ATTACHMENT II–16

PROCEDURES FOR TRANSMITTING AND COLLECTING METEOROLOGICAL BULLETINS ON THE INTERNET

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1. USE OF ELECTRONIC MAIL (E-MAIL)

1.1 Background

Electronic mail (e-mail) can be a very simple and cost effective way to exchange Meteorological Bulletins, in particular for collecting meteorological data bulletins. It should be noted however that e-mail is not an end-to-end service and there is no guarantee of the timely delivery of messages. E-mail is also inherently insecure.

The following guidelines describe practices for sending both data collection bulletins and binary Meteorological Bulletins via e-mail while minimizing security issues.

Centres implementing this procedure should ensure that meteorological bulletins to be ingested in the GTS follow the standard GTS procedures and formats.

1.2 Format of messages for sending Meteorological Bulletins via electronic mail on the Internet:

(a) E-mail messages should use only International Alphabet No. 5. It is recommended that the Meteorological Bulletin should be contained in the main body of the e-mail message; as an option it may be contained in an attachment.

(b) **Note**: ‘attachments' are a part of an e-mail message that are separate from the main body of the mail message, and that their display/storage is normally contingent upon some further action of the user.

(c) It is recommended that only a single bulletin should be sent in each e-mail message. However, receiving centres may agree to accept multiple Meteorological Bulletins per e-mail message to a maximum of 5.

(d) The Meteorological Bulletin(s) can be sent either as text in the main body of the e-mail message, or in the attachment(s) of the e-mail message, but not in both. Binary data can only be sent in the attachment(s).

(e) The main body of an e-mail message should follow the following format:

<Meteorological Bulletin>

NNNN

where,

<Meteorological Bulletin> is a standard Meteorological Bulletin starting with the abbreviated header line, such as

TTAAii CCCC YYGGgg [BBB]

message text

A termination string NNNN is required after every Meteorological Bulletin.

No other information should be included in the main body of the e-mail message unless agreed by the receiving centre. For example, automatic forward and reply informational text should not be allowed in the body of the message.

Note: The receiving centre shall validate the AHL before processing the Meteorological Bulletin.

(f) The total size of all attachments should not exceed 2 MBytes or as specified in a bilateral agreement. Attachments should be coded in Base64 (MIME standard).

(g) The e-mail header "Subject:" field either:

(i) May contain the AHL if the e-mail message contains a single Meteorological Bulletin;

(ii) *Or* a pre-defined <security string>.

1.3 Security considerations:

1.3.1 E-mail is inherently insecure. To minimize security issues, all e-mail input should be pre-authorized by means of a list of valid source e-mail addresses at the receiving site. The receiving centre should only process GTS-related e-mails from the pre-defined list of e-mail addresses. That is, the receiving centre should validate the e-mail message header "From:" field. To avoid problems with e-mail messages containing manipulated "From"-fields, centres may optionally agree to implement <security strings> in the message. If <security strings> are agreed on, and GTS message(s) are included in attachment(s), then the main body of the e-mail message can only contain the <security string>. The receiving centre should validate the "Subject"-field for the AHL or the pre-agreed string.

1.3.2 No automatic acknowledgements or replies should be sent from the receiving centres.

1.3.3 It is recommended to use specific mail accounts for GTS data transfer with bilaterally agreed names and not to receive GTS data in personal mailboxes.

1.3.4 A problem with some mail exchanger applications is that by default they operate as an "open-relay". An open-relay occurs, for example, if site A.COM accepts mail from B.NET destined for C.ORG. This means that spammers can use A.COM's mail system to distribute their e-mails. Centres should ensure that they do not operate as an open-relay.

Example

From: NMCAAAAA <NMCAAAAA@meteo.fr>
To: RTHcollector <RTHcollector@meteo.zz>
Subject: SMFW01 NWBB 270000

Information which is part of the Email header

SMFW01 NWBB 270000
AAXX 27004
91753 32481 51008 10331 20259 40078 58017 83202
333 20263 59018 83816 84078=
91754 01581 51812 10287 20245 40092 58017 60034 70182 85200
333 20256 59016 60017 85820=
NNNN

Text in the main body of the Email message or in the attachment

2. USE OF WEB DATA INGEST

2.1 Background:

This procedure is intended for use as a simple data collection mechanism by an NMC. It may also be used by an RTH or NMC to ingest meteorological bulletins in the event of failure of a primary access method. This method is expected to have better security, timeliness and reliability than E-mail ingest.

2.2 Preliminary Requirements:

The data provider that intends to send data to an RTH or NMC that offers the Web Based Ingest service shall first establish an account with that centre. An authentication mechanism (such as a USERID and PASSWORD combination) shall be established for security purposes. Validating the sending IP address is impractical in most cases due to the routine translating of addresses and the nature of the possible backup scenarios.

2.3 Input:

The user shall input all mandatory fields in the Abbreviated header and input the body of the message. For mandatory fields, drop-down-lists may be provided to reduce the possibility of errors. The body of the message shall conform to WMO standards.

2.4 Validation:

The Web Bulletin Input Interface should provide a fill-in-the-blank area for a single GTS abbreviated heading line. It should confirm that:

(a) All mandatory fields have been filled with valid information.

(b) All optional fields either have valid information or are left blank.

(c) The CCCC field is valid for the authenticated user of the sending centre.

(d) There will be only one bulletin created per Web page entry.

(e) The resulting abbreviated heading line follows all appropriate WMO standards, such as proper alphabet code and proper termination sequences.

2.5 Content Verification:

Before the completed message is ingested, the Web Bulletin Input Interface should display the entire message to the user and ask for confirmation that message is correct. The creator of the message should be given an opportunity to change the message before submission.

2.6 Security:

For additional security, the use of HTTPS is recommended.

Examples of implemented Web Bulletin Input Pages:

RTH Washington with URL: http://www.nws.noaa.gov/tg/bullguid.html