



JOINT ADVISORY GROUP ON DATA MANAGEMENT (JAGDM)

October 23 & 24, 2018 – NEAFC Secretariat – London, United Kingdom

FINAL REPORT

1. Opening of the meeting

The Chair, Leifur Magnusson (Iceland) opened the meeting and welcomed the participants to this meeting with focus on NEAFC ERS issues and recommendations to the NEAFC Annual Meeting in November 2018.

The following Contracting Parties were present: Canada, Denmark in respect of Faroes and Greenland, the European Union, Iceland and Norway. Canada and Greenland attended the meeting virtually via Webex and missed some parts due to time differences.

The NAFO and NEAFC Secretariats were present.

The list of participants is annexed to this report as JAGDM 2018-01-02.

2. Appointment of the rapporteur

The NEAFC Secretariat was appointed as rapporteur

3. Discussion and adoption of the Agenda

The Agenda was adopted without any additions

4. NEAFC issues

a. Technical implications of the implementation of recommendations

b. Issues Raised by PECMAC/ERS

i. Finalizing the proposed Business Continuity Plan for NEAFC for presentation to the Annual meeting

At the March meeting of JAGDM the group had worked on the wording of a Business Continuity plan for NEAFC ERS and had agreed that this should be part of the existing ISMS rather than part of the Scheme of Control and Enforcement. This advice had been discussed in both NEAFC ERS and PECMAC earlier in the year and there was agreement that this should be forwarded by JAGDM to NEAFC Annual Meeting for Decision in November 2018. The text of the plan was agreed as shown in JAGDM 2018-02-03 rev2 . The document 2018-02-04 from the Secretariat was also briefly discussed. This documented noted minor editorial changes which would be required to the structure and titles of ISMS to add the section on Business Continuity within the FLUX network.

Action: JAGDM agreed that the Business Continuity plan in paper per 03 rev2 will be proposed to the Annual meeting and that the Secretariat can make the editorial changes to the ISMS as noted in paper 04.



ii. Most effective ways to generate an RA trip identifier

NEAFC PECMAC/ AHWG ERS had forwarded a request to JAGDM for advice on ways to format an RA Trip Identifier for the ERS. This identifier has been proposed as an optional element in the new system. There were different views among the participants. The discussion was based on 2018-02-08, a paper from the Secretariat which was also discussed in AHWG ERS. The Secretariat want this additional identifier included as it is the most straightforward way to group activities within the Regulatory Area and could help clarify the intention of Masters in 'edge case' activities or when error occur. Contracting Parties are less keen on including this identifier as it would need to be distinguished from their own domestic trip identifiers (which most but not all CPs use) and this would create an additional requirement for FMC systems, which CPs believe outweigh the benefits, as this identifier could be accurately created in the receiving system in most cases.

Advice:

While all participants acknowledge the usefulness of having this identifier for the secretariat, participants recognise that some additional complexity is inevitably added.

The group proposed that this data should be included as optional information on the basis that it would be more costly to include it at a later date if this should be necessary.

Format: "NEAFC-[IRCS]-[RATRIPID]"

where RATRIPID = [A-Z0-9]{1,20} - A unique alphanumeric string, of between one and twenty characters.

Further advice of the group was to record this expression, together with other IDs, in dedicated code lists in the Master Data Register.

Additionally to the above advice the group also noted that the system should be able to accurately handle corrections, including FMC corrections (for delayed or manually updated reports) which may arrive outside of time sequence.

JAGDM also noted that there were open questions for the business rules associated with the identification of reports relating to grouping activities in the RA into a time sequence. What is the status/seriousness of COE and CAT out of sequence? Should it be that the FMC doesn't forward the CAT until you have prior notification, (which will be in wrong sequence by date/time)? If the time limits are not checked, how will the system identify/respond to non-compliance with time limits? Currently there are no business rules in the system which relate to sequence and time of messages, even though these are specified in proposed Articles.

It was also noted that there were still a number of outstanding questions related to the Implementation Document in addition to the missing business rules mentioned above.



Action: Forward above advice to PECMAC Chair, and revisit outstanding issues at the next meeting.

iii. Advice on identification of duplicates as raised in AHWG ERS 2018-04-10
Experience of Norway as described in paper 2018-02-05 suggests it is necessary, to have duplicate checking in the new system, along the lines of what exists in the current Scheme. This checking would exclude the main identifiers and look at the actual content of the reports.

Hash values may be a possible solution. This approach sounds simple but it is maybe more complicated than at first look, as there would need to be a common position on values to be hashed, and not all values would be included. EU suggests adding business rules which check for duplicates instead.

While it is true that Hash sums may not cover all eventualities it may be a quick solution for the cases in which the FMC is sending duplicates as a new message. Some CPs think this may be an example of an '80 / 20 rule' in that the quick solution (exclude timestamps and identifiers and hash the rest) would in fact solve the majority of issues, even though it was not sophisticated enough to cover every possible eventuality, and as such would be worth exploring.

Further action would be to make a list of the reasons we need duplicate checking for. Also to define what is in the hash value, where it will be applied and define specific business rules for checking these hashes. It was noted that the hash also needs to check if the identifier and content are repeated. This is a different case of duplication to the content being repeated with a different identifier). Any checking would have to ensure that duplicate checking was only run on original messages. For any other purposes (ic. corrections), this checking would be by-passed.

A fuller solution would consist of a check equivalent to what is described in the current scheme (Annex IX D 2c), but align it with the terminology used in the newly proposed annex IVa and the Implementation document. This would require a mapping exercise of all fields to be considered as part of duplicate contents check. Previously, in EU same validation results had to be returned for duplicates (anything with the same identifier) – but now, based on experience (too difficult), every incoming report is re-validated. Internally within EU reports are identified as duplicate only if the identifier is the same, content can be different and will be ignored. EU indicated that implementation in NEAFC context doesn't necessarily have to be identical and those additional rules could apply in NEAFC only.

Associated to the need to check for duplicated content is the possibility to temporarily block 'friendly but rogue' nodes. i.e. friendly systems which for some reason start to send so many duplicates that the availability of the receiving system is compromised. This was part of the Norwegian experience which led to the paper 2018-02-05.

Need to decide some consequences for duplication – is this a warning generated or is it a blocking issue?



If full duplicate checking is implemented based on a detailed mapping then the level of the duplication should be returned to the sender?

It was agreed that any Advice on this issue should reflect:

Purpose – availability of system and integrity of data

Method – hash values for appropriate fields, (Identify appropriate fields) or more detailed mapping and element by element check (fuller solution but much more work)

Consequence (error or warning) – need to be documented

The group agreed that there is not going to be a quick solution for this year, however the issues of duplication needs to be addressed in the new system as quickly as possible.

Action: It was agreed to discuss the issue of duplication again at next meeting having done some preparatory work. Greater experience through testing, we will have some greater idea of whether hash values would be sufficient to solve the problem or if the fuller solution is necessary.

- iv. Examine business validation within the new system and lessons already learned through experience in EU

The delegate from EU described the testing procedure internally within EU.

There are 3 phases of testing in EU: However they don't need to be tackled in number sequence (i.e. 1-2-3).

Phase 1: Commission is sending messages with known errors to candidates (testers). Testers have to find all the errors. Valid messages should not be rejected.

Phase 2: Receiving system sends messages to Commission which has reference implementation of business rules. These messages are not predefined, but must be made by the senders according to relevant scenarios. (no blocking errors encountered in successful tests).

Phase 3: Member States testing between themselves. Tickets opened for Commission only if there is some question of interpretation of the business rules.

EU explained that a number of MS, together with European Commission, have developed the Flux Test Framework (short FTF). It contains hundreds of test cases, covering every rule in section 8 of Implementation Document. EU Member States are advised to run these FTF test cases before engaging in phase 1 testing. If this has been done then normally the following phases will go smoother as most errors will have been detected prior to phase 1. The product has been shared with the FOCUS Community and is open source.

EU demonstrated the testing suite they have developed for business and transport testing internally. Many of the rules will be applicable to the new system in NEAFC as well. This will make the task of testing business rules for the NEAFC system much easier.



There was some discussion of specific technologies used internally in EU System, specifically Docker and JMS. The group learned that there were Docker images available for the VMS system, but that images were not generally available for ERS and business rules modules on a standalone basis. EU noted that they had experienced performance issues with JMS. Alternatives are being explored (REST, RMI) and system refactoring is being applied step by step. The main lesson learned is to limit the number of independent modules, especially where there are too many interdependencies. Tests have shown this approach improves overall system performance and stability.

EU also noted that the approach of increasing the TODT in the VMS system to 24 hours, as was done for NEAFC VMS pilot, which happened in Summer 2018, is not a good idea as this potentially compromises system availability and performance. This is understood within the group, and it is acknowledged that there is some work to do to agree a final VMS implementation for NEAFC which covers the optimal system parametrisation for all parties and data flows and ensures all relevant data elements are reported.

Day 2 started with paper 2018-02-06 under this agenda point. This is a discussion paper from EU on date/time of acceptance and transmission which is part of the business rules discussion and related to ERS tasks and is an issue arising from AHWG ERS. It became apparent at the September AHWG ERS meeting that Contracting Parties did not have a common position on the significance and status of these time stamps and the question was sent to JAGDM to identify the most suitable technical solution. PECMAC agreed to send the question of the use of acceptance and/or transmission timestamps to NEAFC as an open issue for the Annual Meeting.

Paper 2018-02-06 gives three options for accommodating two timestamps (acceptance and transmission) and the group agreed that changing the standard and creating a new element would be the best approach should both timestamps be required in reports.

There is also the possibility of introducing a set of characteristics linked to the report (FAReportDocument) which would allow the transmission time to be recorded separately, and would also future proof for a use case in which other time stamps were considered important (e.g. time of recording). Participants saw the value in both changing the standard to include a transmission time and to introducing characteristics, which provides greater flexibility, and agreed that any proposal to the UN should include both possibilities.

The timeframe for adding a new element to the international standard is between six months and 1 year, and so is not considered a problem providing that there is a decision to take this forward at the coming Annual Meeting, and that the addition is subsequently accepted by the UN panel.

EU is somewhat unconvinced regarding the utility of transmission date/time (partly because FLUX is communication between parties not between vessels and FMC) - so it would be for one of the other Contracting Parties to propose the rationale for this change, including to the UN panel. EU is happy to prepare other parts of the submission to change the standard, as they have the experience in working within the UN/CEFACT process.



Action: JAGDM recommends a change of the standard of both a new data element (transmission date/time) and a link to additional characteristics of a report. EU will assist in the preparation of documents for UN process in April 2019 should the advice be accepted by NEAFC at their Annual Meeting in November.

c. [NEAFC Information Security Management System \(ISMS\)](#)

In paper 2018-02-07 the Secretariat gave an update on progress on reviewing and updating the ISMS, including the results of a Risk Assessment undertaken during the Summer.

- i. Upgrade to ISO 27001:2013 version (ISMS article 4 last paragraph)
- ii. Risk management (ISMS article 3) status of the work

The draft proposal in Paper 2018-02-09 to include the system classification and risk assessment template was looked at under this agenda point. This template analysed and then used as part of the assessment of the Business Continuity plan for the FLUX network, which was worked on at the first JAGDM meeting of 2018.

Action: It was agreed that document 2018-02-09 should be proposed to NEAFC for formal inclusion in the ISMS once an additional column had been added to the template to reflect the final risk rating.

- iii. Review of the NEAFC Inventory (ISMS article 7.1)
- iv. Reflecting EU General Data Protection Regulation (GDPR) in NEAFC ISMS

5. [NAFO issues](#)

NAFO Secretariat attended this meeting even though it was formally a NEAFC only meeting and so NAFO issues were not directly discussed. The NAFO Secretariat advised the group of some developments on their side of the Atlantic, including notification that STACTIC had forwarded some issues to JAGDM for advice. NAFO Secretariat also advised the group that Canada had approached U.S. to see if there was interest in them attending a meeting of JAGDM. This may have some impact on the discussion of arrangements for the next meeting, the date and place of which is normally decided after the NEAFC Annual Meeting.



6. Management of the North Atlantic Format

7. Management of the websites

a. JAGDM

b. NAF

8. Any other business

9. Report to the Annual Meetings

The Chair will make the report to the NEAFC Annual Meeting, and it was agreed that this should include advice to PECMAC in relation to technical issues outstanding from AHWG ERS, for which there is so far no clear plan to resolve.

10. Date and place of the next meeting

This will be finalised after the NEAFC Annual Meeting and in cooperation with the NAFO Secretariat.

11. Closure of the meeting



Annex I

LIST OF PARTICIPANTS 23-24 October 2018

Chair

Magnússon, Leifur

NAFO Secretariat

Kendall, Matt

NEAFC Secretariat

Lewsley, Rachel

Early, Anthony

Neves, Joao

Campbell, Darius

Canada

Barbour, Natasha - Fisheries & Oceans Canada (Vice Chair)

Denmark (in respect of the Faroe Islands and Greenland)

Lund Rossing, Mads

European Union

Lathuy, Cedric

Iceland

Norway

Fasmer, Ellen

Virtual attendance

Annex 3: JAGDM Proposal 1 to NEAFC Annual Meeting

Proposal by JAGDM for a Recommendation on Business Continuity

JAGDM proposes the following recommendation to update Guidelines on Business Continuity pursuant to Article 2 (Scope) of Recommendation 11:2013 & Article 14 (Business Continuity Management) of Recommendation 08:2014

14.[2] Business Continuity Plan for the FLUX Communication Network

OVERVIEW

The Business Continuity plan describes how the communication between the Parties shall be organised in the situation when data communication channels are interrupted.

1. TERMINOLOGY

Transportation layer (TL): the electronic network for fisheries data exchanges used by all Contracting and Cooperating Non Contracting Parties (CPC) to exchange data in a standardised way.

Central node: a node acting on the TL network as an intermediate node connecting several endpoints.

Note that the EU Member States will be connected to the NEAFC node via the EU central node (operated by European Commission).

Endpoint: a Party that is connected to the TL network and is active for exchanging data with other endpoints. NEAFC and CPCs are end points of this system.

2. FALL-BACKPROCEDURE

Any Party who becomes aware of any failure in the transmission of data, including non-receipt of messages or receipt of invalid reports, shall immediately initiate the fall-back procedure by informing the other party (recipient or sender) of the problem, using any communication means available.

The fall-back procedure shall also apply during maintenance periods of a central node or endpoint.

The party causing the problem must take the necessary actions to correct the situation without undue delay.

Once the problem has been resolved, the responsible Party shall immediately inform other involved Parties.

2.1. Problems on sender end-point

When a technical failure occurs on the sender end-point and the sender can no more transmit messages, all messages that have to be delivered to a receiver shall be stored until the problem is solved.

In case of urgency and on request by any Party receiving data, the Party responsible for sending data shall use other communication means (email, secured FTP, etc.) to transmit urgent messages.

After repair of a system the sender shall transmit unsent messages as soon as possible on TL.

2.2. Problems on receiver end-point

When a technical failure occurs on the receiver end-point and in case of urgency and only if agreed between Parties exchanging data, the Party responsible for sending data can use other communication means (email, secured FTP, etc.) to transmit urgent messages. Otherwise, the Parties should hold all the data exchanges with that end-point until it becomes available.

After repair of a system, all held data should be transmitted immediately.

2.3. Problems of a central node

In case of problems of a central node, the Parties should hold all the data exchanges with that central node during this period.

Once the central node is back online, all held data should be transmitted immediately.

3. MAINTENANCE

3.1. Scheduled downtime

Normal scheduled system maintenance operations have to be performed regularly.

For the central node and because its availability is critical for all Parties on the TL, a normal maintenance operation should not cause an unavailability period of more than 3 hours.

For the endpoints a scheduled maintenance downtime should be no more than 4 hours.

Any Party scheduling the maintenance shall inform all other Parties at least 5 working days in advance by using any electronic means available.

In case of emergency or force majeure situations, the maintenance operation may be performed without respect of the prior notice delays mentioned here above. The notification in that situation needs to be sent prior to the downtime

effectively taking place.

3.2. Unscheduled downtime

Unscheduled downtime occurs when the system goes down unexpectedly. These downtimes may occur at any time and vary in length depending upon the reason.

The downtime period should normally be less than 8 hours, while in case of exceptional circumstances (i.e. IT infrastructure out of business due to a disaster, etc.) the availability should be restored as soon as the conditions permit it.

As far as possible, the responsible Party shall give an estimate of the expected downtime period. When the downtime is ended, the responsible Party shall immediately inform other involved Parties by using any electronic means available.

4. COMMUNICATION

The communication procedure described here shall be followed to exchange information between Parties in case a fall-back procedure is initiated or there is a maintenance going on at a central node or end-point involved in the data exchange.

In these situations, human intervention is required and information is communicated by email. Contact details for each Communicating Party and NEAFC will make these available via the website.

4.1. Communication between Parties

The communication should cover business and, if deemed necessary, also technical questions directly related to the data exchanged.

Each Party shall ensure that the first reply is given as soon as possible, but not later than within 1 working day. It can be a simple acknowledgment of the receipt, but should indicate an estimated timeframe, when the issue is expected to be resolved or addressed.

4.2. Communication with the NEAFC helpdesk

For practical reasons, the communication language is English. The NEAFC helpdesk will have a dedicated system for handling requests for Acceptance and Production systems which is well publicized to Contracting Parties.

Any communication with the helpdesk should include the following:

- The contracting party/member state who is raising the issue
- Whether the issue relates to the Acceptance or Production environment.
- A one-line summary of the issue.
- A more detailed description of the issue.

For each subject a separate request has to be sent. Email should contain at least the brief textual explanations of the communication reason. NEAFC

helpdesk shall acknowledgment of the receipt as soon as possible. .

Annex 4: JAGDM Proposal 2 to NEAFC Annual Meeting

Proposal by JAGDM Updating Article 3 Risk Management of NEAFC ISMS

JAGDM proposes the following recommendation pursuant to Article 2 (Scope) of Recommendation 11:2013

Article 3.1 Classification of Systems

For the purposes of risk management NEAFC systems have been classified as below

System	Classification
port-State Control (PSC)	Mission Critical (MC)
Vessel Monitoring System (VMS) *	High Priority (HP)
Monitoring Control and Surveillance Web Interface (mcs.neafc.org)	High Priority (HP)
neafc.org Website*	Mission Critical (MC)
Secretariat Office Remote desktop server	Medium Priority (MP)
Secretariat Office File server (& Domain Controller)	Medium Priority (MP)
Secretariat Office Email (not covering the automatically generated PSC notification emails)	High Priority (HP)
Secretariat Office Phone (VOIP) & mobile	Medium Priority (MP)

* VMS also contains catch and activity reports not only positions

* neafc.org data is classified as MC because it holds the account credentials for the PSC system, other data on www.neafc.org website is not considered 'MC'

Details:



Annex II: JAGDM Advice

Wednesday, 07 November 2018

To: Thord Monsen
Chair of NEAFC PECMAC

Dear Mr Monsen,

REQUEST FOR ADVICE MADE BY NEAFC AHWG ERS

At the meeting of the NEAFC ERS Working Group (11 & 12 September 2018), advice was sought from Joint Advisory Group on Data Management (JAGDM) on the following issues.

- Updating NEAFC ISMS in relation to Business Continuity in accordance with AHWG-ERS 2018-03-11 and requesting that this document be finalized for recommendation to the NEAFC Commission in November.
- Most effective ways to generate an RA trip identifier
- Advice on identification of duplicates as raised in AHWG ERS 2018-04-10
- Examine business validation within the new system and lessons already learned through experience in EU

This issues were discussed at the subsequent JAGDM meeting 23rd & 24 October 2018, and advice is appended to this letter.

Yours sincerely

Leifur Magnusson

Chair of JAGDM



Advice to PECMAC / AHWG ERS

Update NEAFC ISMS in Relation to Business Continuity:

Proposals to the Annual Meeting for updating the ISMS in relation to Business Continuity and Risk Management are appended to this document.

Advice on Generating an RA Trip Identifier:

While all participants acknowledge the usefulness of having this identifier for the secretariat, participants recognise that some additional complexity is inevitably added.

The group proposed that this data should be included as optional information on the basis that it would be more costly to include it at a later date if this should be necessary.

Format: "NEAFC-[IRCS]-[RATRIPID]".

RATRIPID = [A-Z0-9]{1,20} - A unique alphanumeric string, of between one and twenty characters.

Advice on Duplicates:

Progress was made on understanding the issues and evaluating possible solutions. One "quick and easy" and one "with more detailed validation" were discussed. However, it was agreed that this was not a quick task. Therefore, the group would discuss the issue of duplication again at next meeting having prepared the work. When there is greater experience through testing, there will be a better idea of whether the 'quick and easy' solution would be sufficient to solve the problem or if the fuller solution is necessary.

Advice following the Examination of Business Rules:

EU shared their experience in relation to testing Business Rules in their internal implementation and this is now better understood by participants. There are still outstanding Business Rules questions in relation to identifying non-compliance with timelines and report sequences and also some rules for VMS transmissions. These will require further work in 2019.

On the specific question of how to best report transmission time as well as acceptance time for reports, JAGDM agreed to the approach of formally updating the UN/CEFACT International Standard to include Transmission Time as a new data element. The group also advice to propose to update the standard with the possibility to have additional characteristics for the report (FAReportDocument entity). JAGDM is in a position to prepare this work depending on how NEAFC decides to proceed in November.