

International Civil Aviation Organization



ICAO

WORKING PAPER

Nineteenth Meeting of the Meteorological Information Exchange Working Group (MET/IE WG/19)

Virtual meeting, 22 to 24 March 2021

Agenda Item 5: Quality control, monitoring and management of meteorological information exchange

**ASIA/PAC INTER-REGIONAL OPMET GATEWAY BACKUP EXERCISE
BETWEEN IROG SINGAPORE AND IROG BANGKOK**

(Presented by Singapore)

SUMMARY

This paper presents the results of the third IROG backup exercise between IROG Singapore and IROG Bangkok as part of the IROGs' maintenance of business continuity during unforeseen events in the Region.

1. INTRODUCTION

1.1 The OPMET/M TF/3 Meeting in March 2005 established the procedures for dissemination of ASIA/PAC OPMET Data to WAFC London by IROG Bangkok in the event IROG Singapore experiences technical problems.

1.2 The MET/IE WG/15 Meeting agreed to consider a broader programme for IROG backup procedures to include conducting regular backup exercises. In Workplan Activity 5.2, all IROGs were required to review their respective IROG backup procedures. As IROG Singapore and IROG Bangkok serve as a back-up to one another, both IROGs reviewed their existing procedures which were presented and adopted at the MET/IE WG/16 Meeting.

2. DISCUSSION

2.1 As part of the backup arrangement procedures, real-time backup exercises are to be conducted annually to validate the dissemination process for notification between IROG Singapore and IROG Bangkok, and to ensure that the procedures for handover and takeover of responsibility are functional.

2.2 The third IROG backup exercise between IROG Singapore and IROG Bangkok in the event IROG Bangkok experiences technical difficulties with prolonged downtime was conducted on 28 September 2020.

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2.3 During the exercise, IROG Singapore took over IROG Bangkok's role in relaying the OPMET messages from ASIA/PAC to MID and from ASIA to AFI between 0200 UTC and 0800 UTC. Both IROGs monitored and recorded the reception and transmission of the OPMET messages (see Appendix A). A summary of the results is listed in Table 1(below).

Type of Message	No. of Bulletins Received by IROG		No. of Bulletins Routed to MID/AFI by IROG Singapore	Successful Transmission Rate	No. of Bulletins Not Successfully Routed by IROG Singapore
	Bangkok	Singapore			
SA Bulletin	426	426	426	100%	0
FT Bulletin	66	66	66	100%	0
Total	492	492	492	100%	0

Table 1: Summary of the Reception and Transmission of OPMET Messages

3. CONCLUSION

3.1 IROG Singapore successfully routed 426 out of 426 (100%) METAR bulletins and 66 out of 66 (100%) TAF bulletins to MID/AFI during the exercise.

3.2 The exercise validated the dissemination process for notification between IROG Singapore and IROG Bangkok and the procedures for handover and takeover of responsibility are functional in the event IROG Bangkok experiences technical problems.

4. ACTION BY THE MEETING

4.1 The meeting is invited to discuss the following:

- a) the results of the IROG backup exercise; and
- b) the necessary follow-up issues arising from the exercise, if any.

Appendix A: Reception and Transmission of the OPMET messages

METAR Bulletins

	TTAAii	CCCC	YYGGgg	BBB	Recorded by IROG VTBB RX Time UTC	Recorded by IROG WSSS RX Time UTC	Recorded by IROG WSSS TX Time UTC to MID	Recorded by IROG WSSS TX Time UTC to AFI	Remark
					(hh:mm)	(hh:mm)	(hh:mm)	(hh:mm)	
1	SAAE31	VTBB	280200		2:05	2:05	2:05	2:05	
2	SAAE31	VTBB	280230		2:35	2:35	2:35	2:35	
3	SAAE31	VTBB	280300		3:05	3:05	3:05	3:05	
4	SAAE31	VTBB	280330		3:35	3:35	3:35	3:35	
5	SAAE31	VTBB	280400		4:05	4:05	4:05	4:05	
6	SAAE31	VTBB	280430		4:35	4:35	4:35	4:35	
7	SAAE31	VTBB	280500		5:05	5:05	5:05	5:05	
8	SAAE31	VTBB	280530		5:35	5:36	5:36	5:36	
9	SAAE31	VTBB	280600		6:05	6:05	6:05	6:05	
10	SAAE31	VTBB	280630		6:35	6:35	6:35	6:35	
11	SAAE31	VTBB	280700		7:05	7:06	7:06	7:06	
12	SAAE31	VTBB	280730		7:34	7:34	7:34	7:34	
13	SAAE32	VTBB	280200		2:05	2:05	2:05	2:05	
14	SAAE32	VTBB	280230		2:35	2:35	2:35	2:35	
15	SAAE32	VTBB	280300		3:05	3:05	3:05	3:05	
16	SAAE32	VTBB	280330		3:35	3:35	3:35	3:35	
17	SAAE32	VTBB	280330	RRA	3:42	3:42	3:42	3:42	
18	SAAE32	VTBB	280400		4:05	4:05	4:05	4:05	
19	SAAE32	VTBB	280430		4:35	4:35	4:35	4:35	
20	SAAE32	VTBB	280500		5:05	5:05	5:05	5:05	
21	SAAE32	VTBB	280500	RRA	5:07	5:07	5:07	5:07	
22	SAAE32	VTBB	280530		5:35	5:36	5:36	5:36	
23	SAAE32	VTBB	280600		6:05	6:05	6:05	6:05	
24	SAAE32	VTBB	280600	RRA	6:09	6:09	6:09	6:09	
25	SAAE32	VTBB	280630		6:35	6:35	6:35	6:35	
26	SAAE32	VTBB	280630	RRA	7:00	7:00	7:00	7:00	
27	SAAE32	VTBB	280700		7:05	7:06	7:06	7:06	
28	SAAE32	VTBB	280700	RRA	7:13	7:13	7:13	7:13	
29	SAAE32	VTBB	280730		7:34	7:34	7:34	7:34	
30	SAAE33	VTBB	280200		2:05	2:05	2:05	2:05	
31	SAAE33	VTBB	280300		3:05	3:05	3:05	3:05	
32	SAAE33	VTBB	280300	RRA	3:06	3:06	3:06	3:06	
33	SAAE33	VTBB	280400		4:05	4:05	4:05	4:05	
34	SAAE33	VTBB	280500		5:05	5:05	5:05	5:05	
35	SAAE33	VTBB	280600		6:05	6:05	6:05	6:05	
36	SAAE33	VTBB	280700		7:05	7:06	7:06	7:06	
37	SAAE34	VTBB	280200		2:05	2:05	2:05	2:05	
38	SAAE34	VTBB	280230		2:35	2:35	2:35	2:35	
39	SAAE34	VTBB	280300		3:05	3:05	3:05	3:05	
40	SAAE34	VTBB	280330		3:35	3:35	3:35	3:35	
41	SAAE34	VTBB	280330	RRA	3:42	3:42	3:42	3:42	
42	SAAE34	VTBB	280400		4:05	4:05	4:05	4:05	
43	SAAE34	VTBB	280400	RRA	4:20	4:20	4:20	4:20	
44	SAAE34	VTBB	280430		4:35	4:35	4:35	4:35	
45	SAAE34	VTBB	280500		5:05	5:05	5:05	5:05	
46	SAAE34	VTBB	280530		5:35	5:36	5:36	5:36	
47	SAAE34	VTBB	280600		6:05	6:05	6:05	6:05	
48	SAAE34	VTBB	280600	RRA	6:15	6:16	6:16	6:16	

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49	SAAE34	VTBB	280630		6:35	6:35	6:35	6:35	
50	SAAE34	VTBB	280700		7:05	7:06	7:06	7:06	
51	SAAE34	VTBB	280700	CCA	7:12	7:12	7:12	7:12	
52	SAAE34	VTBB	280730		7:34	7:34	7:34	7:34	
53	SAAU31	YBBN	280200		2:10	2:10	2:10		Not required for AFI
54	SAAU31	YBBN	280230		2:40	2:40	2:40		Not required for AFI
55	SAAU31	YBBN	280300		3:10	3:10	3:10		Not required for AFI
56	SAAU31	YBBN	280330		3:40	3:40	3:40		Not required for AFI
57	SAAU31	YBBN	280400		4:10	4:10	4:10		Not required for AFI
58	SAAU31	YBBN	280430		4:40	4:40	4:40		Not required for AFI
59	SAAU31	YBBN	280500		5:10	5:10	5:10		Not required for AFI
60	SAAU31	YBBN	280530		5:40	5:40	5:40		Not required for AFI
61	SAAU31	YBBN	280600		6:10	6:10	6:10		Not required for AFI
62	SAAU31	YBBN	280630		6:40	6:40	6:40		Not required for AFI
63	SAAU31	YBBN	280700		7:10	7:10	7:10		Not required for AFI
64	SAAU31	YBBN	280730		7:40	7:40	7:40		Not required for AFI
65	SAAU32	YBBN	280200		2:10	2:10	2:10		Not required for AFI
66	SAAU32	YBBN	280230		2:40	2:40	2:40		Not required for AFI
67	SAAU32	YBBN	280300		3:10	3:10	3:10		Not required for AFI
68	SAAU32	YBBN	280330		3:40	3:40	3:40		Not required for AFI
69	SAAU32	YBBN	280400		4:10	4:10	4:10		Not required for AFI
70	SAAU32	YBBN	280430		4:40	4:40	4:40		Not required for AFI
71	SAAU32	YBBN	280500		5:10	5:10	5:10		Not required for AFI
72	SAAU32	YBBN	280530		5:40	5:40	5:40		Not required for AFI
73	SAAU32	YBBN	280600		6:10	6:10	6:10		Not required for AFI
74	SAAU32	YBBN	280630		6:40	6:40	6:40		Not required for AFI
75	SAAU32	YBBN	280700		7:10	7:10	7:10		Not required for AFI
76	SAAU32	YBBN	280730		7:40	7:40	7:40		Not required for AFI
77	SAAU33	YBBN	280200		2:10	2:10	2:10		Not required for AFI
78	SAAU33	YBBN	280230		2:40	2:40	2:40		Not required for AFI
79	SAAU33	YBBN	280300		3:10	3:10	3:10		Not required for AFI
80	SAAU33	YBBN	280330		3:40	3:40	3:40		Not required for AFI
81	SAAU33	YBBN	280400		4:10	4:10	4:10		Not required for AFI
82	SAAU33	YBBN	280430		4:40	4:40	4:40		Not required for AFI
83	SAAU33	YBBN	280500		5:10	5:10	5:10		Not required for AFI
84	SAAU33	YBBN	280530		5:40	5:40	5:40		Not required for AFI
85	SAAU33	YBBN	280600		6:10	6:10	6:10		Not required for AFI
86	SAAU33	YBBN	280630		6:40	6:40	6:40		Not required for AFI
87	SAAU33	YBBN	280700		7:10	7:10	7:10		Not required for AFI
88	SAAU33	YBBN	280730		7:40	7:40	7:40		Not required for AFI
89	SAAU34	YBBN	280200		2:10	2:10	2:10		Not required for AFI
90	SAAU34	YBBN	280230		2:40	2:40	2:40		Not required for AFI
91	SAAU34	YBBN	280300		3:10	3:10	3:10		Not required for AFI
92	SAAU34	YBBN	280330		3:40	3:40	3:40		Not required for AFI
93	SAAU34	YBBN	280400		4:10	4:10	4:10		Not required for AFI
94	SAAU34	YBBN	280430		4:40	4:40	4:40		Not required for AFI
95	SAAU34	YBBN	280500		5:10	5:10	5:10		Not required for AFI
96	SAAU34	YBBN	280530		5:40	5:40	5:40		Not required for AFI
97	SAAU34	YBBN	280600		6:10	6:10	6:10		Not required for AFI
98	SAAU34	YBBN	280630		6:40	6:40	6:40		Not required for AFI
99	SAAU34	YBBN	280700		7:10	7:10	7:10		Not required for AFI
100	SAAU34	YBBN	280730		7:40	7:40	7:40		Not required for AFI
101	SAAU35	YBBN	280200		2:10	2:10	2:10		Not required for AFI
102	SAAU35	YBBN	280200		2:10	2:10	2:10		Not required for AFI

103	SAAU35	YBBN	280230		2:40	2:40	2:40		Not required for AFI
104	SAAU35	YBBN	280300		3:10	3:10	3:10		Not required for AFI
105	SAAU35	YBBN	280330		3:40	3:40	3:40		Not required for AFI
106	SAAU35	YBBN	280400		4:10	4:10	4:10		Not required for AFI
107	SAAU35	YBBN	280430		4:40	4:40	4:40		Not required for AFI
108	SAAU35	YBBN	280500		5:10	5:10	5:10		Not required for AFI
109	SAAU35	YBBN	280530		5:40	5:40	5:40		Not required for AFI
110	SAAU35	YBBN	280600		6:10	6:10	6:10		Not required for AFI
111	SAAU35	YBBN	280630		6:40	6:40	6:40		Not required for AFI
112	SAAU35	YBBN	280700		7:10	7:10	7:10		Not required for AFI
113	SAAU35	YBBN	280730		7:40	7:40	7:40		Not required for AFI
114	SACI31	ZBBB	280200		2:05	2:05	2:05	2:05	
115	SACI31	ZBBB	280230		2:35	2:35	2:35	2:35	
116	SACI31	ZBBB	280300		3:06	3:05	3:05	3:05	
117	SACI31	ZBBB	280330		3:35	3:35	3:35	3:35	
118	SACI31	ZBBB	280400		4:05	4:05	4:05	4:05	
119	SACI31	ZBBB	280430		4:35	4:35	4:35	4:35	
120	SACI31	ZBBB	280500		5:05	5:05	5:05	5:05	
121	SACI31	ZBBB	280530		5:35	5:35	5:35	5:35	
122	SACI31	ZBBB	280600		6:05	6:05	6:05	6:05	
123	SACI31	ZBBB	280630		6:35	6:35	6:35	6:35	
124	SACI31	ZBBB	280700		7:07	7:05	7:05	7:05	
125	SACI31	ZBBB	280730		7:36	7:35	7:35	7:35	
126	SACI32	ZBBB	280200		2:06	2:05	2:05	2:05	
127	SACI32	ZBBB	280300		3:06	3:05	3:05	3:05	
128	SACI32	ZBBB	280400		4:05	4:05	4:05	4:05	
129	SACI32	ZBBB	280500		5:05	5:05	5:05	5:05	
130	SACI32	ZBBB	280600		6:05	6:05	6:05	6:05	
131	SACI32	ZBBB	280700		7:07	7:05	7:05	7:05	
132	SACI41	ZBBB	280200		2:06	2:05	2:05	2:05	
133	SACI41	ZBBB	280300		3:06	3:05	3:05	3:05	
134	SACI41	ZBBB	280400		4:06	4:05	4:05	4:05	
135	SACI41	ZBBB	280500		5:06	5:05	5:05	5:05	
136	SACI41	ZBBB	280600		6:05	6:05	6:05	6:05	
137	SACI41	ZBBB	280700		7:07	7:05	7:05	7:05	
138	SAHK31	VHHH	280200		2:06	2:06	2:06	2:06	
139	SAHK31	VHHH	280230		2:36	2:36	2:36	2:36	
140	SAHK31	VHHH	280300		3:06	3:06	3:06	3:06	
141	SAHK31	VHHH	280330		3:36	3:36	3:36	3:36	
142	SAHK31	VHHH	280400		4:08	4:08	4:08	4:08	
143	SAHK31	VHHH	280400	CCA	4:14	4:14	4:14	4:14	
144	SAHK31	VHHH	280430		4:36	4:36	4:36	4:36	
145	SAHK31	VHHH	280500		5:10	5:10	5:10	5:10	
146	SAHK31	VHHH	280530		5:36	5:36	5:36	5:36	
147	SAHK31	VHHH	280600		6:10	6:10	6:10	6:10	
148	SAHK31	VHHH	280600	RRA	7:04	7:05	7:05	7:05	
149	SAHK31	VHHH	280630		6:40	6:40	6:40	6:40	
150	SAHK31	VHHH	280700		7:10	7:10	7:10	7:10	
151	SAHK31	VHHH	280730		7:36	7:36	7:36	7:36	
152	SAID31	WIII	280200		2:10	2:10	2:10	2:10	
153	SAID31	WIII	280200		2:10	2:10	2:10	2:10	
154	SAID31	WIII	280230		2:40	2:40	2:40	2:40	
155	SAID31	WIII	280230		2:40	2:40	2:40	2:40	
156	SAID31	WIII	280300		3:10	3:10	3:10	3:10	
157	SAID31	WIII	280300		3:10	3:10	3:10	3:10	
158	SAID31	WIII	280330		3:40	3:40	3:40	3:40	

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159	SAID31	WIII	280330	3:40	3:40	3:40	3:40
160	SAID31	WIII	280400	4:10	4:10	4:10	4:10
161	SAID31	WIII	280400	4:10	4:10	4:10	4:10
162	SAID31	WIII	280430	4:40	4:40	4:40	4:40
163	SAID31	WIII	280430	4:40	4:40	4:40	4:40
164	SAID31	WIII	280500	5:10	5:10	5:10	5:10
165	SAID31	WIII	280500	5:10	5:10	5:10	5:10
166	SAID31	WIII	280530	5:40	5:40	5:40	5:40
167	SAID31	WIII	280530	5:40	5:40	5:40	5:40
168	SAID31	WIII	280600	6:10	6:10	6:10	6:10
169	SAID31	WIII	280600	6:10	6:10	6:10	6:10
170	SAID31	WIII	280630	6:40	6:40	6:40	6:40
171	SAID31	WIII	280630	6:40	6:40	6:40	6:40
172	SAID31	WIII	280700	7:10	7:10	7:10	7:10
173	SAID31	WIII	280700	7:10	7:10	7:10	7:10
174	SAID31	WIII	280730	7:40	7:40	7:40	7:40
175	SAID31	WIII	280730	7:40	7:40	7:40	7:40
176	SAID32	WIII	280200	2:10	2:10	2:10	2:10
177	SAID32	WIII	280200	2:10	2:10	2:10	2:10
178	SAID32	WIII	280230	2:40	2:40	2:40	2:40
179	SAID32	WIII	280230	2:40	2:40	2:40	2:40
180	SAID32	WIII	280300	3:10	3:10	3:10	3:10
181	SAID32	WIII	280300	3:10	3:10	3:10	3:10
182	SAID32	WIII	280330	3:40	3:40	3:40	3:40
183	SAID32	WIII	280330	3:40	3:40	3:40	3:40
184	SAID32	WIII	280400	4:10	4:10	4:10	4:10
185	SAID32	WIII	280400	4:10	4:10	4:10	4:10
186	SAID32	WIII	280430	4:40	4:40	4:40	4:40
187	SAID32	WIII	280430	4:40	4:40	4:40	4:40
188	SAID32	WIII	280500	5:10	5:10	5:10	5:10
189	SAID32	WIII	280500	5:10	5:10	5:10	5:10
190	SAID32	WIII	280530	5:40	5:40	5:40	5:40
191	SAID32	WIII	280530	5:40	5:40	5:40	5:40
192	SAID32	WIII	280600	6:10	6:10	6:10	6:10
193	SAID32	WIII	280600	6:10	6:10	6:10	6:10
194	SAID32	WIII	280630	6:40	6:40	6:40	6:40
195	SAID32	WIII	280630	6:40	6:40	6:40	6:40
196	SAID32	WIII	280700	7:10	7:10	7:10	7:10
197	SAID32	WIII	280700	7:10	7:10	7:10	7:10
198	SAID32	WIII	280730	7:40	7:40	7:40	7:40
199	SAID32	WIII	280730	7:40	7:40	7:40	7:40
200	SAID33	WIII	280200	2:10	2:10	2:10	2:10
201	SAID33	WIII	280200	2:10	2:10	2:10	2:10
202	SAID33	WIII	280230	2:40	2:40	2:40	2:40
203	SAID33	WIII	280230	2:40	2:40	2:40	2:40
204	SAID33	WIII	280300	3:10	3:10	3:10	3:10
205	SAID33	WIII	280300	3:10	3:10	3:10	3:10
206	SAID33	WIII	280330	3:40	3:40	3:40	3:40
207	SAID33	WIII	280330	3:40	3:40	3:40	3:40
208	SAID33	WIII	280400	4:10	4:10	4:10	4:10
209	SAID33	WIII	280400	4:10	4:10	4:10	4:10
210	SAID33	WIII	280430	4:40	4:40	4:40	4:40
211	SAID33	WIII	280430	4:40	4:40	4:40	4:40
212	SAID33	WIII	280500	5:13	5:10	5:10	5:10

213	SAID33	WIII	280500		5:10	5:10	5:10	5:10
214	SAID33	WIII	280500		5:10	5:12	5:12	5:12
215	SAID33	WIII	280530		5:40	5:40	5:40	5:40
216	SAID33	WIII	280530		5:40	5:40	5:40	5:40
217	SAID33	WIII	280600		6:10	6:10	6:10	6:10
218	SAID33	WIII	280600		6:10	6:10	6:10	6:10
219	SAID33	WIII	280630		6:40	6:40	6:40	6:40
220	SAID33	WIII	280630		6:40	6:40	6:40	6:40
221	SAID33	WIII	280700		7:10	7:10	7:10	7:10
222	SAID33	WIII	280700		7:10	7:10	7:10	7:10
223	SAID33	WIII	280730		7:40	7:40	7:40	7:40
224	SAID33	WIII	280730		7:40	7:40	7:40	7:40
225	SAIN31	VABB	280200		2:19	2:19	2:19	2:19
226	SAIN31	VABB	280230		2:49	2:49	2:49	2:49
227	SAIN31	VABB	280300		3:19	3:20	3:20	3:20
228	SAIN31	VABB	280330		3:49	3:49	3:49	3:49
229	SAIN31	VABB	280400		4:19	4:19	4:19	4:19
230	SAIN31	VABB	280400	RRA	4:20	4:20	4:20	4:20
231	SAIN31	VABB	280400	RRB	4:34	4:33	4:33	4:33
232	SAIN31	VABB	280430		4:49	4:49	4:49	4:49
233	SAIN31	VABB	280500		5:19	5:19	5:19	5:19
234	SAIN31	VABB	280530		5:50	5:50	5:50	5:50
235	SAIN31	VABB	280600		6:19	6:19	6:19	6:19
236	SAIN31	VABB	280630		6:49	6:49	6:49	6:49
237	SAIN31	VABB	280700		7:19	7:19	7:19	7:19
238	SAIN31	VABB	280730		7:49	7:49	7:49	7:49
239	SAIN32	VIDP	280200		2:06	2:06	2:06	2:06
240	SAIN32	VIDP	280230		2:36	2:36	2:36	2:36
241	SAIN32	VIDP	280300		3:06	3:06	3:06	3:06
242	SAIN32	VIDP	280330		3:36	3:36	3:36	3:36
243	SAIN32	VIDP	280400		4:06	4:06	4:06	4:06
244	SAIN32	VIDP	280430		4:36	4:36	4:36	4:36
245	SAIN32	VIDP	280500		5:07	5:06	5:06	5:06
246	SAIN32	VIDP	280500	RRA	5:11	5:11	5:11	5:11
247	SAIN32	VIDP	280530		5:36	5:36	5:36	5:36
248	SAIN32	VIDP	280530	RRA	5:46	5:46	5:46	5:46
249	SAIN32	VIDP	280600		6:07	6:06	6:06	6:06
250	SAIN32	VIDP	280630		6:36	6:36	6:36	6:36
251	SAIN32	VIDP	280630	RRA	6:41	6:41	6:41	6:41
252	SAIN32	VIDP	280700		7:36	7:36	7:36	7:36
253	SAIN32	VIDP	280730		7:43	7:43	7:43	7:43
254	SAIN33	VECC	280200		2:06	2:06	2:06	2:06
255	SAIN33	VECC	280230		2:36	2:35	2:35	2:35
256	SAIN33	VECC	280300		3:06	3:06	3:06	3:06
257	SAIN33	VECC	280330		3:36	3:36	3:36	3:36
258	SAIN33	VECC	280400		4:06	4:05	4:05	4:05
259	SAIN33	VECC	280400	RRA	4:25	4:26	4:26	4:26
260	SAIN33	VECC	280430		4:36	4:35	4:35	4:35
261	SAIN33	VECC	280500		5:07	5:06	5:06	5:06
262	SAIN33	VECC	280530		5:36	5:35	5:35	5:35
263	SAIN33	VECC	280530	RRA	6:24	6:24	6:24	6:24
264	SAIN33	VECC	280600		6:07	6:06	6:06	6:06
265	SAIN33	VECC	280600	RRA	6:15	6:16	6:16	6:16
266	SAIN33	VECC	280630		6:36	6:36	6:36	6:36
267	SAIN33	VECC	280630	RRA	6:45	6:45	6:45	6:45
268	SAIN33	VECC	280700		7:05	7:05	7:05	7:05

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269	SAIN33	VECC	280700	RRA	7:15	7:15	7:15	7:15
270	SAIN33	VECC	280730		7:36	7:36	7:36	7:36
271	SAJP31	RJTD	280200		2:06	2:06	2:06	2:06
272	SAJP31	RJTD	280300		3:06	3:06	3:06	3:06
273	SAJP31	RJTD	280400		4:06	4:06	4:06	4:06
274	SAJP31	RJTD	280500		5:06	5:06	5:06	5:06
275	SAJP31	RJTD	280600		6:06	6:06	6:06	6:06
276	SAJP31	RJTD	280700		7:06	7:06	7:06	7:06
277	SAJP32	RJTD	280200		2:06	2:06	2:06	2:06
278	SAJP32	RJTD	280200	RRA	2:06	2:06	2:06	2:06
279	SAJP32	RJTD	280300		3:06	3:06	3:06	3:06
280	SAJP32	RJTD	280300	RRA	3:06	3:06	3:06	3:06
281	SAJP32	RJTD	280400		4:06	4:06	4:06	4:06
282	SAJP32	RJTD	280400	RRA	4:06	4:06	4:06	4:06
283	SAJP32	RJTD	280500		5:06	5:06	5:06	5:06
284	SAJP32	RJTD	280500	RRA	5:06	5:06	5:06	5:06
285	SAJP32	RJTD	280600		6:06	6:06	6:06	6:06
286	SAJP32	RJTD	280600	RRA	6:06	6:06	6:06	6:06
287	SAJP32	RJTD	280700		7:06	7:06	7:06	7:06
288	SAJP32	RJTD	280700	RRA	7:06	7:06	7:06	7:06
289	SAJP38	RJTD	280200		2:06	2:06	2:06	2:06
290	SAJP38	RJTD	280200	RRA	2:06	2:06	2:06	2:06
291	SAJP38	RJTD	280300		3:06	3:06	3:06	3:06
292	SAJP38	RJTD	280300	RRA	3:06	3:06	3:06	3:06
293	SAJP38	RJTD	280400		4:06	4:06	4:06	4:06
294	SAJP38	RJTD	280400	RRA	4:06	4:06	4:06	4:06
295	SAJP38	RJTD	280500		5:06	5:06	5:06	5:06
296	SAJP38	RJTD	280500	RRA	5:06	5:06	5:06	5:06
297	SAJP38	RJTD	280600		6:06	6:06	6:06	6:06
298	SAJP38	RJTD	280600	RRA	6:06	6:06	6:06	6:06
299	SAJP38	RJTD	280700		7:06	7:06	7:06	7:06
300	SAJP38	RJTD	280700	RRA	7:06	7:06	7:06	7:06
301	SAKO31	RKSI	280200		2:04	2:04	2:04	2:04
302	SAKO31	RKSI	280200	CCA	2:43	2:43	2:43	2:43
303	SAKO31	RKSI	280230		2:34	2:34	2:34	2:34
304	SAKO31	RKSI	280230	CCA	2:39	2:39	2:39	2:39
305	SAKO31	RKSI	280300		3:04	3:04	3:04	3:04
306	SAKO31	RKSI	280330		3:34	3:34	3:34	3:34
307	SAKO31	RKSI	280400		4:04	4:04	4:04	4:04
308	SAKO31	RKSI	280400	CCA	4:06	4:07	4:07	4:07
309	SAKO31	RKSI	280430		4:34	4:34	4:34	4:34
310	SAKO31	RKSI	280500		5:04	5:04	5:04	5:04
311	SAKO31	RKSI	280530		5:34	5:35	5:35	5:35
312	SAKO31	RKSI	280600		6:04	6:04	6:04	6:04
313	SAKO31	RKSI	280630		6:34	6:34	6:34	6:34
314	SAKO31	RKSI	280700		7:04	7:04	7:04	7:04
315	SAKO31	RKSI	280730		7:34	7:34	7:34	7:34
316	SAMS31	WMKK	280200		2:08	2:08	2:08	2:08
317	SAMS31	WMKK	280230		2:38	2:38	2:38	2:38
318	SAMS31	WMKK	280300		3:08	3:08	3:08	3:08
319	SAMS31	WMKK	280300	CCA	3:16	3:16	3:16	3:16
320	SAMS31	WMKK	280330		3:38	3:38	3:38	3:38
321	SAMS31	WMKK	280400		4:08	4:08	4:08	4:08
322	SAMS31	WMKK	280430		4:38	4:38	4:38	4:38

323	SAMS31	WMKK	280500		5:08	5:08	5:08	5:08	
324	SAMS31	WMKK	280530		5:38	5:38	5:38	5:38	
325	SAMS31	WMKK	280530	RRA	5:40	5:40	5:40	5:40	
326	SAMS31	WMKK	280600		6:08	6:08	6:08	6:08	
327	SAMS31	WMKK	280600	CCA	6:36	6:36	6:36	6:36	
328	SAMS31	WMKK	280630		6:38	6:38	6:38	6:38	
329	SAMS31	WMKK	280630	RRA	6:40	6:40	6:40	6:40	
330	SAMS31	WMKK	280700		7:08	7:08	7:08	7:08	
331	SAMS31	WMKK	280700	CCA	7:18	7:18	7:18	7:18	
332	SAMS31	WMKK	280730		7:38	7:38	7:38	7:38	
333	SAMS38	WMKK	280200		2:08	2:08	2:08	2:08	
334	SAMS38	WMKK	280300		3:08	3:08	3:08	3:08	
335	SAMS38	WMKK	280300	CCA	4:06	4:06	4:06	4:06	
336	SAMS38	WMKK	280400		4:08	4:08	4:08	4:08	
337	SAMS38	WMKK	280500		5:08	5:08	5:08	5:08	
338	SAMS38	WMKK	280500	CCA	5:10	5:10	5:10	5:10	
339	SAMS38	WMKK	280500	RRA	5:12	5:12	5:12	5:12	
340	SAMS38	WMKK	280600		6:08	6:08	6:08	6:08	
341	SAMS38	WMKK	280700		7:08	7:08	7:08	7:08	
342	SANG31	YBBN	280200		2:10	2:10	2:10		Not required for AFI
343	SANG31	YBBN	280200	RRA	2:20	2:20	2:20		Not required for AFI
344	SANG31	YBBN	280300		3:10	3:10	3:10		Not required for AFI
345	SANG31	YBBN	280300	RRA	3:20	3:20	3:20		Not required for AFI
346	SANG31	YBBN	280400		4:10	4:10	4:10		Not required for AFI
347	SANG31	YBBN	280400	RRA	4:20	4:20	4:20		Not required for AFI
348	SANG31	YBBN	280500		5:10	5:10	5:10		Not required for AFI
349	SANG31	YBBN	280500	RRA	5:20	5:20	5:20		Not required for AFI
350	SANG31	YBBN	280600		6:10	6:10	6:10		Not required for AFI
351	SANG31	YBBN	280600	RRA	6:20	6:20	6:20		Not required for AFI
352	SANG31	YBBN	280700		7:10	7:10	7:10		Not required for AFI
353	SANG31	YBBN	280700	RRA	7:20	7:20	7:20		Not required for AFI
354	SANZ31	NZKL	280200		2:07	2:07	2:07		Not required for AFI
355	SANZ31	NZKL	280230		2:37	2:37	2:37		Not required for AFI
356	SANZ31	NZKL	280248	CCA	2:48	2:48	2:48		Not required for AFI
357	SANZ31	NZKL	280300		3:07	3:07	3:07		Not required for AFI
358	SANZ31	NZKL	280330		3:37	3:37	3:37		Not required for AFI
359	SANZ31	NZKL	280400		4:07	4:07	4:07		Not required for AFI
360	SANZ31	NZKL	280430		4:37	4:37	4:37		Not required for AFI
361	SANZ31	NZKL	280500		5:07	5:07	5:07		Not required for AFI
362	SANZ31	NZKL	280530		5:37	5:37	5:37		Not required for AFI
363	SANZ31	NZKL	280600		6:07	6:07	6:07		Not required for AFI
364	SANZ31	NZKL	280630		6:37	6:37	6:37		Not required for AFI
365	SANZ31	NZKL	280700		7:07	7:07	7:07		Not required for AFI
366	SANZ31	NZKL	280730		7:37	7:37	7:37		Not required for AFI
367	SAPK31	OPKC	280200		2:06	2:06	2:06	2:06	
368	SAPK31	OPKC	280230		2:30	2:30	2:30	2:30	
369	SAPK31	OPKC	280300		3:00	3:00	3:00	3:00	
370	SAPK31	OPKC	280330		3:32	3:32	3:32	3:32	
371	SAPK31	OPKC	280400		4:06	4:06	4:06	4:06	
372	SAPK31	OPKC	280400		4:06	4:06	4:06	4:06	
373	SAPK31	OPKC	280400		4:06	4:06	4:06	4:06	
374	SAPK31	OPKC	280400		4:06	4:06	4:06	4:06	
375	SAPK31	OPKC	280400		4:06	4:06	4:06	4:06	
376	SAPK31	OPKC	280430		4:31	4:31	4:31	4:31	
377	SAPK31	OPKC	280500		5:01	5:01	5:01	5:01	
378	SAPK31	OPKC	280530		5:31	5:31	5:31	5:31	

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379	SAPK31	OPKC	280600		6:01	6:01	6:01	6:01	
380	SAPK31	OPKC	280630		6:31	6:31	6:31	6:31	
381	SAPK31	OPKC	280700		7:04	7:05	7:05	7:05	
382	SAPK31	OPKC	280730		7:36	7:36	7:36	7:36	
383	SAPS31	NFFN	280200		2:08	2:08	2:08		Not required for AFI
384	SAPS31	NFFN	280300		3:15	3:15	3:15		Not required for AFI
385	SAPS31	NFFN	280400		4:09	4:09	4:10		Not required for AFI
386	SAPS31	NFFN	280500		5:10	5:10	5:10		Not required for AFI
387	SAPS31	NFFN	280600		6:09	6:09	6:09		Not required for AFI
388	SAPS31	NFFN	280700		7:06	7:06	7:06		Not required for AFI
389	SAPS32	NFFN	280200		2:04	2:04	2:04		Not required for AFI
390	SAPS32	NFFN	280300		3:04	3:04	3:04		Not required for AFI
391	SAPS32	NFFN	280400		4:03	4:03	4:04		Not required for AFI
392	SAPS32	NFFN	280500		5:06	5:06	5:06		Not required for AFI
393	SAPS32	NFFN	280600		6:04	6:05	6:05		Not required for AFI
394	SAPS32	NFFN	280700		7:15	7:15	7:15		Not required for AFI
395	SASB31	VCCC	280210		2:20	2:20	2:20	2:20	
396	SASB31	VCCC	280310		3:21	3:21	3:21	3:21	
397	SASB31	VCCC	280410		4:20	4:20	4:20	4:20	
398	SASB31	VCCC	280510		5:20	5:21	5:21	5:21	
399	SASB31	VCCC	280610		6:20	6:20	6:20	6:20	
400	SASB31	VCCC	280710		7:20	7:20	7:20	7:20	
401	SATH31	VTBB	280200		2:05	2:05	2:05	2:05	
402	SATH31	VTBB	280300		3:05	3:05	3:05	3:05	
403	SATH31	VTBB	280400		4:05	4:05	4:05	4:05	
404	SATH31	VTBB	280400		4:05	4:06	4:06	4:06	
405	SATH31	VTBB	280500		5:05	5:05	5:05	5:05	
406	SATH31	VTBB	280600		6:05	6:05	6:05	6:05	
407	SATH31	VTBB	280700		7:05	7:06	7:06	7:06	
408	SATH32	VTBB	280200		2:05	2:05	2:05	2:05	
409	SATH32	VTBB	280200	RRA	2:31	2:31	2:31	2:31	
410	SATH32	VTBB	280300		3:05	3:05	3:05	3:05	
411	SATH32	VTBB	280300	RRA	3:31	3:31	3:31	3:31	
412	SATH32	VTBB	280400		4:05	4:05	4:05	4:05	
413	SATH32	VTBB	280400	RRA	4:31	4:31	4:31	4:31	
414	SATH32	VTBB	280500		5:05	5:05	5:05	5:05	
415	SATH32	VTBB	280500	RRA	5:31	5:31	5:31	5:31	
416	SATH32	VTBB	280600		6:05	6:05	6:05	6:05	
417	SATH32	VTBB	280600	RRA	6:31	6:31	6:31	6:31	
418	SATH32	VTBB	280700		7:05	7:06	7:06	7:06	
419	SATH32	VTBB	280700	RRA	7:32	7:32	7:32	7:32	
420	SATH33	VTBB	280200		2:05	2:05	2:05	2:05	
421	SATH33	VTBB	280300		3:05	3:05	3:05	3:05	
422	SATH33	VTBB	280400		4:05	4:05	4:05	4:05	
423	SATH33	VTBB	280500		5:05	5:05	5:05	5:05	
424	SATH33	VTBB	280600		6:05	6:05	6:05	6:05	
425	SATH33	VTBB	280700		7:05	7:06	7:06	7:06	
426	SATH33	VTBB	280700	RRA	7:12	7:12	7:12	7:12	

TAF Bulletins

	TTAAii	CCCC	YYGGgg	BBB	Recorded by IROG VTBB RX Time UTC (hh:mm)	Recorded by IROG WSSS RX Time UTC (hh:mm)	Recorded by IROG WSSS TX Time UTC to MID (hh:mm)	Recorded by IROG WSSS TX Time UTC to AFI (hh:mm)	Remark
1	FTAE31	VTBB	280500		5:35	5:36	5:36	5:36	
2	FTAE32	VTBB	280500		5:35	5:36	5:36	5:36	
3	FTAE32	VTBB	280500	RRA	5:39	5:39	5:39	5:39	
4	FTAE32	VTBB	280500	AAA	6:12	6:12	6:12	6:12	
5	FTAE33	VTBB	280500		5:35	5:36	5:36	5:36	
6	FTAE34	VTBB	280500		5:35	5:36	5:36	5:36	
7	FTAU31	YBBN	280300		3:07	3:07	3:07		Not required for AFI
8	FTAU31	YBBN	280400		4:58	4:58	4:58		Not required for AFI
9	FTAU31	YBBN	280500		5:35	5:35	5:35		Not required for AFI
10	FTAU32	YBBN	280400		4:37	4:37	4:37		Not required for AFI
11	FTAU32	YBBN	280400		4:50	4:50	4:50		Not required for AFI
12	FTAU32	YBBN	280500		5:35	5:35	5:35		Not required for AFI
13	FTAU32	YBBN	280500	RRA	5:35	5:35	5:35		Not required for AFI
14	FTAU32	YBBN	280500	RRA	5:45	5:45	5:45		Not required for AFI
15	FTAU33	YBBN	280300		3:07	3:07	3:07		Not required for AFI
16	FTAU33	YBBN	280500		5:27	5:27	5:27		Not required for AFI
17	FTAU33	YBBN	280500		5:35	5:35	5:35		Not required for AFI
18	FTAU33	YBBN	280500	RRA	5:55	5:55	5:55		Not required for AFI
19	FTAU34	YBBN	280400		4:38	4:38	4:38		Not required for AFI
20	FTAU34	YBBN	280500		5:00	5:00	5:00		Not required for AFI
21	FTAU34	YBBN	280500	RRA	5:20	5:20	5:20		Not required for AFI
22	FTAU35	YBBN	280700		7:00	7:00	7:00		Not required for AFI
23	FTAU35	YBBN	280700	RRA	7:10	7:10	7:10		Not required for AFI
24	FTCI31	ZBBB	280400		4:00	4:00	4:00	4:00	
25	FTCI31	ZBBB	280409	AAA	4:11	4:10	4:10	4:10	
26	FTCI32	ZBBB	280400		4:02	4:00	4:00	4:00	
27	FTCI32	ZBBB	280438	RRA	4:39	4:38	4:38	4:38	
28	FTCI32	ZBBB	280522	AAA	5:22	5:22	5:22	5:22	
29	FTCI41	ZBBB	280400		4:02	4:00	4:00	4:00	
30	FTHK31	VHHH	280500		5:20	5:20	5:20	5:20	
31	FTHK31	VHHH	280500	RRA	5:20	5:20	5:20	5:20	
32	FTIN31	VABB	280500	RRA	5:50	5:50	5:50	5:50	
33	FTIN31	VABB	280500	RRB	5:50	5:50	5:50	5:50	
34	FTIN32	VABB	280500	RRA	5:51	5:51	5:51	5:51	
35	FTIN32	VABB	280500	RRB	5:51	5:51	5:51	5:51	
36	FTIN32	VABB	280500	RRC	5:52	5:52	5:52	5:52	
37	FTJP31	RJTD	272300	AAA	3:08	3:08	3:08	3:08	
38	FTJP31	RJTD	272300	AAB	3:12	3:13	3:13	3:13	
39	FTJP31	RJTD	280500		5:27	5:27	5:27	5:27	
40	FTJP31	RJTD	280500	AAA	7:57	7:56	7:56	7:56	
41	FTJP32	RJTD	280500		5:27	5:27	5:27	5:27	
42	FTJP32	RJTD	280500	RRA	5:27	5:27	5:27	5:27	
43	FTJP38	RJTD	280500		5:27	5:27	5:27	5:27	
44	FTJP38	RJTD	280500	RRA	5:27	5:27	5:27	5:27	
45	FTJP38	RJTD	280500	RRB	5:27	5:27	5:27	5:27	
46	FTKO31	RKSI	280500		5:05	5:05	5:05	5:05	
47	FTKO31	RKSI	280500	RRA	5:15	5:16	5:16	5:16	
48	FTNG31	YBBN	280400		4:45	4:45	4:45		Not required for AFI
49	FTNG31	YBBN	280500	RRA	5:25	5:25	5:25		Not required for AFI
50	FTNG31	YBBN	280500		5:58	5:58	6:08		Not required for AFI

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51	FTNZ31	NZKL	280500		5:07	5:07	5:07		Not required for AFI
52	FTNZ31	NZKL	280507		5:08	5:08	5:08		Not required for AFI
53	FTPK31	OPKC	280400		4:33	4:33	4:33	4:33	
54	FTPK31	OPKC	280510		5:03	5:03	5:03	5:03	
55	FTPS31	NFFN	280500		5:45	5:45	5:45		Not required for AFI
56	FTPS31	NFFN	280500	RRA	5:58	5:57	5:57		Not required for AFI
57	FTSR31	WSSS	280500		5:07	5:07	5:07	5:07	From WSSS
58	FTSR32	WSSS	272300	AAA	2:51	2:51	2:51	2:51	From WSSS
59	FTSR32	WSSS	280500		5:08	5:07	5:07	5:07	From WSSS
60	FTSR32	WSSS	280500	AAA	6:20	6:20	6:20	6:20	From WSSS
61	FTSR33	WSSS	272300	AAA	3:43	3:43	3:43	3:43	From WSSS
62	FTSR33	WSSS	280500		5:09	5:09	5:09	5:09	From WSSS
63	FTTH31	VTBB	280500		5:35	5:36	5:36	5:36	
64	FTTH32	VTBB	280500		5:35	5:36	5:37	5:37	
65	FTTH33	VTBB	280500		5:35	5:36	5:36	5:36	
66	FTTM31	YBBN	280500		5:35	5:35	5:35		Not required for AFI