

*International Civil Aviation Organization***WORKING PAPER****ICAO****Asia and Pacific (APAC)
Twenty-first Meeting of the Meteorological Information
Exchange Working Group (MET/IE WG/21)**

Bangkok, Thailand, 27 to 29 March 2023

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 fifth 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 fifth IROG backup exercise between IROG Singapore and IROG Bangkok in the event IROG Bangkok experiences technical difficulties with prolonged downtime was conducted on 29 September 2022.

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	550	550	550	100%	0
FT Bulletin	87	87	87	100%	0
Total	637	637	637	100%	0

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

3. CONCLUSION

3.1 IROG Singapore successfully routed 550 out of 550 (100%) METAR bulletins and 87 out of 87 (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. The procedures for handover and takeover of responsibility are also tested to be 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: Summary of ASIA/PAC Bulletin Switching on 29 September 2022

					METAR Bulletins			
					Recorded by	Recorded by	Recorded by	Recorded by
					VTBB RODB	WSSS RODB	WSSS RODB	WSSS RODB
					RX Time UTC	RX Time UTC	TX Time UTC to MID	TX Time UTC to AFI
	TTAAii	CCCC	YYGGgg	BBB	(hh:mm)	(hh:mm)	(hh:mm)	(hh:mm)
1	SAAE31	VTBB	290200		2:05	02:05	02:05	02:05
2	SAAE31	VTBB	290230		2:35	02:35	02:35	02:35
3	SAAE31	VTBB	290300		3:05	03:05	03:05	03:05
4	SAAE31	VTBB	290330		3:35	03:35	03:35	03:35
5	SAAE31	VTBB	290400		4:05	04:05	04:05	04:05
6	SAAE31	VTBB	290430		4:35	04:35	04:35	04:35
7	SAAE31	VTBB	290500		5:05	05:05	05:05	05:05
8	SAAE31	VTBB	290530		5:35	05:35	05:35	05:35
9	SAAE31	VTBB	290600		6:05	06:05	06:05	06:05
10	SAAE31	VTBB	290630		6:35	06:35	06:35	06:35
11	SAAE31	VTBB	290700		7:05	07:05	07:05	07:05
12	SAAE31	VTBB	290730		7:35	07:35	07:35	07:35
13	SAAE32	VTBB	290200		2:05	02:05	02:05	02:05
14	SAAE32	VTBB	290200	RRA	2:07	02:07	02:07	02:07
15	SAAE32	VTBB	290230		2:35	02:35	02:35	02:35
16	SAAE32	VTBB	290230	RRA	2:36	02:36	02:36	02:36
17	SAAE32	VTBB	290300		3:05	03:05	03:05	03:05
18	SAAE32	VTBB	290330		3:35	03:35	03:35	03:35
19	SAAE32	VTBB	290400		4:05	04:05	04:05	04:05
20	SAAE32	VTBB	290430		4:35	04:35	04:35	04:35
21	SAAE32	VTBB	290500		5:05	05:05	05:05	05:05
22	SAAE32	VTBB	290530		5:35	05:35	05:35	05:35
23	SAAE32	VTBB	290600		6:05	06:05	06:05	06:05
24	SAAE32	VTBB	290600	CCA	6:05	06:05	06:05	06:05
25	SAAE32	VTBB	290630		6:35	06:35	06:35	06:35
26	SAAE32	VTBB	290630	CCA	6:45	06:45	06:45	06:45
27	SAAE32	VTBB	290700		7:05	07:05	07:05	07:05
28	SAAE32	VTBB	290700	RRA	7:12	07:12	07:12	07:12
29	SAAE32	VTBB	290700	RRB	7:12	07:12	07:12	07:12
30	SAAE32	VTBB	290730		7:35	07:35	07:35	07:35
31	SAAE33	VTBB	290200		2:05	02:05	02:05	02:05
32	SAAE33	VTBB	290300		3:05	03:05	03:05	03:05
33	SAAE33	VTBB	290400		4:05	04:05	04:05	04:05
34	SAAE33	VTBB	290500		5:05	05:05	05:05	05:05
35	SAAE33	VTBB	290600		6:05	06:05	06:05	06:05

36	SAAE33	VTBB	290700		7:05	07:05	07:05	07:05
37	SAAE34	VTBB	290200		2:05	02:05	02:05	02:05
38	SAAE34	VTBB	290200	CCA	2:11	02:11	02:11	02:11
39	SAAE34	VTBB	290230		2:35	02:35	02:35	02:35
40	SAAE34	VTBB	290230	RRA	2:44	02:44	02:44	02:44
41	SAAE34	VTBB	290230	RRB	2:44	02:44	02:44	02:44
42	SAAE34	VTBB	290300		3:05	03:05	03:05	03:05
43	SAAE34	VTBB	290300	RRA	3:08	03:08	03:08	03:08
44	SAAE34	VTBB	290300	RRB	3:08	03:08	03:08	03:08
45	SAAE34	VTBB	290330		3:35	03:35	03:35	03:35
46	SAAE34	VTBB	290400		4:05	04:05	04:05	04:05
47	SAAE34	VTBB	290430		4:35	04:35	04:35	04:35
48	SAAE34	VTBB	290500		5:05	05:05	05:05	05:05
49	SAAE34	VTBB	290530		5:35	05:35	05:35	05:35
50	SAAE34	VTBB	290530	RRA	5:37	05:37	05:37	05:37
51	SAAE34	VTBB	290530	RRB	5:42	05:42	05:42	05:42
52	SAAE34	VTBB	290530	RRC	5:42	05:42	05:42	05:42
53	SAAE34	VTBB	290530	RRD	5:42	05:42	05:42	05:42
54	SAAE34	VTBB	290600		6:05	06:05	06:05	06:05
55	SAAE34	VTBB	290630		6:35	06:35	06:35	06:35
56	SAAE34	VTBB	290630	RRA	6:36	06:36	06:36	06:36
57	SAAE34	VTBB	290630	RRB	6:46	06:46	06:46	06:46
58	SAAE34	VTBB	290630	RRC	6:46	06:46	06:46	06:46
59	SAAE34	VTBB	290700		7:05	07:05	07:05	07:05
60	SAAE34	VTBB	290700	RRA	7:12	07:12	07:12	07:12
61	SAAE34	VTBB	290700	RRB	7:12	07:12	07:12	07:12
62	SAAE34	VTBB	290730		7:35	07:35	07:35	07:35
63	SAAU31	YBBN	290200		2:05	02:05	02:05	
64	SAAU31	YBBN	290230		2:35	02:35	02:35	
65	SAAU31	YBBN	290230	RRA	2:45	02:45	02:45	
66	SAAU31	YBBN	290300		3:05	03:05	03:05	
67	SAAU31	YBBN	290330		3:35	03:35	03:35	
68	SAAU31	YBBN	290400		4:05	04:05	04:05	
69	SAAU31	YBBN	290430		4:35	04:35	04:35	
70	SAAU31	YBBN	290430	RRA	4:45	04:45	04:45	
71	SAAU31	YBBN	290500		5:05	05:05	05:05	
72	SAAU31	YBBN	290530		5:35	05:35	05:35	
73	SAAU31	YBBN	290530	RRA	5:45	05:45	05:45	
74	SAAU31	YBBN	290600		6:05	06:05	06:05	
75	SAAU31	YBBN	290630		6:35	06:35	06:35	
76	SAAU31	YBBN	290630	RRA	6:45	06:45	06:45	
77	SAAU31	YBBN	290700		7:05	07:05	07:05	
78	SAAU31	YBBN	290730		7:35	07:35	07:35	
79	SAAU31	YBBN	290730	RRA	7:45	07:45	07:45	

80	SAAU32	YBBN	290200		2:05	02:05	02:05	
81	SAAU32	YBBN	290230		2:35	02:35	02:35	
82	SAAU32	YBBN	290230	RRA	2:45	02:45	02:45	
83	SAAU32	YBBN	290300		3:05	03:05	03:05	
84	SAAU32	YBBN	290330		3:35	03:35	03:35	
85	SAAU32	YBBN	290330	RRA	3:45	03:45	03:45	
86	SAAU32	YBBN	290400		4:05	04:05	04:05	
87	SAAU32	YBBN	290430		4:35	04:35	04:35	
88	SAAU32	YBBN	290500		5:05	05:05	05:05	
89	SAAU32	YBBN	290530		5:35	05:35	05:35	
90	SAAU32	YBBN	290600		6:05	06:05	06:05	
91	SAAU32	YBBN	290630		6:35	06:35	06:35	
92	SAAU32	YBBN	290700		7:05	07:05	07:05	
93	SAAU32	YBBN	290730		7:35	07:35	07:35	
94	SAAU33	YBBN	290200		2:05	02:05	02:05	
95	SAAU33	YBBN	290230		2:35	02:35	02:35	
96	SAAU33	YBBN	290300		3:05	03:05	03:05	
97	SAAU33	YBBN	290330		3:35	03:35	03:35	
98	SAAU33	YBBN	290400		4:05	04:05	04:05	
99	SAAU33	YBBN	290430		4:35	04:35	04:35	
100	SAAU33	YBBN	290500		5:05	05:05	05:05	
101	SAAU33	YBBN	290530		5:35	05:35	05:35	
102	SAAU33	YBBN	290600		6:05	06:05	06:05	
103	SAAU33	YBBN	290630		6:35	06:35	06:35	
104	SAAU33	YBBN	290700		7:05	07:05	07:05	
105	SAAU33	YBBN	290730		7:35	07:35	07:35	
106	SAAU34	YBBN	290200		2:05	02:05	02:05	
107	SAAU34	YBBN	290230		2:35	02:35	02:35	
108	SAAU34	YBBN	290300		3:05	03:05	03:05	
109	SAAU34	YBBN	290330		3:35	03:35	03:35	
110	SAAU34	YBBN	290400		4:05	04:05	04:05	
111	SAAU34	YBBN	290430		4:35	04:35	04:35	
112	SAAU34	YBBN	290500		5:05	05:05	05:05	
113	SAAU34	YBBN	290530		5:35	05:35	05:35	
114	SAAU34	YBBN	290600		6:05	06:05	06:05	
115	SAAU34	YBBN	290630		6:35	06:35	06:35	
116	SAAU34	YBBN	290700		7:05	07:05	07:05	
117	SAAU34	YBBN	290730		7:35	07:35	07:35	
118	SAAU35	YBBN	290200		2:05	02:05	02:05	
119	SAAU35	YBBN	290230		2:35	02:35	02:35	
120	SAAU35	YBBN	290300		3:05	03:05	03:05	
121	SAAU35	YBBN	290330		3:35	03:35	03:35	
122	SAAU35	YBBN	290400		4:05	04:05	04:05	
123	SAAU35	YBBN	290430		4:35	04:35	04:35	

124	SAAU35	YBBN	290430	RRA	4:45	04:45	04:45	
125	SAAU35	YBBN	290500		5:05	05:05	05:05	
126	SAAU35	YBBN	290530		5:35	05:35	05:35	
127	SAAU35	YBBN	290600		6:05	06:05	06:05	
128	SAAU35	YBBN	290630		6:35	06:35	06:35	
129	SAAU35	YBBN	290700		7:05	07:05	07:05	
130	SAAU35	YBBN	290730		7:35	07:35	07:35	
131	SAAU36	YBBN	290200		2:05	02:05	02:05	
132	SAAU36	YBBN	290230		2:35	02:35	02:35	
133	SAAU36	YBBN	290230	RRA	2:45	02:45	02:45	
134	SAAU36	YBBN	290300		3:05	03:05	03:05	
135	SAAU36	YBBN	290330		3:35	03:35	03:35	
136	SAAU36	YBBN	290400		4:05	04:05	04:05	
137	SAAU36	YBBN	290430		4:35	04:35	04:35	
138	SAAU36	YBBN	290500		5:05	05:05	05:05	
139	SAAU36	YBBN	290530		5:35	05:35	05:35	
140	SAAU36	YBBN	290530	RRA	5:45	05:45	05:45	
141	SAAU36	YBBN	290600		6:05	06:05	06:05	
142	SAAU36	YBBN	290630		6:35	06:35	06:35	
143	SAAU36	YBBN	290700		7:05	07:05	07:05	
144	SAAU36	YBBN	290730		7:35	07:35	07:35	
145	SACI31	ZBBB	290200		2:05	02:05	02:05	02:05
146	SACI31	ZBBB	290230		2:35	02:35	02:35	02:35
147	SACI31	ZBBB	290300		3:05	03:05	03:05	03:05
148	SACI31	ZBBB	290330		3:36	03:35	03:35	03:35
149	SACI31	ZBBB	290400		4:05	04:05	04:05	04:05
150	SACI31	ZBBB	290430		4:35	04:35	04:35	04:35
151	SACI31	ZBBB	290500		5:05	05:05	05:05	05:05
152	SACI31	ZBBB	290530		5:36	05:35	05:35	05:35
153	SACI31	ZBBB	290600		6:06	06:05	06:05	06:05
154	SACI31	ZBBB	290630		6:35	06:35	06:35	06:35
155	SACI31	ZBBB	290700		7:06	07:05	07:05	07:05
156	SACI31	ZBBB	290730		7:35	07:35	07:35	07:35
157	SACI32	ZBBB	290200		2:05	02:05	02:05	02:05
158	SACI32	ZBBB	290300		3:06	03:05	03:05	03:05
159	SACI32	ZBBB	290400		4:05	04:05	04:05	04:05
160	SACI32	ZBBB	290500		5:05	05:05	05:05	05:05
161	SACI32	ZBBB	290600		6:06	06:05	06:05	06:05
162	SACI32	ZBBB	290700		7:06	07:05	07:05	07:05
163	SACI41	ZBBB	290200		2:05	02:05	02:05	02:05
164	SACI41	ZBBB	290300		3:06	03:05	03:05	03:05
165	SACI41	ZBBB	290400		4:06	04:05	04:05	04:05
166	SACI41	ZBBB	290500		5:06	05:05	05:05	05:05
167	SACI41	ZBBB	290600		6:06	06:05	06:05	06:05

168	SACI41	ZBBB	290700		7:06	07:05	07:05	07:05
169	SAHK31	VHHH	290200		2:06	02:06	02:06	02:06
170	SAHK31	VHHH	290230		2:36	02:36	02:36	02:36
171	SAHK31	VHHH	290300		3:07	03:07	03:07	03:07
172	SAHK31	VHHH	290330		3:36	03:36	03:36	03:36
173	SAHK31	VHHH	290400		4:06	04:06	04:06	04:06
174	SAHK31	VHHH	290430		4:36	04:36	04:36	04:36
175	SAHK31	VHHH	290500		5:06	05:06	05:06	05:06
176	SAHK31	VHHH	290530		5:40	05:39	05:39	05:39
177	SAHK31	VHHH	290600		6:10	06:09	06:09	06:09
178	SAHK31	VHHH	290600	RRA	6:11	06:11	06:11	06:11
179	SAHK31	VHHH	290600	RRB	6:11	06:11	06:11	06:11
180	SAHK31	VHHH	290600	RRC	6:11	06:11	06:11	06:11
181	SAHK31	VHHH	290600	RRD	6:11	06:11	06:11	06:11
182	SAHK31	VHHH	290600	RRE	6:11	06:11	06:11	06:11
183	SAHK31	VHHH	290600	RRF	6:11	06:11	06:11	06:11
184	SAHK31	VHHH	290600	CCA	6:28	06:28	06:28	06:28
185	SAHK31	VHHH	290600	CCB	6:30	06:30	06:30	06:30
186	SAHK31	VHHH	290600	CCC	6:38	06:38	06:38	06:38
187	SAHK31	VHHH	290600	CCD	6:40	06:40	06:40	06:40
188	SAHK31	VHHH	290630		6:36	06:36	06:36	06:36
189	SAHK31	VHHH	290700		7:06	07:06	07:06	07:06
190	SAHK31	VHHH	290730		7:36	07:36	07:36	07:36
191	SAID31	WIII	290200		2:10	02:10	02:10	02:10
192	SAID31	WIII	290200		2:10	02:10	02:10	02:10
193	SAID31	WIII	290200		2:11	02:11	02:11	02:11
194	SAID31	WIII	290230		2:40	02:40	02:40	02:40
195	SAID31	WIII	290300		3:10	03:10	03:10	03:10
196	SAID31	WIII	290330		3:40	03:40	03:40	03:40
197	SAID31	WIII	290400		4:10	04:10	04:10	04:10
198	SAID31	WIII	290400		4:10	04:10	04:10	04:10
199	SAID31	WIII	290430		4:40	04:40	04:40	04:40
200	SAID31	WIII	290430		4:40	04:40	04:40	04:40
201	SAID31	WIII	290430		4:41	04:41	04:41	04:41
202	SAID31	WIII	290500		5:10	05:10	05:10	05:10
203	SAID31	WIII	290530		5:40	05:40	05:40	05:40
204	SAID31	WIII	290600		6:10	06:10	06:10	06:10
205	SAID31	WIII	290630		6:40	06:40	06:40	06:40
206	SAID31	WIII	290630		6:41	06:41	06:41	06:41
207	SAID31	WIII	290630		6:43	06:42	06:42	06:42
208	SAID31	WIII	290700		7:10	07:10	07:10	07:10
209	SAID31	WIII	290700		7:11	07:10	07:10	07:10
210	SAID31	WIII	290730		7:40	07:40	07:40	07:40
211	SAID31	WIII	290730		7:58	07:58	07:58	07:58

212	SAID31	WIII	290730		7:58	07:58	07:58	07:58
213	SAID31	WIII	290730		7:59	07:58	07:58	07:58
214	SAID31	WIII	290730		7:59	07:58	07:58	07:58
215	SAID31	WIII	290730		7:59	07:58	07:58	07:58
216	SAID31	WIII	290730		7:59	07:58	07:58	07:58
217	SAID31	WIII	290730		7:59	07:59	07:59	07:59
218	SAID32	WIII	290200		2:10	02:10	02:10	02:10
219	SAID32	WIII	290200		2:10	02:10	02:10	02:10
220	SAID32	WIII	290200		2:11	02:11	02:11	02:11
221	SAID32	WIII	290230		2:40	02:40	02:40	02:40
222	SAID32	WIII	290300		3:10	03:10	03:10	03:10
223	SAID32	WIII	290330		3:40	03:40	03:40	03:40
224	SAID32	WIII	290400		4:10	04:10	04:10	04:10
225	SAID32	WIII	290400		4:13	04:13	04:13	04:13
226	SAID32	WIII	290430		4:40	04:40	04:40	04:40
227	SAID32	WIII	290500		5:10	05:10	05:10	05:10
228	SAID32	WIII	290530		5:40	05:40	05:40	05:40
229	SAID32	WIII	290600		6:10	06:10	06:10	06:10
230	SAID32	WIII	290630		6:40	06:40	06:40	06:40
231	SAID32	WIII	290630		6:42	06:42	06:42	06:42
232	SAID32	WIII	290700		7:10	07:10	07:10	07:10
233	SAID32	WIII	290700		7:10	07:10	07:10	07:10
234	SAID32	WIII	290730		7:40	07:40	07:40	07:40
235	SAID32	WIII	290730		7:59	07:58	07:58	07:58
236	SAID32	WIII	290730		7:59	07:58	07:58	07:58
237	SAID32	WIII	290730		7:59	07:58	07:58	07:58
238	SAID32	WIII	290730		7:59	07:58	07:58	07:58
239	SAID32	WIII	290730		7:59	07:58	07:58	07:58
240	SAID32	WIII	290730		7:59	07:59	07:59	07:59
241	SAID32	WIII	290730		7:59	07:59	07:59	07:59
242	SAID32	WIII	290730		7:59	07:59	07:59	07:59
243	SAID33	WIII	290200		2:10	02:10	02:10	02:10
244	SAID33	WIII	290200		2:11	02:11	02:11	02:11
245	SAID33	WIII	290200		2:12	02:12	02:12	02:12
246	SAID33	WIII	290230		2:40	02:40	02:40	02:40
247	SAID33	WIII	290300		3:10	03:10	03:10	03:10
248	SAID33	WIII	290330		3:40	03:40	03:40	03:40
249	SAID33	WIII	290400		4:10	04:10	04:10	04:10
250	SAID33	WIII	290400		4:11	04:11	04:11	04:11
251	SAID33	WIII	290400		4:12	04:11	04:11	04:11
252	SAID33	WIII	290400		4:16	04:15	04:15	04:15
253	SAID33	WIII	290430		4:40	04:40	04:40	04:40
254	SAID33	WIII	290430		4:41	04:41	04:41	04:41
255	SAID33	WIII	290430		4:43	04:42	04:42	04:42

256	SAID33	WIII	290430		4:49	04:49	04:49	04:49
257	SAID33	WIII	290500		5:10	05:10	05:10	05:10
258	SAID33	WIII	290530		5:40	05:40	05:40	05:40
259	SAID33	WIII	290600		6:10	06:10	06:10	06:10
260	SAID33	WIII	290630		6:40	06:40	06:40	06:40
261	SAID33	WIII	290630		6:42	06:41	06:41	06:41
262	SAID33	WIII	290630		6:43	06:43	06:43	06:43
263	SAID33	WIII	290700		7:10	07:10	07:10	07:10
264	SAID33	WIII	290700		7:11	07:11	07:11	07:11
265	SAID33	WIII	290700		7:13	07:12	07:12	07:12
266	SAID33	WIII	290730		7:40	07:40	07:40	07:40
267	SAID33	WIII	290730		7:59	07:59	07:59	07:59
268	SAID33	WIII	290730		7:59	07:59	07:59	07:59
269	SAID33	WIII	290730		7:59	07:59	07:59	07:59
270	SAID33	WIII	290730		7:59	07:59	07:59	07:59
271	SAID33	WIII	290730		7:59	07:59	07:59	07:59
272	SAID33	WIII	290730		8:00	07:59	07:59	07:59
273	SAID33	WIII	290730		8:02	07:59	07:59	07:59
274	SAID33	WIII	290730		8:02	07:59	07:59	07:59
275	SAIN31	VABB	290200		2:17	02:16	02:16	02:16
276	SAIN31	VABB	290230		2:48	02:47	02:47	02:47
277	SAIN31	VABB	290300		3:16	03:16	03:16	03:16
278	SAIN31	VABB	290400		4:17	04:17	04:17	04:17
279	SAIN31	VABB	290430		4:47	04:46	04:46	04:46
280	SAIN31	VABB	290500		5:17	05:16	05:16	05:16
281	SAIN31	VABB	290530		5:47	05:47	05:47	05:47
282	SAIN31	VABB	290600		6:17	06:17	06:17	06:17
283	SAIN31	VABB	290630		6:47	06:46	06:46	06:46
284	SAIN32	VIDP	290200		2:07	02:07	02:07	02:07
285	SAIN32	VIDP	290230		2:37	02:37	02:37	02:37
286	SAIN32	VIDP	290300		3:07	03:07	03:07	03:07
287	SAIN32	VIDP	290300	CCA	3:34	03:34	03:34	03:34
288	SAIN32	VIDP	290300	CCB	3:35	03:35	03:35	03:35
289	SAIN32	VIDP	290330		3:37	03:37	03:37	03:37
290	SAIN32	VIDP	290400		4:07	04:07	04:07	04:07
291	SAIN32	VIDP	290430		4:37	04:37	04:37	04:37
292	SAIN32	VIDP	290500		5:09	05:09	05:09	05:09
293	SAIN32	VIDP	290500	RRA	5:13	05:13	05:13	05:13
294	SAIN32	VIDP	290500	CCA	5:33	05:33	05:33	05:33
295	SAIN32	VIDP	290530		5:37	05:37	05:37	05:37
296	SAIN32	VIDP	290600		6:08	06:08	06:08	06:08
297	SAIN32	VIDP	290630		6:39	06:38	06:38	06:38
298	SAIN32	VIDP	290700		7:10	07:09	07:09	07:09
299	SAIN32	VIDP	290700	RRA	7:14	07:14	07:14	07:14

300	SAIN32	VIDP	290730		7:38	07:38	07:38	07:38
301	SAIN32	VIDP	290730	RRB	7:47	07:47	07:47	07:47
302	SAIN33	VECC	290200		2:06	02:05	02:05	02:05
303	SAIN33	VECC	290230		2:36	02:35	02:35	02:35
304	SAIN33	VECC	290300		3:06	03:05	03:05	03:05
305	SAIN33	VECC	290300	RRA	3:16	03:16	03:16	03:16
306	SAIN33	VECC	290330		3:36	03:35	03:35	03:35
307	SAIN33	VECC	290400		4:06	04:06	04:06	04:06
308	SAIN33	VECC	290400	RRA	4:16	04:16	04:16	04:16
309	SAIN33	VECC	290430		4:36	04:36	04:36	04:36
310	SAIN33	VECC	290430	RRA	4:46	04:46	04:46	04:46
311	SAIN33	VECC	290500		5:06	05:05	05:05	05:05
312	SAIN33	VECC	290500	RRA	5:16	05:16	05:16	05:16
313	SAIN33	VECC	290530		5:36	05:36	05:36	05:36
314	SAIN33	VECC	290530	RRB	5:56	05:56	05:56	05:56
315	SAIN33	VECC	290600		6:06	06:06	06:06	06:06
316	SAIN33	VECC	290600	RRA	6:16	06:16	06:16	06:16
317	SAIN33	VECC	290630		6:36	06:36	06:36	06:36
318	SAIN33	VECC	290700		7:06	07:06	07:06	07:06
319	SAIN33	VECC	290730		7:36	07:36	07:36	07:36
320	SAJP31	RJTD	290200		2:07	02:06	02:06	02:06
321	SAJP31	RJTD	290300		3:06	03:06	03:06	03:06
322	SAJP31	RJTD	290400		4:06	04:06	04:06	04:06
323	SAJP31	RJTD	290500		5:06	05:06	05:06	05:06
324	SAJP31	RJTD	290600		6:06	06:06	06:06	06:06
325	SAJP31	RJTD	290700		7:07	07:06	07:06	07:06
326	SAJP32	RJTD	290200		2:07	02:06	02:06	02:06
327	SAJP32	RJTD	290200	RRA	2:07	02:06	02:06	02:06
328	SAJP32	RJTD	290300		3:07	03:06	03:06	03:06
329	SAJP32	RJTD	290300	RRA	3:07	03:06	03:06	03:06
330	SAJP32	RJTD	290400		4:06	04:06	04:06	04:06
331	SAJP32	RJTD	290400	RRA	4:06	04:06	04:06	04:06
332	SAJP32	RJTD	290500		5:06	05:06	05:06	05:06
333	SAJP32	RJTD	290500	RRA	5:06	05:06	05:06	05:06
334	SAJP32	RJTD	290600		6:07	06:06	06:06	06:06
335	SAJP32	RJTD	290600	RRA	6:07	06:06	06:06	06:06
336	SAJP32	RJTD	290700		7:07	07:06	07:06	07:06
337	SAJP32	RJTD	290700	RRA	7:07	07:06	07:06	07:06
338	SAJP38	RJTD	290200		2:07	02:06	02:06	02:06
339	SAJP38	RJTD	290200	RRA	2:07	02:06	02:06	02:06
340	SAJP38	RJTD	290300		3:07	03:06	03:06	03:06
341	SAJP38	RJTD	290300	RRA	3:07	03:06	03:06	03:06
342	SAJP38	RJTD	290400		4:06	04:06	04:06	04:06
343	SAJP38	RJTD	290400	RRA	4:07	04:06	04:06	04:06

344	SAJP38	RJTD	290500		5:06	05:06	05:06	05:06
345	SAJP38	RJTD	290500	RRA	5:06	05:06	05:06	05:06
346	SAJP38	RJTD	290600		6:07	06:06	06:06	06:06
347	SAJP38	RJTD	290600	RRA	6:07	06:06	06:06	06:06
348	SAJP38	RJTD	290700		7:07	07:06	07:06	07:06
349	SAJP38	RJTD	290700	RRA	7:07	07:06	07:06	07:06
350	SAKO31	RKSI	290200		2:04	02:04	02:04	02:04
351	SAKO31	RKSI	290230		2:34	02:34	02:34	02:34
352	SAKO31	RKSI	290300		3:04	03:04	03:04	03:04
353	SAKO31	RKSI	290330		3:34	03:34	03:34	03:34
354	SAKO31	RKSI	290400		4:04	04:04	04:04	04:04
355	SAKO31	RKSI	290430		4:34	04:34	04:34	04:34
356	SAKO31	RKSI	290500		5:04	05:04	05:04	05:04
357	SAKO31	RKSI	290500	RRA	5:07	05:07	05:07	05:07
358	SAKO31	RKSI	290500	RRB	5:09	05:09	05:09	05:09
359	SAKO31	RKSI	290500	CCA	5:13	05:12	05:12	05:12
360	SAKO31	RKSI	290530		5:34	05:34	05:34	05:34
361	SAKO31	RKSI	290600		6:04	06:04	06:04	06:04
362	SAKO31	RKSI	290630		6:34	06:34	06:34	06:34
363	SAKO31	RKSI	290700		7:04	07:04	07:04	07:04
364	SAKO31	RKSI	290730		7:34	07:34	07:34	07:34
365	SAMS31	WMKK	290200		2:08	02:08	02:08	02:08
366	SAMS31	WMKK	290200	RRA	2:16	02:16	02:16	02:16
367	SAMS31	WMKK	290230		2:38	02:38	02:38	02:38
368	SAMS31	WMKK	290230	RRA	2:50	02:50	02:50	02:50
369	SAMS31	WMKK	290300		3:08	03:08	03:08	03:08
370	SAMS31	WMKK	290300	RRA	3:10	03:10	03:10	03:10
371	SAMS31	WMKK	290300	RRB	3:24	03:24	03:24	03:24
372	SAMS31	WMKK	290330		3:38	03:38	03:38	03:38
373	SAMS31	WMKK	290330	RRA	3:40	03:40	03:40	03:40
374	SAMS31	WMKK	290400		4:08	04:08	04:08	04:08
375	SAMS31	WMKK	290400	RRA	4:10	04:10	04:10	04:10
376	SAMS31	WMKK	290430		4:38	04:38	04:38	04:38
377	SAMS31	WMKK	290430	RRA	4:42	04:42	04:42	04:42
378	SAMS31	WMKK	290500		5:08	05:08	05:08	05:08
379	SAMS31	WMKK	290500	RRA	5:16	05:16	05:16	05:16
380	SAMS31	WMKK	290530		5:38	05:38	05:38	05:38
381	SAMS31	WMKK	290530	RRA	5:50	05:50	05:50	05:50
382	SAMS31	WMKK	290600		6:08	06:08	06:08	06:08
383	SAMS31	WMKK	290600	RRA	6:18	06:18	06:18	06:18
384	SAMS31	WMKK	290630		6:38	06:38	06:38	06:38
385	SAMS31	WMKK	290630	RRA	6:54	06:52	06:52	06:52
386	SAMS31	WMKK	290700		7:08	07:08	07:08	07:08
387	SAMS31	WMKK	290700	RRA	7:20	07:20	07:20	07:20

388	SAMS31	WMKK	290730		7:38	07:38	07:38	07:38
389	SAMS31	WMKK	290730	RRA	7:48	07:48	07:48	07:48
390	SAMS32	WMKK	290200		2:08	02:08	02:08	02:08
391	SAMS32	WMKK	290200		2:08	02:08	02:08	02:08
392	SAMS32	WMKK	290200	RRA	2:16	02:16	02:16	02:16
393	SAMS32	WMKK	290300		3:08	03:08	03:08	03:08
394	SAMS32	WMKK	290300		3:08	03:08	03:08	03:08
395	SAMS32	WMKK	290300	RRA	3:10	03:10	03:10	03:10
396	SAMS32	WMKK	290300	RRA	3:18	03:18	03:18	03:18
397	SAMS32	WMKK	290300	RRB	3:24	03:24	03:24	03:24
398	SAMS32	WMKK	290400		4:08	04:08	04:08	04:08
399	SAMS32	WMKK	290400		4:08	04:08	04:08	04:08
400	SAMS32	WMKK	290400	RRA	4:10	04:10	04:10	04:10
401	SAMS32	WMKK	290400	RRA	4:14	04:14	04:14	04:14
402	SAMS32	WMKK	290500		5:08	05:08	05:08	05:08
403	SAMS32	WMKK	290500		5:08	05:08	05:08	05:08
404	SAMS32	WMKK	290500	RRA	5:16	05:16	05:16	05:16
405	SAMS32	WMKK	290600		6:08	06:08	06:08	06:08
406	SAMS32	WMKK	290600		6:08	06:08	06:08	06:08
407	SAMS32	WMKK	290600	RRA	6:18	06:18	06:18	06:18
408	SAMS32	WMKK	290700		7:08	07:08	07:08	07:08
409	SAMS32	WMKK	290700		7:08	07:08	07:08	07:08
410	SAMS32	WMKK	290700	RRA	7:20	07:20	07:20	07:20
411	SAMS33	WMKK	290200		2:08	02:08	02:08	02:08
412	SAMS33	WMKK	290200		2:08	02:08	02:08	02:08
413	SAMS33	WMKK	290200		2:08	02:08	02:08	02:08
414	SAMS33	WMKK	290200	RRA	2:16	02:16	02:16	02:16
415	SAMS33	WMKK	290300		3:08	03:08	03:08	03:08
416	SAMS33	WMKK	290300		3:08	03:08	03:08	03:08
417	SAMS33	WMKK	290300		3:08	03:08	03:08	03:08
418	SAMS33	WMKK	290300	RRA	3:12	03:12	03:12	03:12
419	SAMS33	WMKK	290400		4:08	04:08	04:08	04:08
420	SAMS33	WMKK	290400		4:08	04:08	04:08	04:08
421	SAMS33	WMKK	290400		4:08	04:08	04:08	04:08
422	SAMS33	WMKK	290400	RRA	4:10	04:10	04:10	04:10
423	SAMS33	WMKK	290400	RRA	4:14	04:14	04:14	04:14
424	SAMS33	WMKK	290500		5:08	05:08	05:08	05:08
425	SAMS33	WMKK	290500		5:08	05:08	05:08	05:08
426	SAMS33	WMKK	290500		5:08	05:08	05:08	05:08
427	SAMS33	WMKK	290500	RRA	5:16	05:16	05:16	05:16
428	SAMS33	WMKK	290600		6:08	06:08	06:08	06:08
429	SAMS33	WMKK	290600		6:08	06:08	06:08	06:08
430	SAMS33	WMKK	290600		6:08	06:08	06:08	06:08
431	SAMS33	WMKK	290600	RRA	6:12	06:12	06:12	06:12

432	SAMS33	WMKK	290700		7:08	07:08	07:08	07:08
433	SAMS33	WMKK	290700		7:08	07:08	07:08	07:08
434	SAMS33	WMKK	290700		7:08	07:08	07:08	07:08
435	SAMS33	WMKK	290700	RRA	7:14	07:14	07:14	07:14
436	SAMS38	WMKK	290200		2:08	02:08	02:08	02:08
437	SAMS38	WMKK	290200		2:08	02:08	02:08	02:08
438	SAMS38	WMKK	290200	RRA	2:16	02:16	02:16	02:16
439	SAMS38	WMKK	290200	RRA	2:16	02:16	02:16	02:16
440	SAMS38	WMKK	290200	RRB	2:22	02:22	02:22	02:22
441	SAMS38	WMKK	290300		3:08	03:08	03:08	03:08
442	SAMS38	WMKK	290300		3:08	03:08	03:08	03:08
443	SAMS38	WMKK	290300	RRA	3:12	03:12	03:12	03:12
444	SAMS38	WMKK	290400		4:08	04:08	04:08	04:08
445	SAMS38	WMKK	290400		4:08	04:08	04:08	04:08
446	SAMS38	WMKK	290400	RRA	4:14	04:14	04:14	04:14
447	SAMS38	WMKK	290500		5:08	05:08	05:08	05:08
448	SAMS38	WMKK	290500		5:08	05:08	05:08	05:08
449	SAMS38	WMKK	290500	RRA	5:10	05:10	05:10	05:10
450	SAMS38	WMKK	290500	RRA	5:16	05:16	05:16	05:16
451	SAMS38	WMKK	290600		6:08	06:08	06:08	06:08
452	SAMS38	WMKK	290600		6:08	06:08	06:08	06:08
453	SAMS38	WMKK	290600	RRA	6:12	06:12	06:12	06:12
454	SAMS38	WMKK	290700		7:08	07:08	07:08	07:08
455	SAMS38	WMKK	290700		7:08	07:08	07:08	07:08
456	SAMS38	WMKK	290700	RRA	7:14	07:14	07:14	07:14
457	SAMV31	VRMM	290200		2:01	02:00	02:00	02:00
458	SAMV31	VRMM	290200		2:03	02:03	02:03	02:03
459	SAMV31	VRMM	290300		3:01	03:01	03:01	03:01
460	SAMV31	VRMM	290400		4:03	04:03	04:03	04:03
461	SAMV31	VRMM	290500		5:03	05:03	05:03	05:03
462	SANG31	YBBN	290200		2:05	02:05	02:05	
463	SANG31	YBBN	290300		3:05	03:05	03:05	
464	SANG31	YBBN	290300	RRA	3:15	03:15	03:15	
465	SANG31	YBBN	290400		4:05	04:05	04:05	
466	SANG31	YBBN	290400	RRA	4:15	04:15	04:15	
467	SANG31	YBBN	290500		5:05	05:05	05:05	
468	SANG31	YBBN	290500	RRA	5:15	05:15	05:15	
469	SANG31	YBBN	290600		6:05	06:05	06:05	
470	SANG31	YBBN	290700		7:05	07:05	07:05	
471	SANZ31	NZKL	290200		2:07	02:07	02:07	
472	SANZ31	NZKL	290230		2:38	02:38	02:38	
473	SANZ31	NZKL	290300		3:07	03:07	03:07	
474	SANZ31	NZKL	290330		3:37	03:37	03:37	
475	SANZ31	NZKL	290400		4:07	04:07	04:07	

476	SANZ31	NZKL	290430		4:38	04:37	04:37	
477	SANZ31	NZKL	290500		5:07	05:07	05:07	
478	SANZ31	NZKL	290530		5:37	05:37	05:37	
479	SANZ31	NZKL	290600		6:07	06:07	06:07	
480	SANZ31	NZKL	290630		6:38	06:37	06:37	
481	SANZ31	NZKL	290700		7:07	07:07	07:07	
482	SANZ31	NZKL	290730		7:37	07:37	07:37	
483	SAPK31	OPKC	290200		02:01	02:01	02:01	02:01
484	SAPK31	OPKC	290200	RRA	2:01	02:01	02:01	02:01
485	SAPK31	OPKC	290230		2:31	02:31	02:31	02:31
486	SAPK31	OPKC	290230	RRA	2:31	02:31	02:31	02:31
487	SAPK31	OPKC	290300		03:01	03:01	03:01	03:01
488	SAPK31	OPKC	290300	RRA	3:01	03:01	03:01	03:01
489	SAPK31	OPKC	290330		3:31	03:31	03:31	03:31
490	SAPK31	OPKC	290330	RRA	3:32	03:31	03:31	03:31
491	SAPK31	OPKC	290400		4:02	04:01	04:01	04:01
492	SAPK31	OPKC	290400	RRA	4:01	04:01	04:01	04:01
493	SAPK31	OPKC	290400	RRB	4:02	04:01	04:01	04:01
494	SAPK31	OPKC	290400	RRC	4:11	04:11	04:11	04:11
495	SAPK31	OPKC	290430		4:31	04:31	04:31	04:31
496	SAPK31	OPKC	290430	RRA	4:32	04:31	04:31	04:31
497	SAPK31	OPKC	290500		5:03	05:01	05:01	05:01
498	SAPK31	OPKC	290500	RRA	5:02	05:01	05:01	05:01
499	SAPK31	OPKC	290530		5:31	05:31	05:31	05:31
500	SAPK31	OPKC	290530	RRA	5:31	05:31	05:31	05:31
501	SAPK31	OPKC	290600		6:04	06:01	06:01	06:01
502	SAPK31	OPKC	290600	RRA	6:01	06:01	06:01	06:01
503	SAPK31	OPKC	290600	RRB	6:07	06:07	06:07	06:07
504	SAPK31	OPKC	290630		6:31	06:31	06:31	06:31
505	SAPK31	OPKC	290630	RRA	6:32	06:31	06:31	06:31
506	SAPK31	OPKC	290630	RRB	6:32	06:32	06:32	06:32
507	SAPK31	OPKC	290700		7:01	07:01	07:01	07:01
508	SAPK31	OPKC	290700	RRA	7:02	07:01	07:01	07:01
509	SAPK31	OPKC	290700	RRB	7:02	07:02	07:02	07:02
510	SAPK31	OPKC	290700	RRC	7:09	07:09	07:09	07:09
511	SAPK31	OPKC	290730		7:31	07:31	07:31	07:31
512	SAPK31	OPKC	290730	RRA	7:32	07:31	07:31	07:31
513	SAPS31	NFFN	290200		2:15	02:15	02:15	
514	SAPS31	NFFN	290300		3:15	03:15	03:15	
515	SAPS31	NFFN	290400		4:15	04:15	04:15	
516	SAPS31	NFFN	290500		5:15	05:15	05:15	
517	SAPS31	NFFN	290600		6:15	06:15	06:15	
518	SAPS31	NFFN	290700		7:15	07:15	07:15	
519	SAPS32	NFFN	290200		2:04	02:04	02:04	

520	SAPS32	NFFN	290300		3:03	03:03	03:03	
521	SAPS32	NFFN	290400		4:03	04:03	04:03	
522	SAPS32	NFFN	290500		5:03	05:03	05:03	
523	SAPS32	NFFN	290600		6:04	06:03	06:03	
524	SAPS32	NFFN	290700		7:03	07:02	07:02	
525	SASB31	VCCC	290210		2:21	02:21	02:21	02:21
526	SASB31	VCCC	290310		3:20	03:20	03:20	03:20
527	SASB31	VCCC	290410		4:20	04:20	04:20	04:20
528	SASB31	VCCC	290510		5:20	05:20	05:20	05:20
529	SASB31	VCCC	290610		6:20	06:20	06:20	06:20
530	SASB31	VCCC	290710		7:20	07:20	07:20	07:20
531	SATH31	VTBB	290200		2:05	02:05	02:05	02:05
532	SATH31	VTBB	290300		3:05	03:05	03:05	03:05
533	SATH31	VTBB	290400		4:05	04:05	04:05	04:05
534	SATH31	VTBB	290500		5:05	05:05	05:05	05:05
535	SATH31	VTBB	290600		6:05	06:05	06:05	06:05
536	SATH31	VTBB	290700		7:05	07:05	07:05	07:05
537	SATH32	VTBB	290200		2:05	02:05	02:05	02:05
538	SATH32	VTBB	290200	CCA	2:31	02:31	02:31	02:31
539	SATH32	VTBB	290300		3:05	03:05	03:05	03:05
540	SATH32	VTBB	290400		4:05	04:05	04:05	04:05
541	SATH32	VTBB	290500		5:05	05:05	05:05	05:05
542	SATH32	VTBB	290600		6:05	06:05	06:05	06:05
543	SATH32	VTBB	290700		7:05	07:05	07:05	07:05
544	SATH33	VTBB	290200		2:05	02:05	02:05	02:05
545	SATH33	VTBB	290300		3:05	03:05	03:05	03:05
546	SATH33	VTBB	290400		4:05	04:05	04:05	04:05
547	SATH33	VTBB	290500		5:05	05:05	05:05	05:05
548	SATH33	VTBB	290600		6:05	06:05	06:05	06:05
549	SATH33	VTBB	290600	RRA	6:09	06:09	06:09	06:09
550	SATH33	VTBB	290700		7:05	07:05	07:05	07:05



not required by AFI

TAF Bulletins

					Recorded by	Recorded by	Recorded by	Recorded by
					VTBB RODB	WSSS RODB	WSSS RODB	WSSS RODB
					RX Time UTC	RX Time UTC	TX Time UTC to MID	TX Time UTC to AFI
	TTAAii	CCCC	YYGGgg	BBB	(hh:mm)	(hh:mm)	(hh:mm)	(hh:mm)
1	FTAE31	VTBB	290500		5:35	05:35	05:35	05:35
2	FTAE32	VTBB	290500		5:35	05:35	05:35	05:35
3	FTAE33	VTBB	290500		5:35	05:35	05:35	05:35
4	FTAE34	VTBB	290500		5:35	05:35	05:35	05:35
5	FTAU31	YBBN	290200		2:35	02:35	02:35	
6	FTAU31	YBBN	290200	RRA	2:35	02:35	02:35	
7	FTAU31	YBBN	290300		3:28	03:28	03:28	
8	FTAU31	YBBN	290300		3:58	03:58	03:58	
9	FTAU31	YBBN	290400		4:19	04:18	04:18	
10	FTAU31	YBBN	290400		4:54	04:54	04:54	
11	FTAU31	YBBN	290500		5:08	05:08	05:08	
12	FTAU31	YBBN	290500		5:17	05:17	05:17	
13	FTAU31	YBBN	290500		5:27	05:27	05:27	
14	FTAU31	YBBN	290500		5:35	05:35	05:35	
15	FTAU32	YBBN	290300		3:26	03:26	03:26	
16	FTAU32	YBBN	290500		5:08	05:08	05:08	
17	FTAU32	YBBN	290500		5:09	05:09	05:09	
18	FTAU32	YBBN	290500		5:09	05:09	05:09	
19	FTAU32	YBBN	290500		5:09	05:09	05:09	
20	FTAU32	YBBN	290500		5:21	05:21	05:21	
21	FTAU32	YBBN	290500		5:35	05:35	05:35	
22	FTAU32	YBBN	290700		7:07	07:07	07:07	
23	FTAU32	YBBN	290700		7:55	07:55	07:55	
24	FTAU33	YBBN	290300		3:29	03:29	03:29	
25	FTAU33	YBBN	290500		5:09	05:09	05:09	
26	FTAU33	YBBN	290500		5:35	05:35	05:35	
27	FTAU33	YBBN	290500		5:51	05:51	05:51	
28	FTAU34	YBBN	290500	RRA	5:10	05:10	05:10	
29	FTAU35	YBBN	290700		7:00	07:00	07:00	
30	FTAU35	YBBN	290700	RRA	7:10	07:10	07:10	
31	FTAU36	YBBN	290200		2:01	02:01	02:01	
32	FTAU36	YBBN	290200		2:31	02:30	02:30	
33	FTAU36	YBBN	290200		2:35	02:35	02:35	
34	FTAU36	YBBN	290300		3:21	03:20	03:20	
35	FTAU36	YBBN	290500		5:15	05:15	05:15	
36	FTAU36	YBBN	290500		5:34	05:34	05:34	
37	FTAU36	YBBN	290500		5:35	05:35	05:35	
38	FTAU36	YBBN	290600		6:07	06:07	06:07	

39	FTAU36	YBBN	290600		6:32	06:32	06:32	
40	FTAU36	YBBN	290600		6:34	06:33	06:33	
41	FTAU36	YBBN	290600		6:37	06:36	06:36	
42	FTAU36	YBBN	290700		7:00	07:00	07:00	
43	FTAU36	YBBN	290700		7:12	07:12	07:12	
44	FTCI31	ZBBB	290400		4:00	04:00	04:00	04:00
45	FTCI32	ZBBB	290400		4:01	04:00	04:00	04:00
46	FTCI32	ZBBB	290451	RRA	4:51	04:51	04:51	04:51
47	FTCI41	ZBBB	290400		4:01	04:00	04:00	04:00
48	FTHK31	VHHH	290200		2:02	02:01	02:01	02:01
49	FTHK31	VHHH	290500		5:01	05:01	05:01	05:01
50	FTHK31	VHHH	290800		8:03	08:02	08:02	08:02
51	FTHK32	VHHH	290500		5:20	05:20	05:20	05:20
52	FTHK33	VHHH	290500		5:20	05:20	05:20	05:20
53	FTIN31	VABB	290500	PAA	05:47	05:47	05:47	05:47
54	FTIN31	VABB	290500	PZB	05:47	05:47	05:47	05:47
55	FTIN32	VABB	290500	PAA	05:47	05:47	05:47	05:47
56	FTIN32	VABB	290500	PZB	05:47	05:47	05:47	05:47
57	FTJP31	RJTD	290500		5:27	05:27	05:27	05:27
58	FTJP32	RJTD	290500		5:27	05:27	05:27	05:27
59	FTJP32	RJTD	290500	RRA	5:27	05:27	05:27	05:27
60	FTJP38	RJTD	290500		5:27	05:27	05:27	05:27
61	FTJP38	RJTD	290500	RRA	5:28	05:27	05:27	05:27
62	FTJP38	RJTD	290500	RRB	5:28	05:27	05:27	05:27
63	FTKO31	RKSI	290500		5:06	05:05	05:05	05:05
64	FTKO31	RKSI	290500	RRA	5:07	05:07	05:07	05:07
65	FTKO31	RKSI	290500	RRB	5:07	05:07	05:07	05:07
66	FTKO31	RKSI	290500	RRC	5:10	05:10	05:10	05:10
67	FTKO31	RKSI	290640	AAA	6:41	06:41	06:41	06:41
68	FTKO31	RKSI	290500	CCA	7:00	06:59	06:59	06:59
70	FTNG31	YBBN	290500	RRA	5:15	05:15	05:15	
71	FTNG31	YBBN	290500	RRA	5:25	05:25	05:25	
72	FTNZ31	NZKL	290500		5:02	05:02	05:02	
73	FTNZ32	NZKL	290700	AAA	7:08	07:08	07:08	
74	FTPK31	OPKC	290400		4:00	04:00	04:00	04:00
75	FTPK31	OPKC	290400	RRA	4:00	04:00	04:00	04:00
76	FTPS31	NFFN	290500		5:14	05:14	05:14	
77	FTPS32	NFFN	290500		5:28	05:27	05:27	
78	FTPS33	NFFN	290500		5:04	05:04	05:04	
79	FTSR31	WSSS	290500		5:08	05:07	05:07	05:07
80	FTSR31	WSSS	290500	AAA	6:07	06:07	06:07	06:07
81	FTSR32	WSSS	290500		5:08	05:08	05:08	05:08
82	FTSR33	WSSS	290500		5:10	05:09	05:09	05:09
83	FTTH31	VTBB	290500		5:35	05:35	05:35	05:35

84	FTTH31	VTBB	290500	RRA	5:42	05:42	05:42	05:42
85	FTTH32	VTBB	290500		5:35	05:35	05:35	05:35
86	FTTH33	VTBB	290500		5:35	05:35	05:35	05:35
87	FTTM31	YBBN	290500		5:35	05:35	05:35	



not required by AFI