the certified load, then they would be remarked and highlighted to the FSIS inspector when the load is presented for re-inspection, along with a copy of the verification report. If the unmarked cartons were not part of the original load they would not be remarked. They would be presented to the FSIS inspector with the unmarked cartons highlighted, and a copy of the verification report and any follow-up information resulting from the investigation.

The diagram below shows operational stages for processing an export shipment and how the Meat Messaging industry portal collects, stores and verifies consignments.

Shipping Mark verification Model using Meat Messaging
Issue date: 3rd October 2014
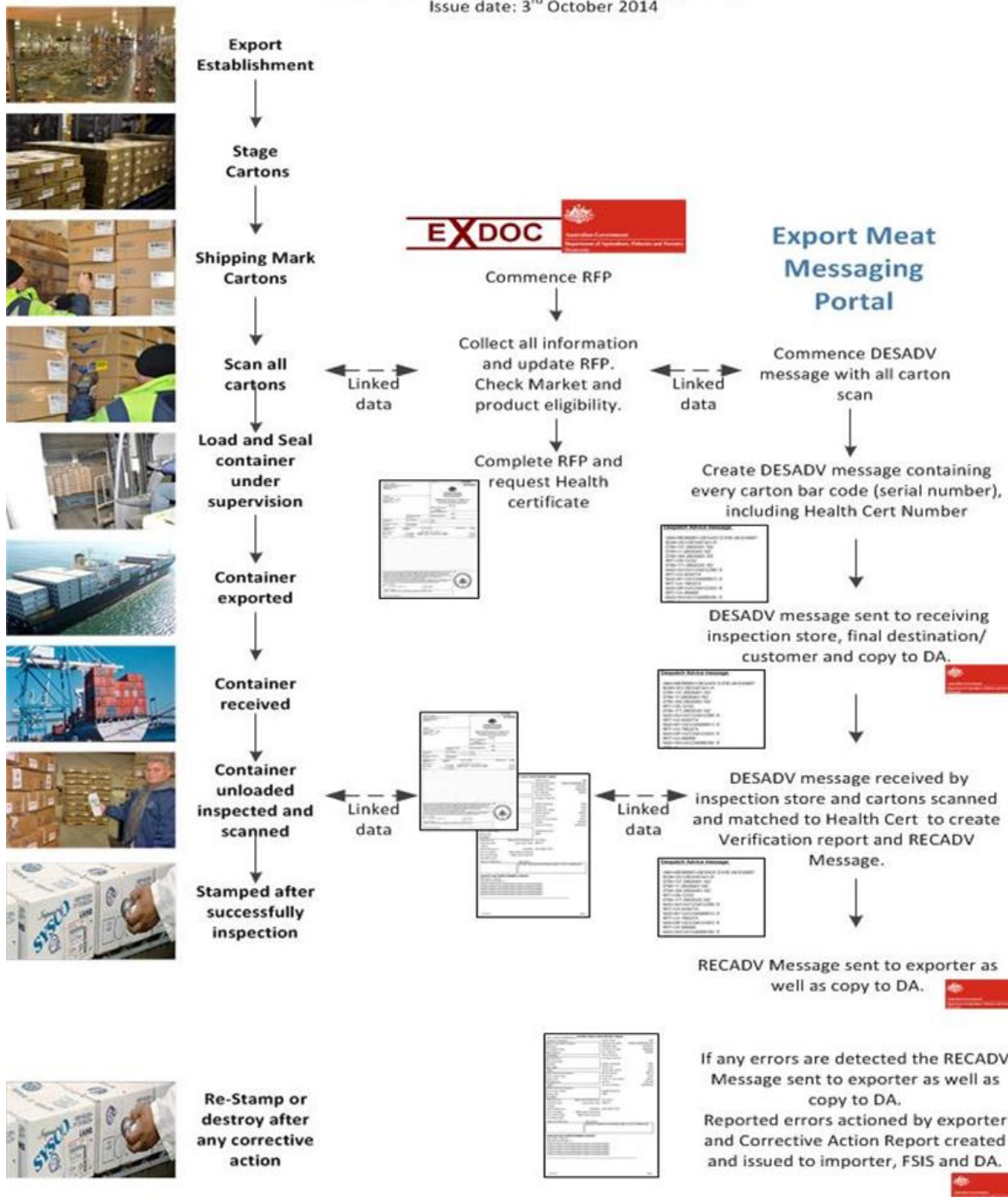
3.1   Milestones

The project comprised 3 milestones as defined below:

	SPECIFIC ACTIVITIES FOR 2015-2016
1	**Stage 1 - Initial project participant trials (4 companies)** Work with a minimum of 4 participants to utilise the Meatmessaging.com portal to facilitate the utilisation of GS1 bar coding for verification of damaged or missing port marks. Milestone report submitted and approved by AMPC.
2	**Stage 2 – Small-scale processors (10 companies.** Engage with a further 10 small-scale processors with limited IT infrastructure to utilise the Meatmessaging.com portal. Milestone report submitted and approved by AMPC.
3	**Stage 3 – DA reporting protocols and audits** Through the Meatmessaging.com portal generate statistical data that can be utilised for preparation of compliance reporting and automated auditing systems. Final report along with the SnapShot submitted and approved by AMPC.

4.0   Project Outcomes

The project has achieved the objectives of providing a working Meat Messaging industry portal for the duration of the project along with the development of proposed industry adoption models. These adoption models where developed through a project steering committee made up of industry representatives.

The Meat Messaging industry portal is accessible at http://www.meatmessaging.com/ (production site) and http://www.meatmessaging.info/ (trial site). There is a large amount of technical documentation available on that site.

The Meat Messaging industry portal includes a QA monitoring process that provide a level of reporting on the measured accuracy of the program participants. This process of QA monitoring is utilised as a validation tool for the endorsement of the updated approved arrangements for the establishments and reporting to government.

4.1   Industry Steering committee

The project direction was governed by an industry steering committee that was made up of industry representatives. This committee provided the linkages to the industry bodies and defined the overall direction of the program. There have been a number of key outcomes from the steering committee, these include:

- That the Meat Messaging industry portal be managed through AUS-MEAT.

- The Meat Messaging industry portal operates on a cost recovery basis that combines an annual license and charge per creation of a message.

- The overall governance be managed through an existing committee that includes industry and government representation that reports to the Australian Meat Industry Language and Standards Committee.

4.2　Industry Training

The industry steer committee agreed that there is a need for ongoing training for industry. This training requirement would be best addressed through MINTRAC. The training would need to be at both a formal level, through inclusion in existing training resources, as well as provided through the MINTRAC network meetings.

There are training requirements for various functions within the export establishments including:

- Carton labelling of bar codes that are GS1 compliant.

- Load out for scanning and ensuring bar code are compliant.

- Export document for utilisation of Meat Messaging industry portal.

- QA for conducting verification and monitoring activities for bar coding and load compliance.

4.3　Export establishment Approval Process

Establishments that wish to use the Meat Messaging industry portal for the purpose of "Alternate protocol for managing illegible or missing shipping marks for the USA" must be approved by the Department of Agriculture and Water Resources through the establishment's Approved Arrangements.

The steps for this approval process are shows below:

- The establishment commences using http://www.meatmessaging.info/ trial Meat Messaging industry portal for all export consignments.

- Once the establishment has consignments being processed through the http://www.meatmessaging.info/ trial Meat Messaging industry portal QA monitoring is commenced to recreate records of message compliance to physical consignments.

- The establishment then updates their Approved Arrangements documentation to include the operational and QA monitoring processes for ustulation of the Meat Messaging industry portal.

- On successful Meat Messaging QA monitoring for a month of consignments the establishment submits for approval to the Department of Agriculture and Water Resources the updated approved arrangements and QA monitoring results.

- On approval by the Department of Agriculture and Water Resources the establishment commences using the http://www.meatmessaging.com/ production Meat Messaging industry portal for all export consignments.

4.4 Three different methods to use the Meat Messaging industry portal

There are three different methods available to establishments to utilise the Meat Messaging industry portal.

These methods are:

1. Manual creation of message with uploading of bar code scan files.

   This method is often quick to implement and provides a highly visible approach to managing Meat Messaging messages.

   The method would be most suitable for low volumes of message and/ or where integration with existing establishment systems is cost or complexity prohibitive.

   Cold stores and importers can easily use the manual method to receipt Meat Messaging messages with little or no training.

2. EANCOM Despatch Advice and EANCOM Receiving Advice messages through email.

   This method is chosen where existing establishment systems currently use EANCOM messages for passing trading data. The Meat Messaging EANCOM DESADV and RECADV messages are very similar to other EANCOM messages and can be readily implemented into an existing EANCOM environment.

   The method would be most suitable for larger organisation where high volumes of consignments occur and/ or where there are intra-company movements.

   The implementation time frame can be long if there is a large amount of internal business rules and/ or data management development required.

3. Web services model through direct calls to either http://www.meatmessaging.com/ (production site) and http://www.meatmessaging.info/ (trial site).

   Web services implementation models are the newest method of moving trading data between different system. They rely on the Internet as the transport method.

   This method is chosen where existing establishment systems currently use web service models for passing trading data.

   The method would be most suitable for larger organisation where high volumes of consignments occur and/ or where there are intra-company movements.

   The implementation time frame can be long if there is a large amount of internal business rules and/ or data management development required.

   Another advantage of the web service implementation model is the flexibility it can provide as well as the availability software development environments and tools.

4.5 Web Services implementation model

The Meat Messaging portal supports a web services model to allow for easy integration with existing establishment systems.

MeatMessaging.com Web Service model

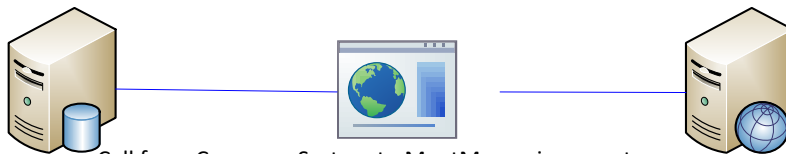**Company System**   **MeatMessaging.com**

New Message

Call from Company System to MeatMessaging.com for new message with:
1. User Code, Company ID, Password and function code.
2. Any Available Data elements.
Response (successful) from MeatMessaging.com with:
1. Message_SSCC
2. All updated/ stored data elements

Update Message

Call from Company System to MeatMessaging.com to update message with:
1. User Code, Company ID, Password and function code.
2. Message_SSCC
3. Data elements to add or update.
Response (successful) from MeatMessaging.com with:
1. Message_SSCC
2. All updated/ stored data elements

Read Message

Call from Company System to MeatMessaging.com to read message with:
1. User Code, Company ID, Password and function code.
2. Message_SSCC.
Response (successful) from MeatMessaging.com with:
1. Message_SSCC
2. All data elements.

4.6 Industry uptake of the Meat Messaging industry portal

As at the completion of the project there were 46 Australian export Establishments and 2 US importers that had registered to use the Meat Messaging industry portal.

These 46 establishments would represent over 80% of the export volume to the US.

The 3 major Australian export organisation are all currently implementing internal system to utilise the Meat Messaging industry portal.

Over the next 6 to 12 months all of these 46 Australian export establishments will have undertaken the necessary internal operational and system enhancements to fully utilise the Meat Messaging industry portal.