



## **Australian Red Meat Industry Technical Fact Sheet - the electronic Meat Transfer Certificate (eMTC)**

### **Executive Summary**

The Electronic Meat Transfer Certificate (eMTC) system is based on industry trials that involved the development of the EANCOM Despatch Advice message for the export of carton product matching the health certificates MLA trial completed in 2003.

The EANCOM Despatch Advice message implementation guidelines for export product were expanded to take into account the specific requirements of Meat Transfer Certificates. This included the requirements for an EANCOM Receiving Advice message for the proof of delivery (Attestation of Receiving Official).

The requirement for efficiently sending commercial information electronically between businesses was also considered and included in the eMTC system.

The eMTC system is based on the use of the GS1 system and specifically GS1 EANCOM messaging standards. There is no proprietary hardware or software. Any system vendor can develop solutions that are able to use the eMTC system. The eMTC system is a means to communicate between trading partners using common standards.

The need for security has been addressed along with the regulatory requirements outlined in the various State and Commonwealth acts. At the simplest level creating an eMTC electronic message is controlled by password functionally on the software to control the creation of the message.

This document outlines the technical elements of the eMTC system, security issues to be considered, methods to send and receive messages and the regulatory (Meat Export Orders, acts and codes of conduct) considerations.

The need to develop a system that meets both the commercial requirements of industry and the regulatory requirement for transparency and audit ability has been the focus of this document.

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Message Implementation Guidelines

Sample MTC ' look a like"

Sample Message

## IMPORTANT NOTICE

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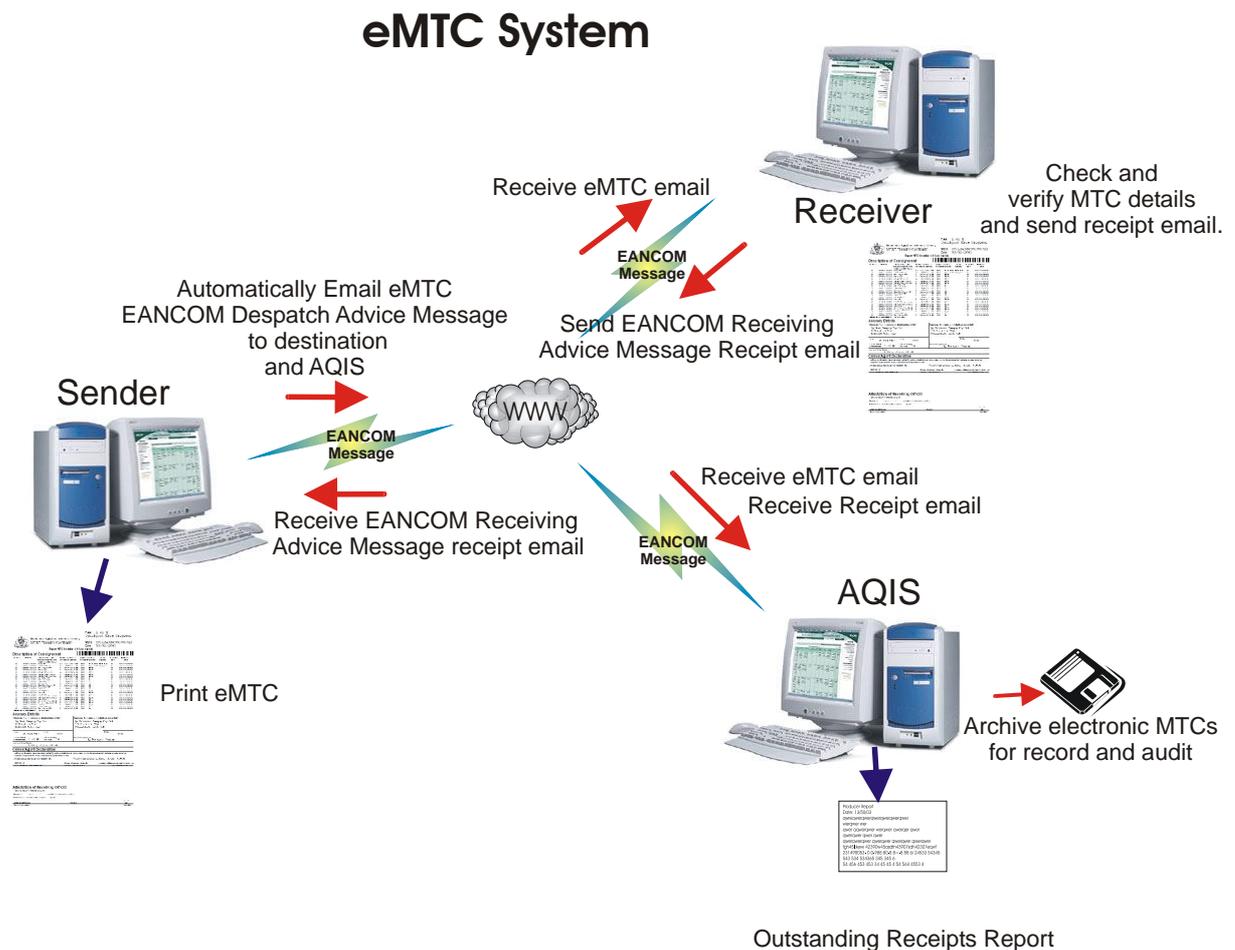
## Electronic Messaging Systems Details

The Electronic Meat Transfer Certificate (eMTC) system works by recording the required MTC information by the consignor (sender). The information is then sent electronically to both the consignee, AQIS central recording systems and where relevant to the nominated AQIS on-plant email address. A “look a like” MTC form can be printed to accompany the consignment and/or for record keeping.

When the consignee (receiver) receives the physical shipment the consignee checks it against the eMTC and if all is correct generates a receipt message. This message is automatically emailed back to the consignor (sender) and the AQIS officer.

The eMTC system uses the EANCOM Despatch Advice message for the consignment details and the EANCOM Receiving Advice message for the proof of delivery.

The diagram below shows how the eMTC system operates.



To clearly distinguish between a GS1 EANCOM Despatch Advice message for non-MTC purposes and an EANCOM Despatch Advice message for eMTC purposes, there is an element of the message that indicates that it is an eMTC.

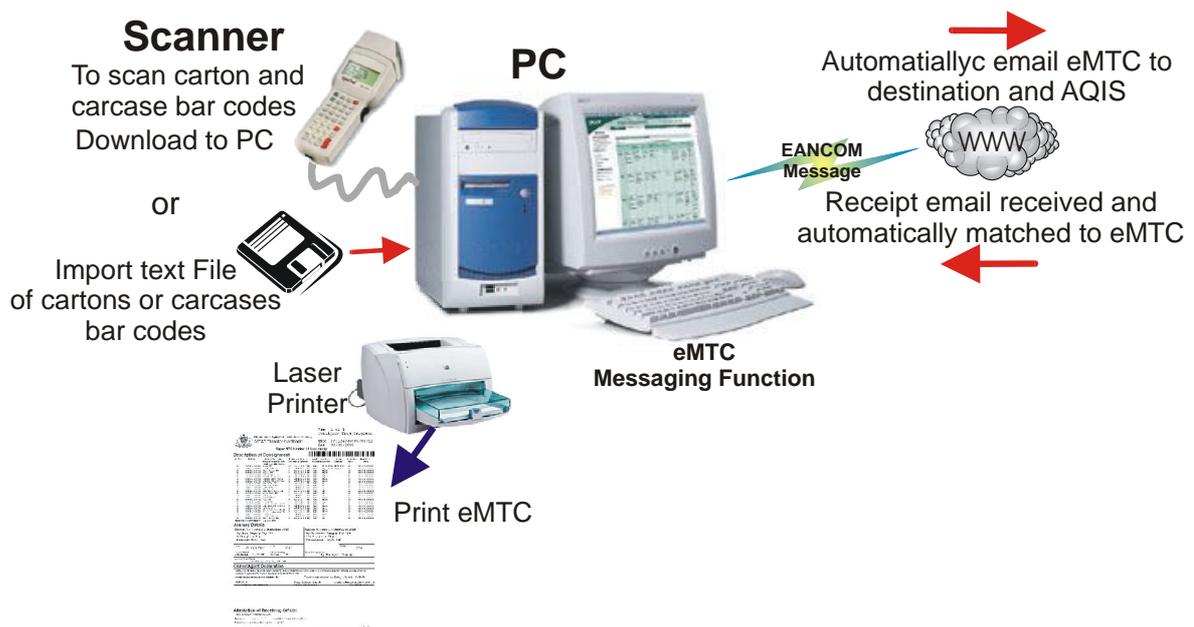
For security purposes the function to create an eMTC specific GS1 EANCOM Despatch Advice is password protected.

### **The Consigner (Sender)**

The consigner (sender) can generate an eMTC (GS1 EANCOM Despatch Advice) message by a number of different methods, these are:

1. The consigner's system (through password control) creates an EANCOM Despatch Advice message compliant to the Message Implementation Guidelines for the Despatch Advice for Carton and Carcase product with the eMTC elements. The message is then sent via email to the required consignee and nominated AQIS recipient.
2. Scanning the GS1 bar codes of a consignment of cartons or carcasses and creating a file of the carton details. Loading that file into the eMTC message creator tool, manually enter the MTC requirements and with password control create an EANCOM message with eMTC elements.
3. Loading an existing file of the carton or carcase GS1 bar codes and MTC requirements into the eMTC message creator tool and with password control create an EANCOM message with eMTC elements.
4. Manually enter the consignment MTC details (but not the individual carton or carcase bar codes) into the eMTC messaging creator tool and with password control create EANCOM message with eMTC elements.

## **Creating an eMTC**



The consignor's plant system or the eMTC message creator tool can print a hard copy MTC "look at like" where required for commercial purposes and/ or for record purposes. This might include sending a copy with the consignment as a despatch record. This may also be a requirement of specific markets e.g. EU where the AQIS inspector or other authorised personnel must sign the document.

The consignor's plant system or eMTC message creator tool can then send the EANCOM message by email to the intended consignee and the nominated AQIS recipient

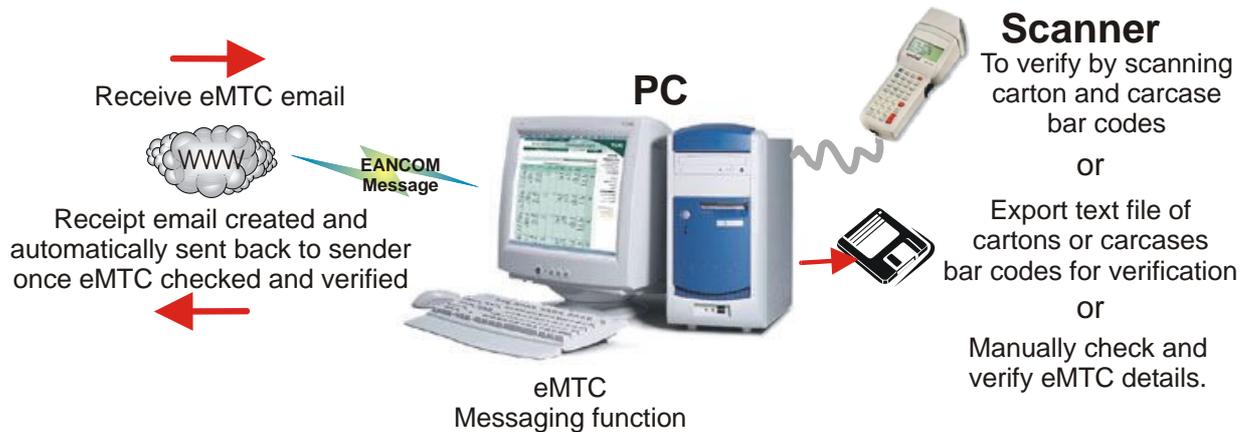
The eMTC message creator tool also checks emails that have been received for consignments that have been accepted by the consignee. These are matched and checked against the EANCOM messages that have been sent. Any consignments that do not have a receipt file are shown on an Outstanding Receipt Report.

### **The Consignee (receiver)**

The consignee (receiver) receives emailed GS1 EANCOM messages for each consignment. The emails have the GS1 EANCOM message as an attachment. The eMTC message creator tool takes the email attached and creates a record of the consignment. A series of reports can be printed showing the consignment details. These details can be matched to the physical consignment. This matching process can be done in a number of ways:

1. The consignees system receives a GS1 EANCOM Despatch Advice message compliant to the Message Implementation Guidelines for the Despatch Advice for Carton and Carcase product. The message is processed and necessary report. A GS1 EANCOM Receiving Advice receipt message is created and then sent via email to the required consignor and nominated AQIS recipient.
2. Scanning the GS1 bar codes of a consignment of cartons or carcasses and creating a file of the carton details. Loading that file into the eMTC message creator tool, this then matches the carton/ carcase details to a specific GS1 EANCOM message. Any errors are shown on a series of reports.
3. Loading a file of the carton or carcase GS1 bar codes created by another system into the eMTC message creator tool this then matches the carton/ carcase details to a specific GS1 EANCOM message. Any errors are shown on a series of reports.
4. Manually enter the consignment MTC details (but not the individual carton or carcase bar codes) into the eMTC messaging creator this then matches the carton/ carcase details to a specific GS1 EANCOM message. Any errors are shown on a series of reports.

# Receiving an eMTC



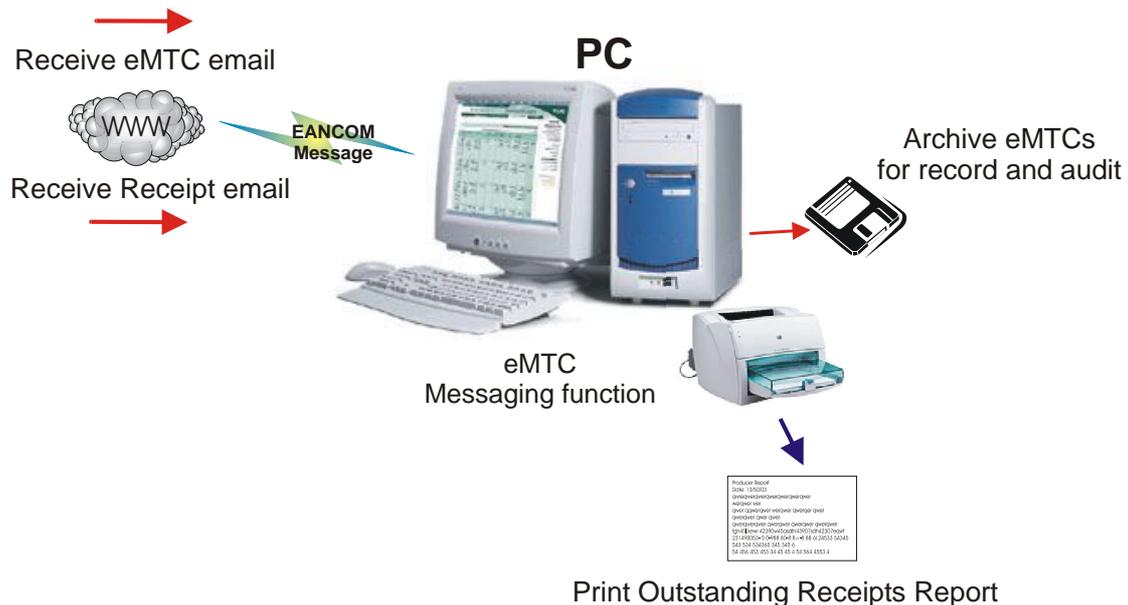
Once a consignment has been checked the eMTC message creator tool creates through password control a GS1 EANCOM Receiving Advice message. This message can then be sent by automatic email to both the consignor and the nominated AQIS recipient.

Any errors identified between the GS1 EANCOM message and the physical consignment details are identified and reports created showing the errors. Action can be taken on the errors identified.

## The AQIS Record

The nominated AQIS recipient of the eMTC messages about consignments receives the messages and the eMTC message creation tool matches the messages, creates a record of the dates the messages were received and generates reports on messages that do not have any corresponding receipt messages. All of these functions are under password control.

## AQIS - eMTC Reconciliation



A “look a like” MTC can be printed for each consignment and held as hard copy by the AQIS officer.

The records of matched messages are able to be filed electronically and held for the statutory period.

The program used for the eMTC by AQIS is an executable file that uses a number of local files held in the same directory as the executable. The executable is installed on the computer and creates a folder (C:\Program Files\eMTC) and a number of subfolders. There is a shortcut added to the desktop and to the “start programs”.

The GS1 EANCOM Despatch Advice message and the Receiving Advice message are received by email as text attachments. The text attachments have the file extension of .DSV for GS1 EANCOM Despatch Advice Messages and .REC or RCV for GS1 EANCOM Receipt Advice Messages. The program recognizes the files by the extension. When the user clicks on the attachment in the email the program processes the message. The Look-alike eMTC is displayed and a PDF created automatically.

A database is created of the Despatch Advice messages and the Receiving Advice messages. A series of reports can be printed and/ or emailed as PDF that show the status of the messages.

## **The Message Details**

The messages used for the purpose of electronic Meat Transfer Certificates are based on the GS1 EANCOM Despatch Advice message and the Receiving Advice message.

The specific details that describe the syntax of the message are contained in the Message. (Refer to the Appendix for the EANCOM Despatch Advice Message Implementation Guidelines and the EANCOM Receiving Advice Message Implementation Guidelines)

### **Despatch Advice Message**

The GS1 EANCOM Despatch Advice message (DESADV) contains all the relevant consignment information at a shipment level, both commercial information and regulatory information. Optionally the GS1 bar code details for each carton or carcase can be included.

There is also a specific element to indicate that this GS1 EANCOM Despatch Advice message is an eMTC message. Other message types include eDEC (for livestock), non-Export meat despatch advice as well other commercial uses.

### **Receipt**

The GS1 EANCOM Receiving Advice message (RECADV) contains information about the corresponding GS1 EANCOM Despatch Advice message as well as the necessary information for the MTC requirements.

The GS1 EANCOM Receiving Advice message is used to report on status of the consignment on receipt at the consignee. Any nominally or errors can be reported.

### **System Vendor Built Systems**

The System Vendor solutions must print a paper MTC in the format that is approved AQIS.

Any system printed paper MTCs must have in 8 point Arial Font on the bottom right hand corner the System Vendor code and version issue date. This is necessary for compliance and audit requirements. The System Vendor Code is a 3 digit number prefixed by the letters "SVC" and issued by AQIS on approval of the System Vendor system. The issue date code is based on the yymmdd for the version of the System Vendor system.

An example would be SVC101050515.

## **UN/EDIFACT Standards and GS1 EANCOM Standards**

UN/EDIFACT is used worldwide and is the most widely-used standard for Electronic Data Interchange. EDIFACT is administered by the United Nations Economic Commission for Europe (UN/ECE [www.unece.org](http://www.unece.org)), and is regularly updated to take account of new business message types and changes in trade regulations. The abbreviation UN/EDIFACT stands for United Nations Electronic Data Interchange for Administration, Commerce and Transport.

EDIFACT effectively provides rules in the form of directories and guidelines to allow the standardisation of data being exchanged between organisations, and covers over 100 different message types.

Recommended within the framework of the United Nations, the rules are approved and published by the UN/CEFACT (United Nations Centre for Trade Facilitation and Electronic business) in the United Nations Trade Data Interchange Directory (UNTDID) and are maintained under agreed procedures.

GS1 EANCOM is fully based on the UN/EDIFACT (United Nations Electronic Data Interchange for Administration, Commerce and Transport), which comprises of a set of internationally agreed standards, directories and guidelines for the electronic interchange of data.

GS1 EANCOM is a detailed implementation guideline of the UN/EDIFACT standard messages. UN/EDIFACT messages are often complex and users may easily misunderstand the principles and original intentions of message's designers. GS1 EANCOM guideline are a subset of UN/EDIFACT messages, providing clear definitions, explanations and examples which allow trading partners to exchange commercial documents in a simple, accurate and cost effective manner.

GS1 EANCOM also incorporates into the electronic messages, the GS1 standards of physical identification of trade items, logistics units and the Global Location Numbers identifying the trading partners. It allows the physical flow of goods to integrate with related information sent by electronic means.

Originally designed primarily for the retail sector, GS1 EANCOM has grown to become the most widely used UN/EDIFACT subset, and is now found in a variety of other industries including health, manufacturing, food, building supplies, transport, electronics, and publishing.

## **Industry Developed Software Tools**

Standalone PC software tools have been developed for the eMTC by MLA. These free tools create the required message, print forms and send the message by email. There is also a viewer/ receipt tool.

These tools can be readily downloaded from the MLA Web site and used to understand the way the messages are created and the forms are printed.

These tools should be used as a model and a reference when System Vendors develop their own respective software/ system products.

The industry tools have limited functionality and are intended as standalone tool suitable for those users that do not have an integrated system.

## **Serial Number**

The serial number as printed on the paper MTC and in the electronic message is an SSCC (Serial Shipping Container Code).

The SSCC ensures that the logistic unit (the consignment on the MTC) is identified with a number that is unique worldwide.

Example of an SSCC = (00) 993123456789457689

The 18 digits are made up of (Refer to the GS1 standards for more details on SSCCs):

00 - AI for SSCC

9 – Extension Digit (this can be 1 to 9 depending on the shipment level or number usage)

93 – Country (Australia)

1234567 – Company number allocated by GS1 Australia.

8945768 – Serial number allocated by company

9 – Calculated check digit.

## **Company Registration with GS1 Australia**

For the eMTC system to work correctly through the whole supply chain and logistic channels requires each organisation that creates and uses eMTC to have a registration with GS1 Australia (Formally EAN Australia). GS1 Australia is the organisation responsible for issuing globally unique company numbers used for logistics management. GS1 Australia is part of GS1 International which is the global organisation responsible for numbering, bar coding and electronic messaging for trade and commerce. These GS1 company numbers are not meat based company numbers, they are issued for all trade and commerce usage. To obtain more information and to apply for a company registration go to: [http://www.gs1au.org/\\_home.asp](http://www.gs1au.org/_home.asp)

## **Export, Multiple Country Eligibility and Domestic Product**

The methods and messaging rules for eMTC have been developed to meet the requirements for product in a single consignment to have multiple country export eligibility statements, including domestic product on board. This is achieved through the ability to have an “Eligibility Statement” for each product listed on the eMTC. This is different to a normal pre-printed paper MTCs

which only has the eligibility statement for the whole shipment. When an eligibility statement is used for each product of the consignment the individual products can be clearly identified and segregated by use of their respective individual GS1 compliant bar codes.

Tier 1 (which is a term used by AQIS to define a specific group of countries) product is identified with the special use country code of AA. This product can access the current 22 Tier 1 markets of which 3 countries currently also require their own listing.

Product suitable for countries that accept basic requirements is defined with the special use country code of ZZ.

Product that has been Domesticated, must have a defaced Official Mark (Australian Inspected) applied.

Where product has a final country destination determined at the time of the creation of the eMTC, the final country destination can be used as the eligibility statement. The final country or trading block can be identified by the 2 digit ISO country code or special use codes

Examples include:

EU,SA,US,MY,JP,CN,KR,ZZ - Means each of the listed countries and countries that accept basic requirements.

EU,ZZ – Means Europe and countries that accept basic requirements

US,ZZ – Means US and countries that accept basic requirements

AU – Means domestic only (either domesticated product or product that has never been export eligible)

ZZ – Means export to countries that accept basic requirements.

AA – Means export to countries that accept Tier 1 requirements.

## **Transmitting eMTC Messages**

There are two message used for the eMTC methods. These are the GS1 EANCOM Despatch Advice Message (containing the consignment information) and the GS1 EANCOM Receipt Message (Acknowledging the physical receipt of the consignment in good condition).

Both messages are sent by text file attachment by email.

There can only be 1 message per email.

The text attachments must have the file extension of .DSV for GS1 EANCOM Despatch Advice Messages and .REC or RCV for GS1 EANCOM Receipt Advice Messages.

The attachment file name of the message is to be the SSCC number.

The subject line must be the file name.

e.g. 193310792350001532.DSV or 193310792350001532.RCV for an eMTC.

The email “to” addresses and “from” address must be within correct segments of the GS1 EANCOM message.

The fixed “to” email addresses required for regulatory purposes, are:

1. aqismeattransfers@aqis.gov.au
2. AQIS email address for the listed meat establishment that created the message. Where an AQIS email exists for the listed meat establishment, the email address will be structured as est.9999@aqis.gov.au, where 9999 is the establishment number.

## **Printing of Documents**

Printed eMTCs must have “Original” printed on the top right hand corner and signed at the time of creation. Any additional printed electronic Meat Transfer Certificates or eMTCs that are printed from a message must have “Copy” printed on the top right hand corner. This approach is necessary to distinguish originals from reprints.

An eMTC message resent as a replacement or duplicate, the printed eMTC must have “Replacement” or “Duplicate” printed on the top right hand corner of each page. This is controlled through the BGM segment of the GS1 EANCOM messages.

On the top right hand corner of each printed page “page x of y” must be shown. Where “x” is the page number and “y” is the total number of pages. This is necessary to ensure that no pages are lost.

Export eMTCs must be printed in the approved format. Domestic only eMTCs must not include the word Meat Transfer Certificate and the Coat of Arms or reference to Department of Agriculture, Fisheries and Forestry.

## **Printed Copies of eMTCs**

When printing is required (e.g. EU load-outs)

3 copies must be able to be printed, these are marked:

Consigned To Copy (Receiver)

Consigned From Copy (Sender)

AQIS Copy (for AQIS)

All original copies must be signed when printed.

Where product is transported from one establishment to another copies must be printed, signed and travel with the product as specified by AQIS requirements.

## **EU Requirements**

When product is non EU product the eMTC is to be printed without the section related to the EU inspection requirements. A blank gap is to appear in that location.

The default for the “Is this meat EU-eligible” is No.

## **Receipt of the eMTC message**

When product is physically received with a printed eMTC, an electronic message should have been received prior to the physical shipment arriving. When the message is matched to the physical shipment a receipt message must be created and sent back. A copy of the created receipt can be printed and held on file if required.

If an eMTCs message has not been received before the physical shipment, the sending establishment must be contacted to resolve the issue.

## **Security Requirements**

There are simple security requirements that must be included in eMTCs solutions that ensure authenticity of the message.

Below is the method for the security coding:

1. There must be a login method that identifies the name of the Authorised Company Official. One of the email addresses in the message must be the email address of this person (or company email address).
2. The Authorised Company Representative must have a Security Key. This key (password) must be 8 characters long, including both number and letters.
3. The Authorised Company Representative must enter their Key to create an eMTC, this will need to be password masked. If the key entered does not match the stored key for the Authorised Company Representative, a message box must be displayed stating the key is incorrect. Once the correct key is entered a unique digital signature is created using the following formula:

If the Key is a345tz11 then apply:

Letters in the Key are replaced by number where a to z = 1 to 26. The string is then converted to a number.

1345202611 (Number Key)

Multiply the Number key by the last 8 digits of the SSCC number

$1345202611 \times 56456789 = 75945819971476079$

Take the last 8 digits of this number

71476079

This is the digital signature.

The digital signature is sent as part of the message and printed on the eMTCs printed certificates. The key is not sent nor shown anywhere, except in the admin user.

4. The digital signature and the name of the Authorised Company Official are sent as the Security Code and Key in the EANCOR Despatch Advice message for the Shipper or "Consigned From" section. Where the digital signature is the Security code and the Authorised Company Official name is the key. An example would be:

CTA+TR+71476079:JOHN SMITH'

5. The Authorised Company Official name and digital signature (Security Code) must be printed on the eMTC printed certificates.

### ***Amendment Register***

Version	Amendments	Issue date
1	Initial Issue (after draft circulation and comment)	10 <sup>th</sup> October 2003
2	Minor changes for terminology and the EU printing of hard copies.	25 <sup>th</sup> October 2003
3	Update to reflect changes from project outcomes	5 <sup>th</sup> October 2006
4	Update after review	1 <sup>st</sup> November 2006
5	Update for AQIS program usage	1 <sup>st</sup> February 2007

# **Appendix**

**1. Message Implementation Guides**

**2. Sample MTC “look a like”**

**3. Sample Message - Text - Despatch Advice Message and Receiving Message**