International Civil Aviation Organization

WORKING PAPER

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SATELLITE DISTRIBUTION SYSTEM OPERATIONS GROUP (SADISOPSG)

THIRTEENTH MEETING

Dakar, Senegal, 27 to 29 May 2008

Agenda Item 6: Development of the SADIS
6.1: Report of the SADISOPSG Gateway Development Team

REPORT OF THE SADISOPSG GATEWAY DEVELOPMENT TEAM

(Presented by SADISOPSG Gateway Development Team Rapporteur)

SUMMARY

This paper describes the work undertaken by the SADISOPSG Gateway Development Team since the last SADISOPSG meeting. This includes the issues of SADIS backup infrastructure, SIGMET compliance with Annex 3 and ISCS harmonisation.

1. INTRODUCTION

1.1 This paper presents the work carried out by the SADISOPSG Gateway Development Team since the SADISOPSG/12 Meeting.

2. SIGMET VALIDATION

2.1 The group will recall that the SADISOPSG Conclusion 11/13 called for the SADISOPSG Gateway Development Team, in time for the SADISOPSG/12 Meeting, to complete work related to the automatic verification of the FIR location indicator in SIGMET. In this context, the SADIS Provider State was invited to delay the implementation of the routine validation of SIGMET until a compliance of 80 per cent has been achieved.

2.2 The SADISOPSG Gateway Development Team report related to SIGMET monitoring is provided in Appendix A to this paper. Verification of the insertion of an FIR indicator before the FIR name in the SIGMET has been integrated into the SIGMET analysis tool used routinely by the United Kingdom in the analysis of the EUR Bulletin Management Group monitoring exercise during which non routine data, including SIGMETs, are monitored for a fourteen day period.

2.3 The results of the analysis were disappointing showing only a 29-per cent compliance rate which is insufficient to trigger the automatic validation of this field on the SADIS gateway. A detailed listing of the SIGMET headers is provided in the paper.

2.4 In view of the continuous low-level of compliance, the group may wish to agree that the Secretariat should remind States that are not compliant with the template contained in Annex 3, of the importance of the correct SIGMET format. To achieve this, the group may wish to formulate the following conclusion:

Conclusion 13/... — Compliance with the SIGMET template in Annex 3

That, the Secretariat remind those States which issue SIGMET bulletins not complying with Annex 3 provisions as listed in Appendix[1]… to this report of the importance to take corrective action, as a matter of urgency.

3. HARMONIZATION OF THE OPMET CONTENT BETWEEN THE SADIS BROADCAST, SADIS FTP SERVICE AND ISCS BROADCAST

3.1 It may be recalled that the SADISOPSG Conclusion 12/14 called for the SADISOPSG Gateway Development Team, in time for the SADISOPSG/13 Meeting to prepare a report, in consultation with the SADISOPSG member from the ISCS Provider State, on the harmonization of the OPMET content between the SADIS and ISCS broadcasts.

3.2 The report prepared by the SADISOPSG Gateway Development Team related to harmonisation is provided in Appendix B to this paper. It should be noted that an IP is expected to be produced in time for the meeting which will present an initial harmonisation report based on a single day's traffic.

4. IMPACT OF AMENDMENT 74 ON THE SADIS GATEWAY

4.1 Amendment 74 to Annex 3 will have a limited impact on the SADISOPSG gateway; however, the change to the format of the TAF validity period will require some modifications to both validation and correction procedures.

4.2 The report by the SADISOPSG Gateway Development Team related to Amendment 74 is provided in Appendix C to this paper.

4.3 One of the key points that emerged is that the SADISOPSG gateway should not be considered as a means to implement Amendment 74 compliant TAF bulletins, at least with respect to the validity period, for States which do not implement the changes. This position is one that is also strongly supported by the ISCS Provider State.

4.4 The report discusses the impact of the amendment on the validation procedures and rules, including automatic validation, and several modifications to the SADIS Gateway Operations Handbook have been suggested as a result. They are documented in the attached report.

[1] The lists are in Annexes B and C to Appendix A to this working paper.

4.5 The report suggests that the best approach to the transition to the Amendment 74 changes would be to support both pre- Amendment 74 and Amendment 74 TAF validity formats for a temporary period until the extent of compliance is quantified. When this is done a planned reconfiguration will be carried out to remove validation from non-compliant bulletins without impacting the operational service. As bulletins become compliant they can be included in validation again. A monitoring programme would have to be instigated to identify the emergence of newly compliant bulletins after the initial implementation date.

4.6 In this regard the group may wish to formulate the following decision and conclusion:

Decision 13/… — Transition to the new TAF code form in November 2008

That, the following principles be applied by the SADIS Provider State during the transition to new TAF Code form:

a) both pre-Amendment 74 and Amendment 74 TAF code forms be supported for a temporary period of time; and

b) as soon as a level of compliance of ….per cent has been achieved, the validation of non-compliant TAF bulletins be removed, without impacting the operational service.

Note. — As bulletins become compliant they can be included in validation again. A monitoring programme would have to be instigated to identify the emergence of newly compliant bulletins after the initial implementation date.

Conclusion 13/… — Update of the *SADIS Gateway Operations Handbook*

That, the SADIS Provider State update the *SADIS Gateway Operations Handbook* to reflect the new procedures and correction rules at the SADISOPSG gateway, necessary for the introduction of the new TAF code form, in time of its applicability (November 2008).

5. ACTION BY THE SADISOPSG

5.1 SADISOPSG is invited to:

a) note the information in this paper; and

b) decide on the draft decision and conclusions proposed for the group's consideration.

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APPENDIX A

SADIS Gateway Development Team Report

March 2008

SIGMET Validation with respect to Amendment 73 to ICAO Annex 3
(Prepared by the UK)

1. Introduction

1.1 Investigations are still being carried out into SIGMET FIR identification since Amendment 73 to ICAO Annex. This change mandated the inclusion of the FIR indicator before the FIR name on the 2nd line after the Abbreviated Heading Line (AHL).

1.2 The SADISOPSG/9 report included a Conclusion 9/12 in which it was stated that

'in light of the implementation of amendment 73 to Annex 3 the SADIS provider State be invited to undertake necessary modifications to the validation of SIGMET.'

1.3 The SADISOPSG/10 report included a conclusion 10/12 in which it was stated that

a) The SADIS Provider State be invited to implement the validation of SIGMET against the format included in Amendment 73 to Annex 3 as soon as the implementation of this format by states is more widespread and in any case no later than the SADISOPSG/11 Meeting: and
b) The Secretariat invite

1) States to implement, as a matter of urgency, the SIGMET format in accordance with Amendment 73 to Annex 3 …

1.4 The SADISOPSG/11 report included a conclusion 11/13 in which it was stated that

with regard to the availability and validation of OPMET data at the SADIS gateway,
a) the SADISOPSG Gateway Development Team, in time for the SADISOPSG/12 Meeting, be invited to:
1) prepare a report on the feasibility of harmonization of the OPMET content between the SADIS broadcast, SADIS FTP service and ISCS broadcast;
2) complete work related to the automatic verification of the FIR location indicator in SIGMET; and
3) update the *SADIS Gateway Handbook* to ensure that the SIGMET formats used in examples be compatible with Annex 3 and that missing sequence numbers be catered for by the insertion of a dummy number, and

b) the SADIS Provider State be invited to delay the implementation of the routine validation of SIGMET until a compliance of 80 per cent has been achieved.

1.5 The SADISOPSG/12 report included a conclusion 12/11 in which it was stated that

The secretariat invite states, as a matter of urgency, to implement the SIGMET format in accordance with Amendment 73 to Annex 3.

This paper investigates the impact of undertaking these changes at this moment in time.

2. Survey of SIGMETs

2.1 The analysis software developed by the SADIS Provider state for use in the analysis of non routine bulletins has been modified at the start of 2007 to automatically identify the FIR indicator before the FIR name on the 2nd line after the Abbreviated Heading Line (AHL).

2.2 This permitted a more wide ranging analysis than those included in years previous to 2007 when the manual procedures limited the period of analysis to a single day. This time the data monitored over the 14 day non routine data monitoring period from 1st February 2008 to the 14th February 2008 was analysed using the tool.

2.3 The output was filtered to assess only WS SIGMETS. For the monitoring period the following information was extracted:-

- There were a total of 5068 SIGMETs.
- There were a total 1269 Amd 73 Compliant SIGMETs. A list of headers (TTAAii CCCC only) for these compliant headers is included in Annex A of this report.
- There were a total of 3800 SIGMETs which included ATSU indicators but did not include the FIR indicator in their second line. A list of headers (TTAAii CCCC only) for these non compliant headers is included in Annex B of this report.
- Of the original SIGMETS 1756 were non complaint anyway regardless of the missing FIR Indicator as they did not include a 4 character ATSU indicator in the first line. These were in general SIGMETs originated by KKCI, CWUI, CWEG and WIII. The other compiling centres are picked up because of individual errors in the SIGMET. A list of headers (TTAAii CCCC only) for these non compliant headers is included in Annex C of this report.

2.4 In general the SADIS Gateway does not validate those SIGMETs in the 4th category as they are known to be consistently non compliant and the system is configured to allow them to bypass validation in order to prevent spurious operator intervention.

2.5 From the above, if the completely non compliant SIGMETs are disregarded, the compliance level of SIGMETs including FIR indicators is only 38.3% which represents an increase over last years 29.5%.

4. Conclusions

4.1 Although compliance continues to slowly improve, the level of compliance with the SIGMET modification does not meet the required compliance level of 80%. This situation can continue to be periodically monitored automatically during BMG monitoring exercises until there is a sufficient level of compliance to prevent the delay of SIGMETs as a result of the validation.

Annex A

Amendment 73 Compliant SIGMETs

TT	AAii	CCCC	Count
WS	AM20	FCBB	6
WS	AU21	ABTL	7
WS	AU21	AMHF	3
WS	AU21	AMMC	27
WS	AU21	AMRF	4
WS	AU21	APRF	5
WS	AU21	ASRF	23
WS	BX31	EBBR	1
WS	BY31	UMMS	6
WS	CI36	ZPPP	173
WS	CI38	ZYTX	1
WS	CI45	ZHHH	17
WS	CZ31	LKPW	11
WS	DL31	EDZF	8
WS	DL31	EDZH	4
WS	DL31	EDZM	4
WS	DN31	EKCH	3
WS	EO31	EETN	9
WS	EW31	LEMM	5
WS	EW32	LEMM	3
WS	EW33	LEMM	24
WS	FG20	SOCA	2
WS	FI31	EFHK	5
WS	FI32	EFHK	2
WS	FR31	LFPW	14
WS	FR32	LFPW	29
WS	FR33	LFPW	23
WS	FR34	LFPW	25
WS	FR35	LFPW	23
WS	GL31	BGSF	42
WS	GR31	LGAT	9
WS	HU31	LHBM	5
WS	IE31	EIDB	1
WS	IN90	VIDP	67
WS	JP31	RJTD	59
WS	KZ31	UAAA	1
WS	LJ31	LJLJ	12
WS	LT31	EYVI	5
WS	LV31	EVRA	5
WS	MP31	LMMM	37
WS	NL31	EHDB	1
WS	NO31	ENMI	37
WS	NT21	EGRR	2

TT	AAii	CCCC	Count
WS	OS31	LOWW	3
WS	PO31	LPMG	2
WS	QB31	LDZM	2
WS	RA31	RUAM	4
WS	RA31	RUDS	1
WS	RA31	RUIR	1
WS	RA31	RUMG	1
WS	RA31	RUOM	1
WS	RA31	RUSH	1
WS	RA31	RUUF	3
WS	RA31	RUYK	7
WS	RA32	RUEK	2
WS	RA32	RUIR	1
WS	RA32	RUKR	2
WS	RA32	RUNW	1
WS	RA32	RUPV	1
WS	RA32	RUYK	1
WS	RA33	RUEK	1
WS	RA33	RUHB	1
WS	RA33	RUKR	6
WS	RA33	RUNW	1
WS	RA33	RUYK	1
WS	RA34	RUEK	1
WS	RA34	RUYK	1
WS	RA35	RUOM	1
WS	RA35	RUYK	1
WS	RA36	RUOM	2
WS	RA36	RUYK	1
WS	RA37	RUOM	1
WS	RA38	RUYK	1
WS	RA39	RUYK	4
WS	RH31	LDZM	20
WS	RM31	LUKK	4
WS	RO31	LROM	2
WS	RS31	RUAA	35
WS	RS31	RUMA	22
WS	RS31	RUMU	1
WS	RS31	RUNN	1
WS	RS31	RURD	26
WS	RS31	RUSM	1
WS	RS31	RUSP	1
WS	RS32	RUAA	33
WS	RS33	RUAA	7
WS	RS33	RUSM	1

TT	AAii	CCCC	Count
WS	RS33	RUSP	1
WS	RS34	RUAA	13
WS	RS35	RUAA	26
WS	RS36	RUAA	14
WS	SC20	FSIA	8
WS	SN31	ESWI	3
WS	SN32	ESWI	1
WS	SQ31	LZIB	11
WS	SW31	LSSW	1
WS	TH31	VTBS	4
WS	TR31	RUMS	1
WS	TS31	DTTA	15
WS	TS40	DTTA	15
WS	TU31	LTAC	4
WS	UK31	EGRR	30
WS	UK33	EGRR	42
WS	UR31	UKBB	4
WS	UR32	UKLL	3
WS	UR33	UKOO	3
WS	UR34	UKFF	25
WS	UR35	UKHH	10
WS	YG31	LYBM	10
WS	ZA21	FAJS	64

Annex B

Amendment 73 Non Compliant SIGMETs with ATSUs

TT	AAii	CCCC	Count
WS	AG31	SABE	21
WS	AG31	SAME	11
WS	AG41	SARE	10
WS	AK02	PAWU	6
WS	AO20	GOOY	3
WS	AZ31	LPMG	28
WS	BM31	VYYY	6
WS	BO31	SLLP	31
WS	BW20	VGZR	6
WS	BZ22	SBBS	2
WS	BZ31	SBAZ	255
WS	BZ31	SBBS	151
WS	BZ31	SBCW	83
WS	BZ31	SBRE	141
WS	BZ41	SBCW	5
WS	CH31	SCEL	7
WS	CH31	SCIP	3
WS	CI31	RCTP	100
WS	CI36	ZPPP	1
WS	CI37	ZLLL	3
WS	CI37	ZLXY	4
WS	CI39	ZWWW	1
WS	CN02	CWUL	21
WS	CN31	CWEG	71
WS	CN32	CWEG	43
WS	CN33	CWUL	50
WS	CN34	CWUL	129
WS	CN35	CWEG	37
WS	CN36	CWEG	8
WS	CN36	CWUL	11
WS	CN37	CWEG	1
WS	CU31	MUHA	4
WS	CU41	MUHA	3
WS	CY31	LCLK	2
WS	DL32	EDZH	2
WS	EG31	HECA	69
WS	GR31	LGAT	28
WS	ID20	WIII	50
WS	IE31	EIDB	8
WS	IL31	BICC	21
WS	IN90	VECC	96

TT	AAii	CCCC	Count
WS	IN90	VIDP	71
WS	IO20	FMMI	21
WS	IR31	OIII	3
WS	IS31	LLBG	18
WS	IY31	LIIB	121
WS	KZ31	UAAA	7
WS	LB31	OLBA	11
WS	MC31	GMMC	21
WS	MS31	WMKK	67
WS	NO31	ENMI	1
WS	NO36	ENMI	8
WS	NT01	KKCI	10
WS	NT02	KKCI	2
WS	NT03	KKCI	4
WS	NT04	KKCI	5
WS	NT05	KKCI	2
WS	NT06	KKCI	2
WS	NT07	KKCI	6
WS	NT08	KKCI	6
WS	NT09	KKCI	9
WS	NT10	KKCI	4
WS	NT11	KKCI	9
WS	NT12	KKCI	6
WS	NT13	KKCI	7
WS	NZ21	NZKL	117
WS	PA08	PHFO	3
WS	PA09	PHFO	6
WS	PA10	PHFO	7
WS	PF21	NTAA	70
WS	PN01	KKCI	6
WS	PN02	KKCI	12
WS	PN03	KKCI	9
WS	PN04	KKCI	5
WS	PN05	KKCI	6
WS	PN06	KKCI	4
WS	PN07	KKCI	3
WS	PN08	KKCI	2
WS	PS21	NZKL	87
WS	PY31	SGAS	15
WS	QB31	LDZM	2
WS	QB32	LYBM	6
WS	RA31	RUEK	1

TT	AAii	CCCC	Count
WS	RA31	RUPK	4
WS	RA31	RUSH	1
WS	RA31	RUYK	5
WS	RA31	UAAA	4
WS	RA32	RUAM	16
WS	RA32	RUYK	7
WS	RA33	RUOM	1
WS	RA35	RUYK	1
WS	RS31	RUAA	1
WS	RS31	RUMA	2
WS	RS31	RUSP	11
WS	RS36	RUAA	5
WS	SB31	VCBI	11
WS	SC20	FSIA	3
WS	SD20	OEJD	8
WS	SR20	WSSS	19

TT	AAii	CCCC	Count
WS	TH31	VTBS	1
WS	TR31	RUMS	9
WS	TU31	LTBA	5
WS	UK32	EGJJ	4
WS	UR35	ALAK	1
WS	US01	KKCI	35
WS	US02	KKCI	2
WS	US03	KKCI	3
WS	US04	KKCI	1
WS	US05	KKCI	10
WS	US06	KKCI	7
WS	US31	KKCI	340
WS	US32	KKCI	343
WS	US33	KKCI	335
WS	UZ31	UTTT	40
WS	ZA21	FAJS	251

Annex C

SIGMET monitored without ATSU indicators

Null ATSU 08			
TT	AAii	CCCC	Count
WS	AK02	PAWU	6
WS	BO31	SLLP	1
WS	CN31	CWEG	71
WS	CN32	CWEG	43
WS	CN33	CWUL	50
WS	CN34	CWUL	129
WS	CN35	CWEG	37
WS	CN36	CWEG	8
WS	CN36	CWUL	11
WS	CN37	CWEG	1
WS	ID20	WIII	50
WS	IN90	VIDP	1
WS	IO20	FMMI	3
WS	NT01	KKCI	10
WS	NT02	KKCI	2
WS	NT03	KKCI	4
WS	NT04	KKCI	5
WS	NT05	KKCI	2
WS	NT06	KKCI	2
WS	NT07	KKCI	6
WS	NT08	KKCI	6
WS	NT09	KKCI	9
WS	NT10	KKCI	4
WS	NT11	KKCI	9
WS	NT12	KKCI	6
WS	NT13	KKCI	7
WS	PA08	PHFO	3
WS	PA09	PHFO	6
WS	PA10	PHFO	7
WS	PN01	KKCI	6
WS	PN02	KKCI	12
WS	PN03	KKCI	9
WS	PN04	KKCI	5
WS	PN05	KKCI	6
WS	PN06	KKCI	4
WS	PN07	KKCI	3
WS	PN08	KKCI	2
WS	UR35	ALAK	1
WS	US01	KKCI	35
WS	US02	KKCI	2
WS	US03	KKCI	3

Null ATSU 08			
TT	AAii	CCCC	Count
WS	US04	KKCI	1
WS	US05	KKCI	10
WS	US06	KKCI	7
WS	US31	KKCI	340
WS	US32	KKCI	343
WS	US33	KKCI	335
WS	ZA21	FAJS	133

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APPENDIX B

SADIS Gateway Development Team

March 2008

Harmonisation of SADIS, SADIS FTP and ISCS Broadcasts
(Prepared by the UK)

1. Introduction

1.1 At SADISOPSG/12 in Conclusion 12/14 the SADISOPSG Gateway Development Team, in time for the SADISOPSG/13 Meeting were invited to prepare a report, in consultation with the SADISOPSG member from the ISCS Provider State, on the harmonization of the OPMET content between the SADIS and ISCS broadcasts. This short paper outlines current progress and plans in this regard.

2. SADIS and ISCS Harmonisation

2.1 Originally a proposal was sent to the ISCS team at National Weather Service (NWS) which suggests that once the ISCS/2 VSAT is installed at the NATS site the ISCS/2 broadcasts will be analysed in parallel with the SADIS Broadcast during the EUR Bulletin Management Group monitoring period. The results of this monitoring would then be sent to the ISCS Data Review Group (DRG) for consideration. A plan of action to improve harmonisation could then be agreed between the NWS and NATS and subsequently implemented.

3.2 Since SADISOPSG/12 this has progressed and a discussion was held between representatives of NATS and the ISCS Provider State regarding the harmonisation at which it was agreed that the first step should be the analysis of the respective broadcasts before any substantive actions were taken.

3.3 It was hoped that the analysis could take place during one of the regular EUR BMG monitoring period but this was based on the assumption that the ISCS backup infrastructure would be in place at the SADIS Gateway. This unfortunately did not prove to be the case due to delays in the implementation of this facility.

3.4 The SADIS Gateway provider was however able to obtain full days ISCS broadcast data originated from the ISCS FTP distribution. Work is now at hand to put this into a format by which it can be run through the BMG analyser at the same time as a SADIS broadcast for the same 24 hour period. This comparison should give an indication of the scope of the harmonisation task and highlight any particular problems that may impact the comparison process.

3.5 It is expected that an IP will be provided to SADISOPSG/13 with the results of this initial comparison.

4. Conclusions

4.1 A proposal for SADIS and ISCS harmonisation which does not place a heavy burden is expected to be fully resolved shortly.

4.3 An updated progress reports on this issues along with the initial analysis IP will be provided at SADISOPSG/13 in Dakar.

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APPENDIX C

SADIS Gateway Development Team

March 2008

Impact on SADIS Gateway by Amendment 74
(Prepared by the UK)

1. Introduction

1.1 Most of the Annex 3 Amendment 74 Annex changes do not impact the SADIS Gateway as its validation is limited to a relatively small number of fields as described in the SADIS Gateway Operations Handbook. There will however be some impact with respect to TAF validation because of the extended validity period field. In the light of recent experience with SIGMETs this may present a problem. There are also some issues worth considering regarding automatic validation and documentation.

2. Potential Issues

2.1 A key issue is the phasing of the introduction of changes associated with the amendment. It would be hoped that adoption of the new TAF validity field in November would be universal however experience, especially with SIGMET changes in Amendment 73 , would indicate that some caution should be used as a pure Amendment 74 validation scheme could result in a significant number of rejects. These rejects could either be :-

- Discarded, a dangerous option which could reduce the amount of usable operational data significantly,
- Corrected so that the complied with the Amendment 74 validation format, an option we must avoid for the reasons detailed above,

2.2 Alternative approaches would be to

- Remove the validation for those non compliant bulletins. Currently a number of states have prematurely adopted Amendment 74 TAF formats and policy has been put in place to disable validation for those particular bulletins.
- Continue to accept both Amendment 73 and Amendment 74 TAF validity periods on a temporary basis until allowing the removal of validation have been suggested as a result. The are documented in the attached paper.

2.3 Given the experience with Amendment 73 with respect to SIGMETs it is not unrealistic to expect a significant number of non compliant bulletins and it is also likely that not all of those bulletins which will be compliant shall be implemented immediately. This means that the first option in paragraph 2.3 would mean a considerable amount of reconfiguration being carried out in a situation where the levels of compliance would be uncertain and fluid. It should be noted

that the BMG is carrying out a regional survey of inentions with regard to compliance but this will be restricted to the EUR region. The second option promises less disruption to operational traffic and affords an opportunity to monitor and plan configuration changes from a position of knowledge.

2.3 The suppliers of the SADIS gateway system are proposing a modification that will validate to pre Amendment 74 and Amendment 74 formats. This means that a TAF would be initially validated against a 6 digit validity period and then if failed than against an 8 digit format as defined in Amendment 74. It is proposed that following the implementation date in November any TAFs that do not conform to the Amd 74 validity period format will have their validation disabled.

2.4 A report will be produced, within a pre-defined period of the implementation date, which will list all TAF bulletins that do not conform to the validity period in Amd 74. This will avoid the risk of significant operator workload during the transition but it is highly likely that data for some period will be a mixture of formats. . Regular reports will then be provided on the progress of Amendment 74 compliance in this particular respect.

2.5 As stated above it is not the responsibility of the SADIS Gateway to provide implementation of Amendment 74 TAFs should the originator not do so. To that end there is no intention to include a variant of the 4 digit validity period automatic correction to deal convert 6 digit into validity periods into the Amendment 74 format.

2.6 Discussion with the ISCS Provider State has indicated that there will be no attempt on their part to modify TAFs unless they originate from the US. They also voiced legitimate concerns about data consistency if there was a wholesale effort to attempt to modify TAFs to an Amendment 74 format at the SADIS Gateway.

2.7 There will be an impact on auto-correction associated with the TAF validity format change. This will provide an opportunity to review the existing rules in the context of the changes. An IP will be produced which will quantify the effectiveness of the existing rule set so as to assist in the review process.

3. SADIS Gateway Operations Handbook

3.1 The SADIS Gateway Operations Handbook will require an update for November to reflect the modified TAF validity period. A set of proposed modifications are presented in Annex A to this report. It should be noted that these modifications will be subject to change as a result of the review.

3.2 The TAF End of validity ‘24’ Error correction, specified in 3.5.2 of the Handbook, may be removed in the context of Amendment 74 as the addition of a date to the end of validity should remove the need for 24 the validity period as such a time can now be represented by dd00.

3.3 The four digit TAF validity procedure specified in section 3.3.4 of the Handbook should be discontinued as there is no reason following another change in TAF validity periods that the correction of a completely outdated format should be supported.

3.3 The other automatic corrections defined in section may be retained. An IP will be provided to the SADISOPSG meeting with a quantitative analysis of the use of the auto-correction rule on which their retention can be reviewed.

4. Conclusions

4.1 SADISOPSG should discuss the proposed approach to non compliant TAF validity periods following the implementation of Annex 3 Amendment 74.

4.2 SADISOPSG should consider the correction rules proposed following the implementation of Amendment 74.

4.3 The SADIS Gateway Provider State shall supply an updated version of the SADIS Gateway Operations Handbook for publication at the time of Amendment 74 implementation reflecting any modifications approved by SADISOPSG.

Annex A. SADIS Gateway Operations Handbook Extract

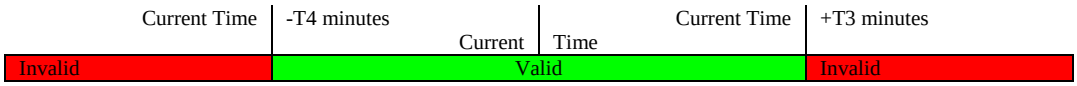
2.2.3 TAF Validation

For each individual TAF forecast within a bulletin the following items shall be validated:

CCCC The forecast shall contain a valid 4-letter ICAO location indicator in a position compliant with the WMO 306 FM51 code definition. A full list of valid ICAO indicators shall be maintained on the SADIS Gateway against which the indicator can be validated. . Note that it is acceptable for location indicator to be prefixed according to the following table.

Prefix	Bulletin Type (TT)
TAF	FC
TAF AMD	
TAF	FT
TAF AMD	

YYGGggZ — The **forecast** shall, if the field is included, have a valid date and time of origin of forecast including 'Z'. The origin of forecast time shall be acceptable if it lies between two configurable values, T3 minutes and T4 minutes, set before and after the current time. These values are independently configurable for short TAFs (FC) and long TAFs (FT).



$Y_1Y_1G_1G_1$/$Y_2Y_2G_2G_2$ — The forecast **shall** have a valid period of validity. This period of validity shall be considered valid if it meets the following conditions.

- The start of validity period shall be no more than a configurable value, T5 minutes, in the future from the current time.
- The validity period shall not exceed a configurable value of T6 minutes.
- The end of the validity period shall not be earlier than the current time.

= Each forecast shall be terminated by the "=" character.

Bulletins failing the validation rules above shall be rejected to the operator position for inspection and, if appropriate, repair.

The configurable values for TAF validation in current use in the SADIS Gateway are provided in Appendix A.3. Separate configurable values are provided for long TAFs (FT) and short TAFs (FC).

…

~~**3.3.4 Four Digit Validity Periods**~~

~~If TAFs are received with a 4 validity period. These will be rejected by the Gateway. Operators may insert a date consistent with the current date and the date time group of the bulletin header for occasional instances of this fault. (See B.3.4 for examples).~~

…

3.3.4 TAF Validity and Origin Time Errors

If the date and time of origination of a TAF and the date of its validity period are for the day after the date on which they are received and the date and time of origination is in excess of 12 hours later than the current system time then the dates shall be modified automatically to the current date.

For example

a) If at 2000Z on the 16th a TAF is received

```
XFBD 172000Z 172106 02010KT 8000 etc.
```

Then it shall be modified to

```
XFBD 162000Z 162106 02010KT 8000 etc.
```

b) If at 0800Z on the 16th a TAF is received

```
XFBD 170800Z 170918 02010KT 8000 etc.
```

Then it shall be modified to

```
XFBD 160800Z 160918 02010KT 8000 etc.
```

3.5.2 TAF End of Validity '24' Error

If the group identified as a TAF validity time ends with ‘00’ then the last 2 digits shall be modified to ‘24’.

For example

a) If a TAF is received as follows

```
XFBD 170000 02010KT 8000 etc.
```

Then it shall be modified to

```
XFBD 170024 02010KT 8000 etc.
```

b) If a TAF is received as follows

XFBD 162300Z 170000 02010KT 8000 etc.

Then it shall be modified to

XFBD 162300Z 170024 02010KT 8000 etc.

3.5.3 TAF Forecast Origin Time Error

If two 6-digit groups occur immediately after a TAF location indicator then the first group shall have a Z appended.

For example

a) If a TAF is received as follows: -

```
EDDF 100600 1006/1106 12006KT etc.
```

Then it shall be modified to

```
EDDF 100600Z 1006/1106 12006KT etc.
```

b) If a TAF is received as follows: -

```
TAF AMD EGLL 100800 1006/1106 12006KT etc.
```

Then it shall be modified to

```
TAF AMD EGLL 100800Z 1006/1106 12006KT etc.
```

3.5.4 TAF Validity Period 'Z' Error

If two 6-digit groups each followed by a Z occur immediately after a TAF location indicator, then the second group shall have the Z removed and it shall be validated as the TAF validity period.

For example

a) If a TAF is received as follows:-

```
EDDF 100606Z 1006/1106Z 12006KT etc.
```

Then it shall be modified to

```
EDDF 100606Z 1006/1106 12006KT etc.
```

b) If a TAF is received as follows: -

```
TAF AMD EGLL 100800Z 1006/1106Z 12006KT etc.
```

Then it shall be modified to

```
TAF AMD EGLL 100800Z 1006/1106 12006KT etc.
```

3.5.5 TAF Early Validity Start Error

If the TAF forecast origin time is greater than 6 hours after the start time of the TAF validity period then the date of the start time of the TAF validity period shall be incremented, taking into account the month.

For example

a) If a TAF is received as follows: -

```
EDDF 102200Z 1006/1106 12006KT etc.
```

Then it shall be modified to

```
EDDF 102200Z 1106/1206 12006KT etc.
```

b) If a TAF is received as follows: -

```
EDDF 101000Z 0912/1012 12006KT etc.
```

Then it shall be modified to

```
EDDF 101000Z 1012/1112 12006KT etc.
```

3.5.4 TAF Late Validity Start Error

If the TAF forecast origin time is greater than 26 hours before the start of the TAF validity time then the date of the start time of the TAF validity period shall be decremented taking into account the month.

For example

a) If a TAF is received as follows :-
TAF EDDF 102200Z 1206/1306 12006KT etc.
Then it shall be modified to
EDDF 102200Z 11061206 12006KT etc.

b) If a TAF is received as follows: -
TAF EGSS 301000Z 0218/0318 12006KT etc.
Then it shall be modified, assuming that there are 30 days in the month, to: -
TAF EGSS 301000Z 0118/0218 12006KT etc.

B. Operator Correction Examples

B.1. General Correction

B.1.1. WMO Header Errors

A number of examples follow which show corrective action possible when a nn error in the WMO Header of

AHL causes a message to be rejected.

In the example below the message was rejected because the date time group of the AHL only has 5 digits. Adding a single digit, highlighted, which makes the AHL date time group and the date time of origin of forecast correspond, repairs this.

```
FTZW20 FVHA 020400 RRA
TAF
FVFA 020400Z 0206/0306 04006KT CAVOK BECMG 1012 FEW040CB SCT080
TEMPO 1116 3000 TSRA SCT040CB BKN080 BECMG 1719 CAVOK=
```

In the example below the message was rejected because the AA part of the first group of the AHL contains a numeric character in the AA part, ‘0’. In the example this is highlighted. This is simply corrected by replacing ‘0’ with ‘O’.

```
SAG040 FOOL 020700
METAR 020700Z
FOOB 020700Z 26004KT 9999 OVC008 23/22 Q////=
FOGR 020700Z ///// 0400 FG SCT008 OVC100 26/25 Q1011=
FOOY 020700Z ///// 8000 -TSRA SCT008 FEW015CB OVC023 23/23 Q1011=
FOOG 020700Z 22004KT 9999 SCT008 BKN120 28/26 Q1012=
FOON 020700Z SPECI ///// 6000 TSRA BKN006 FEW023CB OVC100 22/22
Q1013=
FOOT 020700Z ///// 9000 SCT011 FEW020CB OVC100 23/23 Q////=
FOGM NIL=
FOOM NIL=
FOGM NIL=
FOOC NIL=
FOOR NIL=
```

In the example below the message was rejected because the YYGGgg group of the AHL is appended with a 'Z'. In the example this is highlighted. This is simply corrected by deleting the 'Z'.

```
FTIN32 VOTV 240900Z
VOTV 241000 2412/2512 00000KT 3000 HZ FEW015 SCT020 BKN100 BECMG 0001
1500 BR BECMG 0304 4000 HZ BECMG 0607 23010KT 6000 TEMPO 1212 3000
TSRA/SHRA SCT006 SCT015 FEW025CB OVC080=
```

B.1.2. Multi-part Messages

In this example of a multi-part message the lines commencing PART and //PART, highlighted in the example below, cause rejection of the messages. The operator shall remove these lines in order to permit the message to be validated correctly.

```
SAUS31 KWBC 050000
PART ONE OF TWO PARTS
METAR
KABQ 042356Z 18009KT 10SM FEW160 SCT250 11/M16 A2992=
KATL 042353Z 30012KT 10SM FEW250 07/M04 A3000=
KBGR 042353Z 18008KT 1 1/4SM -RA BR OVC003 04/03 A2907=
KBHM 042353Z 33006KT 10SM CLR 08/M06 A3009=
KBNA 042353Z VRB06KT 10SM FEW200 04/M11 A3010=
KBOS 042354Z 27019G26KT 10SM OVC055 06/01 A2930=
KBWI 042354Z 26013KT 10SM FEW065 04/M06 A2973=
KCHS 042356Z 27007KT 10SM SCT250 16/01 A2990=
KCLE 042351Z 25014KT 1 3/4SM -SN BR FEW010 BKN015 OVC025 M03/M04
     A2981=
KCLT 042351Z 33006KT 10SM FEW250 09/M04 A2987=
KCVG 042351Z 27009KT 10SM FEW040 M02/M09 A2998=
KDEN 042353Z 05009KT 10SM SCT080 SCT160 M03/M07 A2997=
KDFW 042356Z 00000KT 10SM FEW120 SCT300 09/M08 A3013=
KDTW 042354Z 29020G23KT 9SM OVC038 M04/M10 A2980=
KEWR 042351Z 27019G23KT 10SM BKN065 06/M06 A2955=
KFLL 042353Z 20004KT 10SM BKN038 BKN046 OVC250 23/19 A2999=
KIAD 042351Z COR 29013G19KT 10SM FEW060 04/M07 A2977=
KIAD 042351Z 29013G19KT 10SM CLR 04/M07 A2977=
KIAH 042353Z 04008KT 10SM BKN250 15/M02 A3012=
KIND 042355Z 26018KT 10SM FEW035 M04/M11 A3001=
KJAX 042356Z 31005KT 10SM FEW040 BKN250 16/09 A2994=
KJFK 042351Z 26024G30KT 10SM SCT060 06/M05 A2955=
KLAS 042356Z 09006KT 10SM FEW250 14/M12 A2992=
KLAX 042350Z 25011KT 10SM BKN200 BKN250 17/11 A2993=
KLGA 042351Z 28018G22KT 10SM CLR 06/M06 A2953=
KLGC 050000Z AUTO 33005KT 10SM CLR 08/M03 A3003=
KLIT 042353Z 31006KT 10SM SCT250 06/M08 A3019=
KLOU 042353Z 29009KT 10SM CLR 00/M10 A3005=
KMCI 042353Z 34006KT 10SM SCT065 BKN150 M03/M12 A3022=
KMCO 042353Z 25005KT 10SM FEW028 SCT035 BKN120 BKN250 21/18
     A2996=
KMEM 042353Z 31008KT 10SM FEW250 04/M08 A3018=
KMIA 042356Z 22006KT 10SM SCT042 BKN250 23/18 A3000=
//END PART 01//
```

B.1.3. Multiple Terminators

In this example the TAF for OEDF has been terminated with 2 = characters. The operator shall remove one of the characters, shown as highlighted, in order to permit the message to be validated correctly.

```
FTBN31 OBBI 050900
OBBI 051000Z 0512/0612 33015G25KT 9999 SCT025=
OEDF 051000Z 0512/0612 35020KT 8000 SCT030 SCT090 TEMPO 1216 4000
     BLDU BECMG 1618 31012KT==
OEDR 051000Z 0512/0612 35020KT 8000 SCT030 SCT090 TEMPO 1216 4000
     BLDU BECMG 1618 31012KT=
OTBD 051000Z 0512/0612 21015KT 9999 FEW030 BKN090 TEMPO 1224
     33013G25KT TSRA FEW035CB SCT025 BKN080=
OKBK 051000Z 0512/0612 32012KT CAVOK BECMG 1820 32008KT=
```

B.1.4. Localised Corruption

In this example it can be seen that only the first METAR, for FMMI appears to be free of corruption. All of its groups are complete and reasonable. In this case the remaining METARs, for FMNM, FMMT, FIMP and FMEE, which show obvious signs of corruption, shown as shaded, should be deleted, Note that the final report for FMEE does not have a terminator and as the operator cannot guarantee that it was not truncated it is removed.

```
FTIO31 FMMI 051100
FMMI 051030Z 0512/0612 27010KT 9999 SCT020 BKN100 TEMPO DZRA BECMG
1620 SCT020CB BKM100 TEMPO 5000 RATS BECMG 0206 VRB03KT 9999 FEW007
BKN017 BECMG 0609 10010KT 9999 SCT017 BKN100=
??????????FMNM 051030Z 051212 32010KT 9999 SCT020CB SCT040 BKN100 TEM
PO VRB03KT
4000 TSRA BECMG 1518 00000KT=
??????????FMMT 051030Z 051212 16006KT 9999 SCT017CB SCT033 BKN233 TEM
PO 5000
TSRA BECMG 0003 SCT017 BKN033 PROB40 TEMPO 5000 RA=
??????????????????????????????????????????
8000 -SHRA FEW020CB BKN020 BKN080 BECMG 2024 10007KT BECMG 0105
VRB03KT BECMG 0710 22012KT SCT023 SCT043=
????????????????????????????????FIMP 050200Z 050606 08013G25KT 9999 SCT
018 SCT050 PROB-
30 TEMPO 5000 SHRA FEW010 FEW014TCU BKN016 BECMG 1315
09010KT=
FMEE 050924Z 0512/0612 10016KT 9999 FEW026 SCT050 BECMG 1618 14012KT
FEW020 BECMG 0?06 10020KT FEW026
```

In the example below the localised corruption for FAKM it could easily be seen that the corrupt time of forecast should be 100300Z in order for it to be consistent with the other TAFs in the bulletin.

```
FCZA43 FABL 100300
FABL 100300Z 1006/1015 04008KT 9999 SCT040 TX31/12ZTN20/06Z=
FAKM 100??Z 1006/1015 36012KT CAVOK TX34/12ZTN23/06Z=
FAUP 100300Z 1006/1015 35008KT CAVOK TX38/18ZTN26/06Z=
FAWM 100300Z 1006/1015 03010KT 9999 SCT040 TX30/12ZTN21/06Z=
```

B.3. TAF Correction

B.3.1 Incorrectly placed TAF and AMD strings

In these examples TAF and AMD have been incorrectly positioned. Operators may take action to correct these.

```
FCRS35 LOWM 012200
UWKD NIL=
UWKE 012345Z 0201/0210 36009MPS 2000 SN BR OVC005 650050
TEMPO 0104 18009MPS 0600 FZDZ FG VV002 640000 TEMPO 0410
34012MPS 0600 +SHSN BLSN VV002 BKN020CB 530001=
UWLW 012345Z 0201/0210 35010MPS 4000 -SN BLSN OVC007 650070 530001
TEMPO
0110 36014MPS 0500 +BLSN VV002=
UWOO 012355Z 0201/0210 14008MPS 3000 SNRA BR
OVC004 TEMPO 0105 1000 BR OVC002=
UWPP NIL=
UWSS AMD 012345Z 0201/0210 34010G18MPS 1500 SN BLSN OVC003
530001 TEMPO 0010 0300 FZDZ FZFG 640000
PROGNOZ S?ITATX OSNOWNYM=
UWUU 012358Z 0201/0210 02005MPS 1500 SN BR OVC007CB 650070
TEMPO 0107 0400 +SHSN FZRA VV002 640000 BECMG 0406 15006MPS
3000 SNRA BR=
UWWW 012345Z 00201/0210 36012MPS 1000 SN BLSN OVC005 SCT007CB 640050
TEMP0 0105 0300 +SN FZDZ TEMP0 0510 0500 +SHSN VV003=
```

In the above example AMD have been incorrectly positioned in the TAF for UWSS. The two groups `UWSS AMD` shall be replaced by `TAF AMD UWSS.`

```
FCRA34 LOWM 020200
UHMM 020240Z 0204/0213 06005MPS 9999 SCT030 BKN100 530009=
UHMP NIL=
UHNN 020245Z 0204/0213 25006MPS 9999 OVC070=
UHPP TAF 020240Z 0204/0213 36005G10MPS 9999 SN BKN030 OVC100
          650200 550000 TEMPO 0413 2000 SHSN BKN007CB=
UHSH 020245Z 0204/0213 30006MPS CAVOK=
UHSS 020245Z 0204/0213 01005MPS 9999 BKN030CB 530007=
UHWW 020235Z 0204/0213 35009MPS 9999 SCT030CB BKN070 530007 TEMPO
0413 35011MPS=
```

In the above example TAF have been incorrectly positioned in the TAF for UHPP. TAF UHPP shall replace the two groups UHPP TAF.

B.3.2 Mistyped Time of Forecast

In the example below the time of forecast, which has been highlighted, has been mistyped. The time of forecast for UHNN should be either 101145Z or 101150Z to make it consistent with UHPP or UHSS. Either value will make little material difference to the meaning of the message.

```
FCRA34 LOWM 101100
UHMM NIL=
UHMP NIL=
UHNN 1011450Z 1013/1022 36005G12MPS 9999 -SHSN
     BKN020CB OVC070 550007 TEMPO 1322 2500 SHSN=
UHPP TAF 101150Z 1013/1022 02005MPS 9999 OVC015CB OVC070
     640150 FM1900 16005G10MPS 5000 SHSN OVC010CB OVC070
     650100 550009 TEMPO 1922 0800 SHSN DRSN OVC002=
UHSH NIL=
UHSS 101145Z 1013/1022 32008MPS 9999 BKN020CB
530009 TEMPO 1322 4000 SHSN VV006=
UHWW 101130Z 1013/1022 36009MPS 4000 HZ FU SCT030CB BKN070 530007
TEMPO 1322 1300 -SHSN HZ BKN005=
```

B.3.3 Mistyped Validity Period

In the example below it can be seen that the TAF validity period for LCPH has been mistyped because it currently implies a period from 1300Z on the 4th to 1200Z on the 5th which is in excess of the maximum 12 hours permitted for an FC. The 1 should be replaced by a 0 to make it consistent with the period for LCLK.

```
FCCY31 LCLK 100300
LCLK 100300Z 1004/1013 28006KT 9999 FEW030 SCT050 BECMG 0406
     22015KT PROB30 TEMPO 0413 5000 SHRA=
LCPH 100300Z 1014/1013 27-15KT 9999 FEW020 SCT050 PROB40
     TEMPO 0413 5000 SHRA=
```

In the example below a common error is observed where the start of the validity period is indicated in both hours and minutes. This is best corrected by rounding down to the nearest hour. In this case, the validity period should be replaced by 1004/1013.

```
FCRA32 LOWM 100100 AAA
USPP 100425Z 100425/1013 VRB02MPS 8000 BKN005
TEMPO 042508 0500 FZFG FU VV003=
```

~~B.3.4 Four Digit Validity Period~~

~~In this example a number of TAFs have been transmitted with only 4 digit validity periods. The operator can insert the appropriate date. In the examples below the date inserted, shown as highlighted, is taken as the same date as the time of origin of forecast as the hour and minutes value of the origin of forecast is less than that of the start of validity time.~~

```
FCJD31 OJAI 012300
OJAI 020000Z 020312 VRB06KT CAVOK BECMG 0608 22010KT 7000=
OJAM 020000Z 020312 VRB06KT CAVOK BECMG 0608 22010KT 7000=
OJAQ 020000Z 020312 VRB06KT CAVOK BECMG 0608 35010KT 6000 HZ=
```

B.3.4~~5~~ Missing Validity Period

In the example below the validity period of the TAF for URWA has been omitted. In such a case the TAF, shown as highlighted, must be deleted.

```
FCRS32 LOWM 310300
URRR 310440Z 3106/3115 25008G13MPS 1200 SHRASN BR OVC003
BKN010CB 530005 TEMPO 0612 27015G20MPS 0300 SHSNRA FG
OVC002 BKN010CB 640000 TEMPO 1215 VRB02MPS 0300 FG
OVC002 BKN010CB=
URSS 31455Z 3106/3115 09005G08MPS 9999 BKN020CB OVC100 530002 TEMPO
 0615
18009G14MPS 5000 - SHRA PROB40 TS =
URWA 310455Z 18006MPS 0300 DZ FG OVC003 TEMPO 0709 1000
FM0900 18006MPS 2100 -RA BR OVC007=
URWI NIL=
URWW 310450Z 3106/3115 16007G13MPS 0400 +SHSNRA BKN002
BKN020CB 530002 TEMPO 0609 1200 -FZRA BR 640000
BECMG 0911 21011G16MPS 1200 SHRA BR BKN004 BKN020CB=
UUBP NIL=
```

B.3.5~~6~~ Concatenated Time of Forecast or Validity Periods

In the example below the time of forecast and validity period of the TAF for HLLB have been concatenated. This is simply corrected by inserting a space after the Z character in the time of forecast group.

```
FCMP31 LMMM 310500 RRA
HLLT 310300Z 3106/3115 27010G20KT 9999 SCT025 TEMPO CAVOK=
HLLB 310300Z3106/3115 24015G25KT 9999 SCT025=
```

B.3.6~~7~~ Provisional TAFs

In the example below the provisional TAFs for MBGT and MBPV shall be deleted from the TAF before resubmitting it.

```
FTBA31 MYNN 071630
MYNN 071645Z 0718/0818 21010KT 9999 SCT020 TEMPO 1822 8000 SHRA
BKN018 FM080 32015KT 9999 SCT020 BKN045 PROB30 0812 8000 -SHRA
BKN018=
PROVISIONAL MBGT/MBPV 071645Z 0718/0818 13012KT 9999 SCT025=
```

— END —