

SADIS COST RECOVERY & ADMINISTRATIVE GROUP (SCRAG)

NINETEENTH MEETING

(London, UK, 30th October 2018)

Agenda Item 3: Review of actual SADIS costs and cost shares for the period 1 January to 31 December 2017

SADIS Gateway COSTS

(Presented by the SADIS Gateway Manager)

REFERENCES

**SCRAG19WP5, SCRAG19WP10 and
SCRAG19WP12.**

1. Introduction

This paper has been written as requested at SCRAG/18 to provide an overview of the functions carried out by the SADIS Gateway. The terms and references used relate to existing SCRAG19 WPs.

2. Roles

2.1 Air Traffic Services Asst. / Operational Staff

Operational Staff relates to the H24 function in ROC LONDON. The H24 team monitor, validate and record & report on issues raised through the SADIS Gateway operation. Section 3 gives a breakdown of the main elements and tasks associated with this role.

2.2 Maintenance Engineer / Engineering Staff

Engineering Staff have now been amalgamated into one reference in the costings. This includes the duties carried out by the Engineering Day support team and an H24 element. Section 4 gives a breakdown of the duties carried out by the Engineers for SADIS.

2.3 Administration Officer / Administration Staff

The Administration Office carries out the documentation creation and amendments, adaptation changes, investigations and meeting attendance of the SADIS Gateway operation. All changes are reviewed and verified independently to ensure quality control. Section 5 gives a breakdown of the duties carried out by the Administration Office.

2.4 Communications

This relates to line rental costs.

2.5 Maintenance

The Maintenance element of the costing refers to the apportionment of the costing to the system manufacturer contract and sustainment budget.

2.6 T&RE

This is the cost attributable to offsite dealings for SADIS. The actual value will be related to the location and amount of meetings associated with SADIS.

3 Air Traffic Services Asst. / Operational Staff Tasks

3.1 Monitored Stations

All Station Reports or Bulletins which are required to be monitored are listed in Appendix C of the SADIS Gateway Operations Handbook “Online monitoring lists _ Routine aerodrome Data Monitoring and Routine Bulletin Monitoring” this is included as Table A below.

When a Report or Bulletin is not received within the required issue time window, the threshold is breached and an alarm is triggered. The Operational Staff are advised of Reports or Bulletins not received via SVC (Service) Message to their console, with separate monitoring for SA or FT.

On receipt of the SVC Message, the Operational Staff check whether the Report or Bulletin has been received by Coremet with the expected WMO Bulletin Header.

If it has they will confirm that it is routed to SADIS.

If the Bulletin is routed to SADIS, they will check to confirm if the filing time is outside the parameters specified in Coremet.

If the expected Bulletin has been received but the Station Report is missing, a SVC is sent to the appropriate Originator, ROC or OPMET Gateway (as per Table B of this paper) advising of a missing Report for the Station and to request investigation. The time the SVC message is sent and the date/time group of the last received report is recorded in an excel spreadsheet.

If the expected Bulletin has not been received, the Operational Staff will check the aeronautical message switch (AMS-UK) to ensure that there are no communication issues between the UK Com Centre and the RODEX/Distribution Station.

If there are no problems identified with the messaging network, a SVC message will be sent as per the paragraph above and recorded in the excel spreadsheet accordingly.

When the investigating station responds with the results of their investigation, a message is sent on SADIS advising what the problem is.

When a Station is no longer alarming the time when the Bulletin was received is recorded.

Attachment A of this paper shows the Reports covering the period from January 1st (including roll over from December 2017) to the morning of September 6th. The Reports are moved by the Operational Staff for management reasons hence looking at the list the dates look out of sync.

Report cover times from hours to days - for long periods many Reports (hourly or half hourly) are processed by the Operational Staff for the station recorded.

Monthly Individual Reports

January	- 375 Reports
February	- 343 Reports
March	- 378 Reports
April	- 365 Reports
May	- 481 Reports
June	- 337 Reports
July	- 341 Reports
August	- 325 Reports
September 6 th	- 66 Reports

Table A - Routine Aerodrome Data Monitoring

Location Indicator	Aerodrome Name	SA	FC	FT
CYVR	VANCOUVER INTL, BC	X		X
CYYZ	TORONTO/LESTER B. PEARSON INTL, ON	X		X
DAAG	ALGER/HOUARI BOUMEDIENE	X		X
DNAA	ABUJA/NNAMDI AZIKIWE	X		X
EBBR	BRUSSELS/BRUSSELS-NATIONAL	X		X
EDDF	FRANKFURT/MAIN	X		X
EDDL	DUESSELDORF	X		X
EDDM	MUENCHEN	X		X
EDDT	BERLIN-TEGEL	X		X
EGCC	MANCHESTER	X		X
EGKK	LONDON GATWICK	X		X
EGLL	LONDON HEATHROW	X		X
EHAM	AMSTERDAM/SCHIPHOL	X		X
EIDW	DUBLIN	X		X
EKCH	KOBENHAVN/KASTRUP	X		X
ENGM	OSLO/GARDERMOEN	X		X
ESSA	STOCKHOLM/ARLANDA	X		X
FACT	CAPE TOWN (CAPE TOWN INTERNATIONAL AIRPORT)	X		X
FAOR	JOHANNESBURG INTERNATIONAL AIRPORT	X		X
FLKK	KENNETH KAUNDA	X		X
GOOY	DAKAR/YOFF	X		X
HKJK	NAIROBI/JOMO KENYATTA INTL. TWR/APP/NOF/MET/CIVIL AIRLINES	X		X
KATL	HARTSFIELD - JACKSON ATLANTA INTERNATIONAL, GA.	X		X
KBOS	BOSTON/GENERAL EDWARD LAWRENCE LOGAN INTERNATIONAL, MA.	X		X
KDEN	DENVER INTERNATIONAL	X		X
KDFW	DALLAS-FORT WORTH INTERNATIONAL, TX.	X		X
KDTW	DETROIT METROPOLITAN WAYNE COUNTY, MI.	X		X
KEWR	NEWARK LIBERTY INTERNATIONAL, NJ.	X		X
KFLL	FORT LAUDERDALE/HOLLYWOOD INTERNATIONAL, FL.	X		X
KIAD	WASHINGTON DULLES INTERNATIONAL, DC.	X		X
KIAH	GEORGE BUSH INTERCONTINENTAL/HOUSTON, TX.	X		X
KJFK	NEW YORK/JOHN F. KENNEDY INTERNATIONAL, NY.	X		X
KLAS	LAS VEGAS/MCCARRAN INTERNATIONAL, NV.	X		X
KLAX	LOS ANGELES INTERNATIONAL, CA.	X		X
KLGA	NEW YORK/LA GUARDIA, NY.	X		X
KMCO	ORLANDO INTERNATIONAL, FL.	X		X
KMDW	CHICAGO/CHICAGO MIDWAY, IL.	X		X
KMIA	MIAMI INTERNATIONAL, FL.	X		X

KMSP	MINNEAPOLIS-ST. PAUL INTERNATIONAL (WOLD CHAMBERLAIN), MN.	X	X
KORD	CHICAGO - O'HARE INTERNATIONAL, IL.	X	X
KPHL	PHILADELPHIA INTERNATIONAL, PA.	X	X
KPHX	PHOENIX SKY HARBOR INTERNATIONAL, AZ.	X	X
KSAN	SAN DIEGO INTERNATIONAL, CA.	X	X
KSEA	SEATTLE/SEATTLE-TACOMA INTERNATIONAL, WA.	X	X
KSFO	SAN FRANCISCO/INTL,CA.	X	X
KSLC	SALT LAKE CITY INTERNATIONAL, UT.	X	X
KTPA	TAMPA INTERNATIONAL, FL.	X	X
LEBL	BARCELONA/EL PRAT	X	X
LEMD	MADRID/BARAJAS	X	X
LEPA	PALMA DE MALLORCA	X	X
LFPG	PARIS-CHARLES DE GAULLE	X	X
LFPO	PARIS-ORLY	X	X
LGAV	ATHINAI/ELEFThERIOS VENIZELOS	X	X
LIMC	MILANO/MALPENSA	X	X
LIRF	ROMA/FIUMICINO	X	X
LOWW	WIEN-SCHWECHAT	X	X
LPPT	LISBOA	X	X
LSZH	ZURICH	X	X
LTAI	ANTALYA (MIL-CIV)	X	X
LTBA	ISTANBUL/ATATURK	X	X
MKJP	KINGSTON/NORMAN MANLEY	X	X
MMMX	MEXICO CITY	X	X
MPTO	PANAMA/TOCUMEN	X	X
NZAA	AUCKLAND INTL	X	X
OEJN	JEDDAH/KING ABDULAZIZ INTERNATIONAL	X	X
OIII	TEHRAN/MEHRABAD INTL	X	X
OMDB	DUBAI INTERNATIONAL	X	X
OTHH	HAMAD INTERNATIONAL/DOHA	X	X
PHNL	HONOLULU INTERNATIONAL, OAHU, HI.	X	X
RCTP	TAIBEI CITY/TAIBEI INTL AP	X	X
RJAA	NARITA INTL/TOKYO	X	X
RJCC	SAPPORO/NEW CHITOSE	X	X
RJFF	FUKUOKA	X	X
RJTT	TOKYO INTL	X	X
RKSI	INCHEON INTL/SEOUL	X	X
RPLL	MANILA/NINOY AQUINO INTL	X	X
SAEZ	EZEIZA MINISTRO PISTARINI, INTL. (BA)	X	X
SBGL	RIO DE JANEIRO/GALEAO-ANTONIO CARLOS JOBIM, RJ	X	X
SBGR	SAO PAULO/GUARULHOS, GOVERNADOR ANDRE FRANCO MONTORO, SP	X	X

SKBO	BOGOTA INTL/CUNDINAMARCA	X		X
SPIM	LIMA-CALLAO/INTL JORGE CHAVEZ	X		X
TBPB	GRANTLEY ADAMS, BARBADOS	X		X
UDD	MOSCOW/DOMODEDOVO	X		X
UUEE	MOSCOW/SHEREMETYEVO	X		X
VABB	MUMBAI	X		X
VHHH	HONG KONG/INTERNATIONAL	X		X
VIDP	DELHI (IGI)	X		X
VTBS	BANGKOK/SUVARNABHUMI INTL AIRPORT	X		X
WIII	JAKARTA INTL/SOEKARNO-HATTA	X		X
WMKK	SEPANG/KL INTERNATIONAL AIRPORT	X		X
WSSS	SINGAPORE/CHANGI	X		X
YBBN	BRISBANE/BRISBANE INTL	X		X
YMML	MELBOURNE/MELBOURNE INTL	X		X
YSSY	SYDNEY/SYDNEY (KINGSFORD SMITH) INTL	X		X
ZBAA	BEIJING/CAPITAL	X		X
ZGGG	GUANGZHOU/BAIYUN	X		X
ZGSZ	SHENZHEN/BAOAN	X		X
ZSPD	SHANGHAI/PUDONG	X		X
ZUUU	CHENGDU/SHUANGLIU	X		X

Table B - Monitored Stations

<u>Station</u>	<u>SA Header</u>	<u>FT Header</u>	<u>SVC</u>	<u>Station</u>	<u>SA Header</u>	<u>FT Header</u>	<u>SVC</u>
CYVR	CN62	CN31 CWAO	CWAO	LFPG	FR31	FR31 LFPW	LFPW
CYYZ	CN62	CN35 CWAO	CWAO	LFPO	FR31	FR31 LFPW	
DAAG	AL31	AL31 DAAA	LFPW	LGAV	GR34	GR31 LGAT	LOWM
DNAA	AO21	AO20 DRNN		LIMC	IY31	IY31 LIIB	LFPW
EBBR	BX31	BX31 EBBR	EBBR	LIRF	IY31	IY31 LIIB	
EDDF	DL31	DL31 EDZO	EDZO	LOWW	OS31	OS31 LOWM	LOWM
EDDL	DL31	DL31 EDZO	EDZO	LPPT	PO31	PO31 LPMG	LFPW
EDDM	DL31	DL31 EDZO	EDZO	LSZH	SW31	SW31 LSSW	LOWM
EDDT	DL31	DL32 EDZO	EDZO	LTAI	TU31	TU31 LTAA	
EGCC	UK31	UK31 EGRR	EGRR/EGCC	LTBA	TU31	TU31 LTAA	
EGKK	UK31	UK31 EGRR	EGRR/EGKK	MKJP	JM31	JM31 MKJP	MKJP
EGLL	UK31	UK31 EGRR	EGRR/EGLL	MMMXX	MX31	MX31 MMMXX	MMMXX
EHAM	NL31	NL31 EHDB	EHDB	MPTO	PM31	PM31 MPTO	MPTO
EIDW	IE31	IE31 EIDB	EIDB	NZAA	NZ31	NZ31 NZKL	WSSS
EKCH	DN31	DN31 EKCH	EKCH	OEJN	SD31	SD31 OEJD	LOWM
ENGM	NO31	NO31 ENMI	ENMI	OIII	IR31	IR31 OIII	
ESSA	SN32	SN31 ESWI	ESWI	OMDB	BN32	BN32 OBBI	
FACT	ZA31	ZA31 FAPR	LFPW	OTHH	QT20	QT11 OTHH	KWBC
FAOR	ZA31	ZA31 FAPR		PHNL	US25	US25 KWBC	
FLKK	AP35	AP32 FAPR	KWBC	RCTP	HK31	HK31 VHHH	WSSS
GOOY	SG21	AO30 GOOY		RJAA	JP31	JP31 RJTD	
HKJK	KN20	EA32 HKNA		RJCC	JP32	JP32 RJTD	
KATL	US23	US23 KWBC		RJFF	JP32	JP32 RJTD	
KBOS	US23	US21 KWBC		RJTT	JP31	JP31 RJTD	
KDEN	US22	US22 KWBC		RKSI	KO31	KO31 RKSI	
KDFW	US23	US23 KWBC		RPLL	HK31	HK31 VHHH	SABM
KDTW	US22	US22 KWBC		SAEZ	AG05	AG05 SABM	SBGL
KEWR	US21	US21 KWBC		SBGL	BZ21	BZ22 SBGL	SBGR
KFLL	US23	US23 KWBC		SBGR	BZ18	BZ18 SBGR	SKBO
KIAD	US21	US21 KWBC	SKBO	CO20	CO20 SKBO	SPIM	
KIAH	US23	US23 KWBC	SPJC	PR82	PR88 SPIM	LOWM	
KJFK	US21	US21 KWBC	TBPB	BR31	BR31 TBPB		
KLAS	US24	US24 KWBC	UUEE	RS33	RS33 RUMS	LOWM	
KLAX	US24	US24 KWBC	UUEE	RS33	RS33 RUMS		
KLGA	US21	US21 KWBC	VABB	IN31	IN31 VABB	WSSS	

KMCO	US23	US23 KWBC		VHHH	HK31	HK31 VHHH	
KMDW	US22	US22 KWBC		VIDP	IN31	IN31 VIDP	
KMIA	US23	US23 KWBC		VTBS	AE31	AE31 VTBB	
KMSP	US22	US22 KWBC		WIII	ID31	ID31 WIII	
KORD	US22	US22 KWBC		WMKK	MS31	SR32 WSSS	
KPHL	US21	US21 KWBC		WSSS	SR31	SR31 WSSS	
KPHX	US24	US24 KWBC		YBBN	AU31	AU31 YBBN	
KSAN	US24	US24 KWBC		YMML	AU31	AU31 YBBN	
KSEA	US24	US24 KWBC		YSSY	AU31	AU31 YBBN	
KSFO	US24	US24 KWBC		ZBAA	CI31	CI31 ZBBB	
KSLC	US24	US24 KWBC		ZGGG	CI31	CI31 ZBBB	
KTPA	US23	US23 KWBC		ZGSZ	CI32	CI32 ZBBB	
LEBL	SP31	SP31 LEMM		LFPW	ZSPD	CI31	
LEMD	SP31	SP31 LEMM	ZUUU		CI32	CI32 ZBBB	
LEPA	SP31	SP31 LEMM					

OTHER <C	LFPW LFPWYMYX	WSSS WSSSYMYX	LOWN LOZZMSVC	KWBC KWBCYMYX
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3.2 Validation and correction of messages

All messages which are to be disseminated over SADIS are subject to validation as per section 2 of the SADIS Gateway Operations Handbook:

Opmet Validation

WMO Header Validation

METAR Validation

TAF Validation

SIGMET Validation

AIRMET Validation

Correction procedures are carried out as per section 3 of the SADIS Gateway Operations Handbook when applicable. If the Operational Staff cannot apply any of the corrections the message is dropped.

For a 24hr period a record was kept to show the messages that were repaired and the messages that were dropped by the Operational Staff. The results are shown in Table C.

Table C - SADIS Error Queue 24Hrs (25th – 26th September)

UTC	Repaired	Dropped	Hourly
15-16	27	13	40
16-17	22	1	23
17-18	15	0	15
18-19	12	16	28
19-20	13	6	19
20-21	11	2	13
21-22	8	70	78
22-23	23	17	40
23-24	9	5	14
00-01	23	5	28
01-02	9	2	11
02-03	34	22	56
03-04	15	10	25
04-05	14	7	21
05-06	35	57	92
06-07	33	17	50
07-08	22	27	49
08-09	16	1	17
09-10	23	7	30
10-11	25	4	29
11-12	23	8	31
12-13	23	9	32
13-14	15	9	24
14-15	25	32	57
Total	475	347	822

It should be noted that if a centre has an issue or is off line for a length of time a 'data dump' is received at ROC London. These normally range between 40 and up to 370 messages being received in one hit. During a data dump most messages must be dropped by the Operational Staff as they are out of the 'Date and/or Time' threshold to be allowed for dissemination over SADIS. However, as the messages are not sent or received in any particular order, each message must be manually checked. ROC London receives an average of 5 data dumps a week. During the recorded period above, ROC London did not receive a data dump from another centre.

3.4 Validation of Location Indicators

When a message is rejected because a location Indicator contained within a Bulletin is not currently in the Coremet adaptation, the following steps are followed.

The location is checked against the ICAO DOC 7910.

If the location is registered in the 7910 then receipt of the Location Indicator is monitored to ensure it is not a mis-type or one off addition and that it will continue to be present in the Bulletin. Once confirmed as a permanent addition, a change request is raised for the Administration Officer to add the location to the Coremet adaptation.

If the location is not in the DOC 7910 a SVC message is sent to the compiling ROC or IROG requesting information on the unknown location.

- If a response is received this will be added to a change request to have the location added to the system adaptation by the Administration Officer.
- If no response is received the issue is passed to the Administration Officer to investigate.

4. Maintenance Engineer / Engineering Staff Tasks

The Maintenance Engineer performs the following specific support tasks. The costs apportioned to SADIS are a small fraction of the actual engineering costs which are shared with other assets and services maintained by the same engineering team.

- 24 hour system support including on call.
- Second/ third level fault investigation and manufacturer liaison.
- Integration support with other customer systems.
- Support to Data Services for more customer focussed system issues.
- System upgrades and security fixes.
- Daily, weekly and monthly maintenance including backups and passwords management.
- System health monitoring and system load analysis.

5. Administration Officer / Administration Staff Tasks

5.1 Bulletin Changes

Bulletin changes arise from METNOs and observations from rejections and queries. The list below shows the changes which have been made through change orders raised against SADIS since January 2018.

January	- 54
February	- 9
March	- 11
April	- 48
May	- 11
June	- 14
July	- 17
August	- 18

5.2 Station and Bulletin requests from SADIS customers

When SADIS customers raise an observation to the SADIS manager regarding Stations or Bulletins data not available on SADIS an investigation is conducted by the Administration Officer.

Firstly a check is performed to determine if the data been available on SADIS recently.

- If not, time is spent contacting the relevant NOC, ROC and/or IROG to try and get the data disseminated to the SADIS Gateway.
- If the data has been available on SADIS, an investigation is carried out to find out the last time it was present. The relevant NOC, ROC or IROG may be contacted to try and find out what has happened to the data and try to resolve the issue.

The following Stations and bulletins have been investigated in the last year, often involving interregional coordination.

FKI020 FMEE, SAPO33 LPMG, SAPO34 LPMG, SAPO31 LPMG, FTAM31 FCBB, SAAM34 FCBB,
SANS70 KWBC, SANS80 KWBC, WCPA12 KWBC, FT ZS** NSTU, SAZM31 NSFA, FTIN32 VABB,

FTIN90 VOHS, FCPO32 LPMG, SAID31 WIII, SAID32 WIII, SAID33 WIII, FTRS31 WSSS, FTIC44 ZSJM,
SASA32 KWBC, FCPL31 EPWA, FTPL31 EPWA, FTPL32 EPWA, FCPL32 EPWA,
OKBK, URRR, UAAA, LICZ, FNLU, FZIC, FZUA, FZOA, FZEA, VIDP, VAPO, VILK, VAPO, WADD.

5.3 Location Indicators

On receipt of a change request from the Operational Staff, the details are checked and verified and added to the Coremet adaptation. The following locations have been added in the last year following monitoring and investigation by the Operational Staff.

SKPD, SKBS, SKCO, SKFL, SKGO, SCIR, LETU, OODQ, UAAT, VDSV, SADO, WIMA, WITN, RPVK,
SYMB, OICM, OIMJ, FLJK, SYKT, WBMU.

5.4 Meetings and Documentation

Attendance to the SCRAG, MOG and the creation of WPs, IPS and amendment of existing document is carried out by the SADIS Gateway Manager. The WPs, IPs and documentation is reviewed by other SADIS Gateway staff.

6 Action

6.1 The SCRAG19 is invited to:

- a) Note the contents of the paper.
- b) Ask questions to clear any observations that have been made.
- c) Decide if a smaller WP with tables reflecting data quality and messages repaired and dropped will be wanted for future SCRAGs.

END